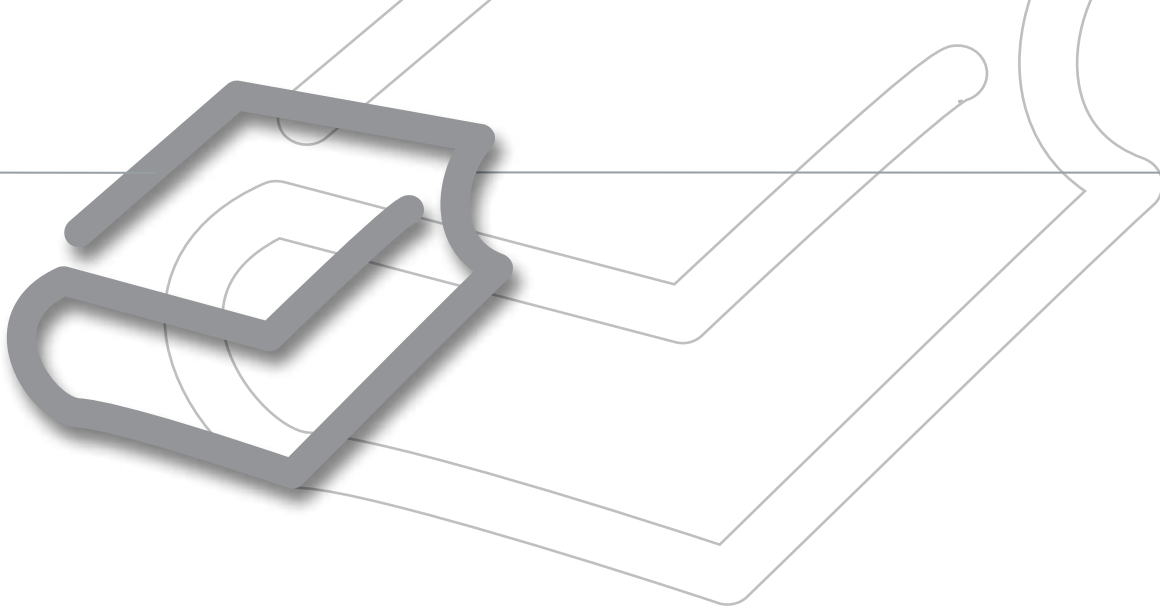


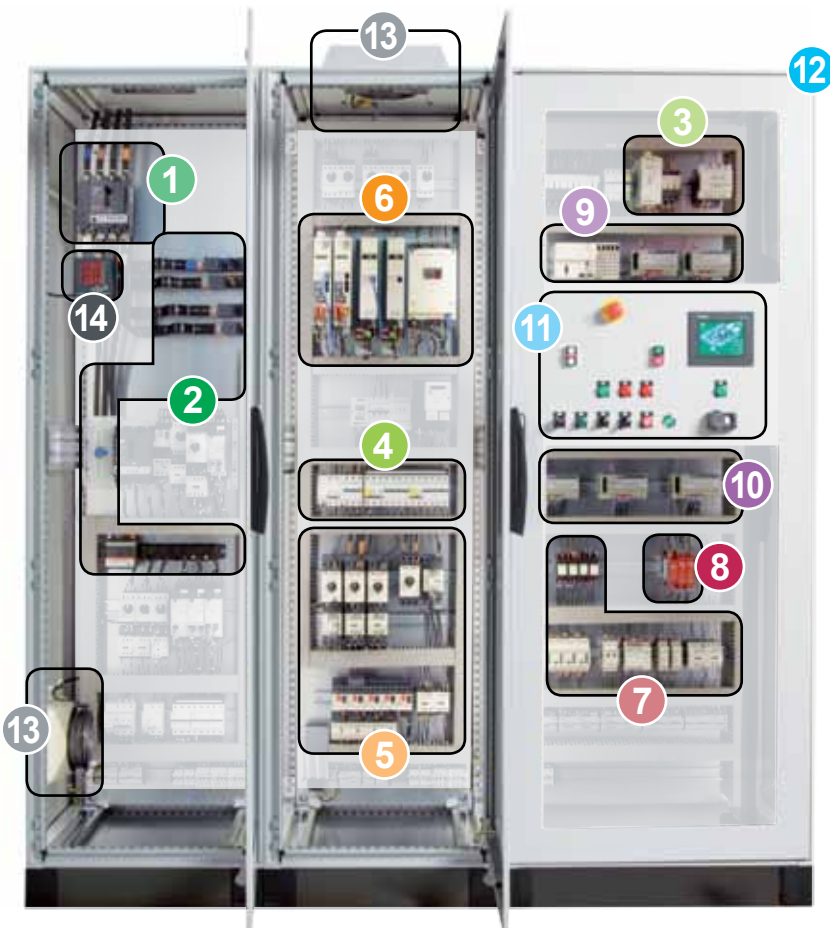
# The essential guide of Control Panel

Helping you easily  
select the right product

2013



Do you know that Schneider Electric provides 99 % of the components you need to build simply and efficiently your control panels?

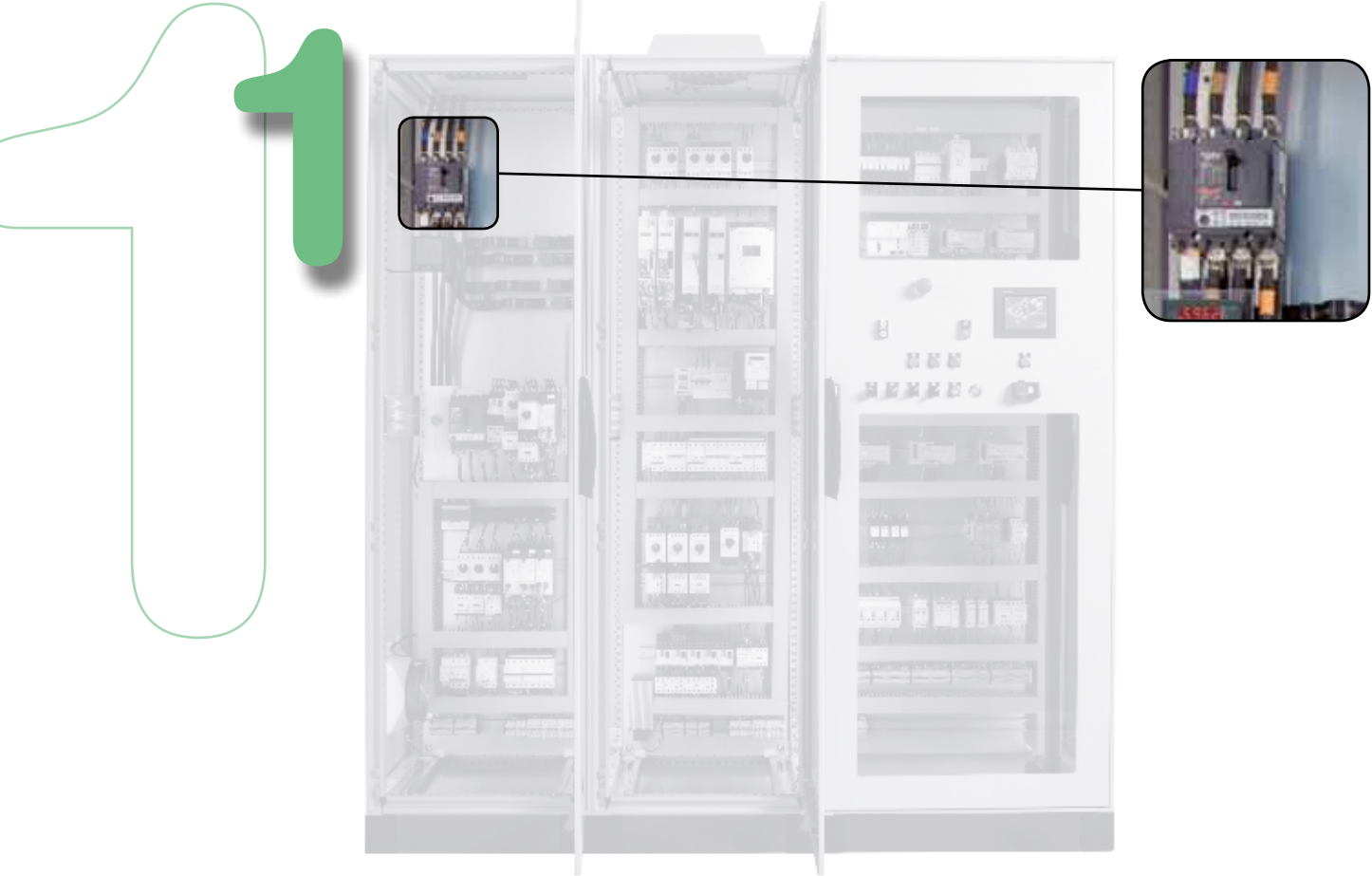


# Contents

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- 2 Power distribution systems
- 3 Power supplies and transformers
- 4 Circuit and Load protection
- 5 Motor control
- 6 Motion and Drives
- 7 Relays
- 8 Machine safety
- 9 Programmable controllers
- 10 Interfaces and Inputs/Outputs
- 11 Operator dialog
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Control Panel Technical Guides  
How to find more technical information?

# Incoming protection & switching









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# Incoming protection & switching - Panorama

Function and product selection			
Isolation & Disconnection 	●	●	●
Protection 		●	●
Equipment	Switch disconnecter	Switch fuse disconnecter	Circuit-breaker



Range	TeSys Vario	Compact INS	TeSys GS	NG	Powerpact	Compact
Rated operational current (A)	12 to 175	40 to 2500	32 to 1250	10 to 125	15 to 600	16 to 3200
Number of poles	3 to 6	3 to 4				
Short circuit making capacity at 400 V Icm (kA)	0.5 to 3	50 to 220	5 to 90	10 to 50	18 to 65	25 to 150
Product name	V	INS	GS	NG125	NH, NJ, NL	NSX/NS
Standard	IEC 60947-3 / UL508	IEC 60947-3 / UL489	IEC 60947-3	IEC 60947-2	IEC 60947-2 / UL489	IEC 60947-2
Embedded metering	—				With Micrologic metering adapters	



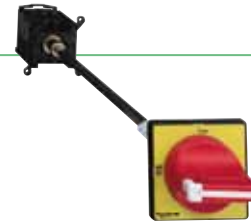
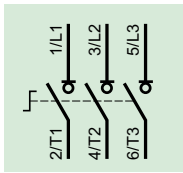
- **Simplicity**
- **Compacity**

Whatever the type of protection needed, these products offers all the safety that the user requires.

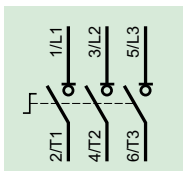
Designed for maximum performance and safety, each comprehensive and homogeneous range operates with a wide choice of accessories and auxiliaries.



## 12...175 A



Type	Mini-Vario for standard applications		
	Door mounting		Backplate mounting in enclosure
Colour: Handle / Front plate	Red / Yellow	Black / Black	Red / Yellow
Front plate dimensions (mm)	60 x 60		60 x 60
Fixing	Ø 22.5 mm		Ø 22.5 mm
Degree of protection	IP20		IP20
Rated insulation voltage (Ui)	690 V		690 V
Thermal current in open air (Ith)	12 A	VCDN12	VBDN12
	20 A	VCDN20	VBDN20



Type	Vario for high performance applications								
	Door mounting			Backplate mounting in enclosure					
Colour: Handle / Front plate	Red / Yellow	Black / Black	Red / Yellow	Black / Black	Red / Yellow	Red / Yellow			
Front plate dimensions (mm)	60 x 60		60 x 60		90 x 90	60 x 60    90 x 90			
Fixing	Ø 22.5 mm		4 screws		4 screws	Ø 22.5 mm    4 screws    4 screws			
Degree of protection	IP20		IP20		IP20	IP20    IP20    IP20			
Rated insulation voltage (Ui)	690 V		690 V		690 V	690 V    690 V    690 V			
Thermal current in open air (Ith)	12 A	VCD02	VBD02	VCF02	VBF02	-	VCCD02	VCCF02	-
	20 A	VCD01	VBD01	VCF01	VBF01	-	VCCD01	VCCF01	-
	25 A	VCD0	VBD0	VCF0	VBF0	-	VCCD0	VCCF0	-
	32 A	VCD1	VBD1	VCF1	VBF1	-	VCCD1	VCCF1	-
	40 A	VCD2	VBD2	VCF2	VBF2	-	VCCD2	VCCF2	-
	63 A	-	-	VCF3	VBF3	-	-	VCCF3	-
	80 A	-	-	VCF4	VBF4	-	-	VCCF4	-
	125 A	-	-	-	-	VCF5	-	-	VCCF5
	175 A	-	-	-	-	VCF6	-	-	VCCF6



Add-on modules	Lateral extension contacts								
	For mini-Vario			For Vario					
Main pole modules									
Switch rating	12 A	20 A	12 A	20 A	25 A	32 A	40 A	63 A	80 A
References	VZN12	VZN20	VZ02	VZ01	VZ0	VZ1	VZ2	VZ3	VZ4
Neutral pole module with early make and late break contacts									
Switch rating	12...20 A		12...40 A		63 and 80 A		125 and 175 A		
References	VZN11		VZ11		VZ12		VZ13		
Earthing module									
Switch rating	12...20 A		12...40 A		63 and 80 A		125 and 175 A		
References	VZN14		VZ14		VZ15		VZ16		
Auxiliary contact block modules									
Contact type	N/O	N/C	N/O + N/C			N/O + N/O			
References	VZN05	VZN06	VZ7			VZ20			

# Switch disconnecter - Compact INS



## Compact INS type IEC 60947-3

	Ith (A)	Ue (AC 50/60 Hz)	Standard Version with Black Handle		Red Handle with Yellow Front	
			3P	4P	3P	4P
<i>INS 40</i>	40	500	28900	28901	28916	28917
<i>INS 63</i>	63	500	28902	28903	28918	28919
<i>INS 80</i>	80	500	28904	28905	28920	28921
<i>INS 80PV (Photovoltaic)</i>	10	600	-	28907	-	-
<i>INS 100</i>	100	690	28908	28909	28924	28925
<i>INS 125</i>	125	690	28910	28911	28926	28927
<i>INS 160</i>	160	690	28912	28913	28928	28929
<i>INS 250-100</i>	100	690	31100	31101	31120	31121
<i>INS 250-160</i>	160	690	31104	31105	31124	31125
<i>INS 250-200</i>	200	690	31102	31103	31122	31123
<i>INS 250</i>	250	690	31106	31107	31126	31127
<i>INS 320</i>	320	690	31108	31109	31128	31129
<i>INS 400</i>	400	690	31110	31111	31130	31131
<i>INS 500</i>	500	690	31112	31113	31132	31133
<i>INS 630</i>	630	690	31114	31115	31134	31135
<i>INS 630b</i>	630	690	31342	31343	31356	-
<i>INS 800</i>	800	690	31330	31331	31344	31345
<i>INS 1000</i>	1000	690	31332	31333	31346	31347
<i>INS 1250</i>	1250	690	31334	31335	31348	31349
<i>INS 1600</i>	1600	690	31336	31337	31350	31351
<i>INS 2000</i>	2000	690	31338	31339	-	-
<i>INS 2500</i>	2500	690	31340	31341	-	-



## Compact INS type UL489 / CSA 22.2-2

	Ith (A)	Ue (AC 50/60 Hz)	Standard Version with Black Handle	
			3P	4P
<i>INSE 80-40</i>	40	600	28994	28995
<i>INSE 80-60</i>	60	600	28996	28997
<i>INSE 80-80</i>	80	600	28998	28999
<i>INSJ 400-250</i>	250	600	31118	31119
<i>INSJ 400-400</i>	400	600	31136	31137

## Accessories



Families*	Standard extended front handles	Connector for bare Cu or Al cables (set of 4)	IP55 Sheetmetal enclosure (black handle)	Terminal shrouds	Terminal shields (set of 2)	Interphase barriers	Auxiliary contacts (early make of brake)
<i>INS 40... 80</i>	28941	19091	31208	28955	28957	-	29450
<i>INS 100... 160</i>	28941	28948	31208	28956	28958	28959	29450
<i>INS 250-100... 250</i>	31050	29228	31210	-	29322	LV429329	29450
<i>INS 320... 630</i>	31052	32480	31212	-	32563	32570	29450
<i>INS 630b... INS 1600</i>	31288	-	-	-	33629**	31315	29450
<i>INS 2000 - 2500</i>	31288	-	-	-	-	31319	29450

\* See "Compact INS" catalog for more informations / \*\* 4 poles





## Handles



Type		IP65 handles for external front-mounted operators			
<b>Switch rating</b>		32...63 A	100...400 A	630...800 A	1250 A
<b>References</b>	Black/grey	<b>GS2AH510</b> (1)	<b>GS2AH530</b> (1)	<b>GS2AH550</b>	<b>GS2AH570</b>
	Red/yellow	<b>GS2AH520</b> (1)	<b>GS2AH540</b> (1)	<b>GS2AH560</b>	<b>GS2AH580</b>

(1) For external front operators with Test facility, insert the letter T in the reference. Example: GS2AH510 becomes GS2AHT510

Type		IP65 handles for external RH side-mounted operators (2)		
<b>Switch rating</b>		32...63 A	100...400 A	630...1250 A
<b>References</b>	Black/grey	<b>GS2AH210</b>	<b>GS2AH230</b>	<b>GS2AH250</b>
	Red/yellow	<b>GS2AH220</b>	<b>GS2AH240</b>	<b>GS2AH260</b>

(2) For external LH side-mounted operators, replace the number 2 in the reference by 3. Example: GS2AH210 becomes GS2AH310

Type			Shafts for external operators		
<b>Switch rating</b>			32 A	50...400 A	630...1250 A
<b>References</b>	Length of shaft	200 mm	<b>GS2AE82</b>	<b>GS2AE22</b>	<b>GS2AE52</b>
		320 mm	<b>GS2AE8</b>	<b>GS2AE2</b>	<b>GS2AE5</b>
		400 mm	<b>GS2AE81</b>	<b>GS2AE21</b>	<b>GS2AE51</b>



Type		Handles for direct operators				
<b>Switch rating</b>		32 A	50 and 63 A	100...400 A	630 and 800 A	1250 A
<b>Type of operator</b>		Front	RH side	RH side	Front	Front
<b>References</b>		<b>GS1AH103</b>	<b>GS1AH01</b>	<b>GS1AH02</b>	<b>GS2AH104</b>	<b>GS2AH105</b>

# Switch disconnecter fuses - TeSys GS



Type		Switch-disconnector-fuse switch bodies for use with NF C or DIN fuses Handle to be ordered separately (see previous page)			
Rated insulation voltage (Ui)		690 V			
Conventional thermal current (Ith)		32 A	50 A	63 A	100 A
Fuse size		10 x 38	14 x 51	Size 00C (1)	22 x 58
External front-mounted and RH side-mounted operator	3-pole	GS1DD3	GS2F3	GS2G3	GS2J3
	4-pole	GS1DD4 (2)	GS2F4	GS2G4	GS2J4
External LH side-mounted operator	3-pole	GS1DD3	GS2FG3	GS2GG3	GS2JG3
	4-pole	GS1DD4 (2)	GS2FG4	GS2GG4	GS2JG4
Direct RH side-mounted operator	3-pole	GS1DD3 (3)	GS1FD3	GS1GD3	GS1JD3
	4-pole	GS1DD4 (2) (3)	GS1FD4	GS1GD4	GS1JD4

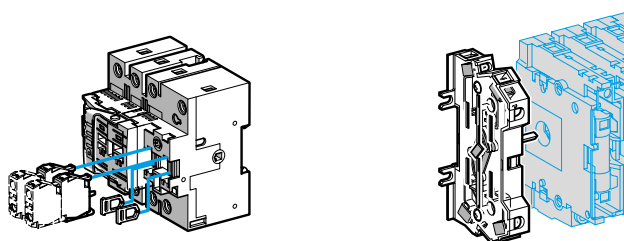
(1) Compact fuse for German market

(2) 3-pole + switched neutral

(3) Direct front-mounted operator

Type		Switch-disconnector-fuse switch bodies for use with BS fuses Handle to be ordered separately (see previous page)			
Rated insulation voltage (Ui)		690 V			
Conventional thermal current (Ith)		32 A	32 A	63 A	100 A
Fuse size		A1	A1	A2-A3	A4 (Ø ≤ 31 mm)
External front-mounted and RH side-mounted operator	3-pole	GS1DDB3	GS2DB3	GS2GB3	GS2JB3
	4-pole	GS1DDB4 (2)	GS2DB4	GS2GB4	GS2JB4

## Accessories



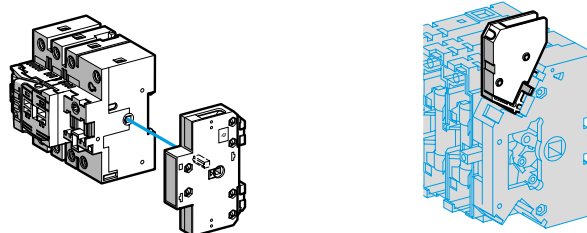
Type		Auxiliary contacts			
		Early break and/or O, I and Test signalling		O and I signalling	
Switch rating		32...1250 A		50...1250 A	
Number of contacts		1 NO	1 NC	1 NO + NC	2 NO + 2 NC
Operator	external front-mounted or RH side-mounted	GS1AM110	GS1AM101	GS1AN11	GS1AN22
	external LH side-mounted	GS1AM110	GS1AM101	GS1AN11G	GS1AN22G
	direct RH side-mounted	–	–	GS1AN11	GS1AN22
	direct front-mounted	–	–	–	–

Type		Auxiliary "blown fuse" signalling contacts for use with NF C and DIN fuses			
Number of contacts		1 NO/NC			
Switch rating		50 A	100 and 125 A	160 A	250 and 400 A
Fuse size		14 x 51	22 x 58	Size 0	Size 1 and Size 2
References	3-pole	GS1AF1	GS1AF23	GS1AF33	GS1AF43
	4-pole	GS1AF1	GS1AF24	GS1AF34	GS1AF44



125 A		160 A		250 A	400 A	630 A	1250 A
22 x 58	Size 00	Size 00	Size 0	Size 1	Size 2	Size 3	Size 4
<b>GS2K3</b>	<b>GS2KK3</b>	<b>GS2LL3</b>	<b>GS2L3</b>	<b>GS2N3</b>	<b>GS2QQ3</b>	<b>GS2S3</b>	<b>GS2V3</b>
<b>GS2K4</b>	<b>GS2KK4</b>	<b>GS2LL4</b>	<b>GS2L4</b>	<b>GS2N4</b>	<b>GS2QQ4</b>	<b>GS2S4</b>	<b>GS2V4</b>
<b>GS2KG3</b>	<b>GS2KKG3</b>	<b>GS2LLG3</b>	<b>GS2LG3</b>	<b>GS2NG3</b>	<b>GS2QQG3</b>	<b>GS2SG3</b>	<b>GS2VG3</b>
<b>GS2KG4</b>	<b>GS2KKG4</b>	<b>GS2LLG4</b>	<b>GS2LG4</b>	<b>GS2NG4</b>	<b>GS2QQG4</b>	<b>GS2SG4</b>	<b>GS2VG4</b>
<b>GS1KD3</b>	<b>GS1KKD3</b>	<b>GS1LLD3</b>	<b>GS1LD3</b>	<b>GS1ND3</b>	<b>GS1QQD3</b>	<b>GS2S3 (3)</b>	<b>GS2V3 (3)</b>
<b>GS1KD4</b>	<b>GS1KKD4</b>	<b>GS1LLD4</b>	<b>GS1LD4</b>	<b>GS1ND4</b>	<b>GS1QQD4</b>	<b>GS2S4 (3)</b>	<b>GS2V4 (3)</b>

160 A		200 A	250 A	315 A	400 A	630 A	800 A	1250 A
A4	B1-B2	B1-B2	B1...B3	B1...B3	B1...B4	C1-C2	C1...C3	D1
<b>GS2LLB3</b>	<b>GS2LB3</b>	<b>GS2MMB3</b>	<b>GS2NB3</b>	<b>GS2PPB3</b>	<b>GS2QQB3</b>	<b>GS2SB3</b>	<b>GS2TB3</b>	<b>GS2VB3</b>
<b>GS2LLB4</b>	<b>GS2LB4</b>	<b>GS2MMB4</b>	<b>GS2NB4</b>	<b>GS2PPB4</b>	<b>GS2QQB4</b>	<b>GS2SB4</b>	<b>GS2TB4</b>	<b>GS2VB4</b>



O, I and Test signalling		Early break and O and I signalling		50...400 A	
50...400 A		32 A		1 NO/NC	2 NO/NC
1 NO + NC	2 NO + 2 NC	1 NO/NC	2 NO/NC	1 NO/NC	2 NO/NC
<b>GS1ANT11</b>	<b>GS1ANT22</b>	–	–	–	–
–	–	–	–	–	–
–	–	–	–	<b>GS1AM1</b>	<b>GS1AM2</b>
–	–	<b>GS1AM111</b>	<b>GS1AM211</b>	–	–

630 A	1250 A	2 <sup>nd</sup> NO/NC
Size 3	Size 4	50...1250 A
<b>GS2AF63</b>	<b>GS2AF73</b>	–
<b>GS2AF64</b>	<b>GS2AF74</b>	<b>GS1AF</b>
		<b>GS1AF</b>

# Miniature circuit-breakers - NG125



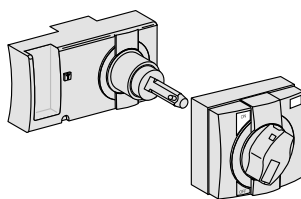
NG125N circuit-breaker		
Type	3P	4P
Rating (In)	Curve C	Curve C
10 A	18632	18649
16 A	18633	18650
20 A	18634	18651
25 A	18635	18652
32 A	18636	18653
40 A	18637	18654
50 A	18638	18655
63 A	18639	18656
80 A	18640	18658
100 A	18642	18660
125 A	18644	18662
Width in 9 mm modules	9	12

Alternating current (AC) 50/60 Hz								
Breaking capacity (Icu) to IEC/EN 60947-2								Service breaking capacity (Ics)
	Voltage (Ue)							
Ph/Ph (2P, 3P, 3P+N, 4P)	-	-	220 to 240 V	-	380 to 415 V	440 V	500 V	75 % of Icu
Ph/N (1P)	110 to 130 V	220 to 240 V	-	380 to 415 V	-	-	-	
Rating (In)	10 to 125 A	50 kA	25 kA	50 kA	6 kA	25 kA	20 kA	





## Mechanical accessories



Rotary handle		
Extended standard	Black	<b>19088</b>
Extended safety	Red handle, yellow	<b>19089</b>
Direct standard	Black	<b>19092</b>
Direct safety	Red handle, yellow background	<b>19097</b>

## Electrical auxiliaries



Voltage releases			
	Voltage	MX + OF	MN
AC	12 V 50/60 Hz	<b>19063</b>	
	24 V 50/60 Hz	<b>19066</b>	
	48 V 50/60 Hz	<b>19065</b>	<b>19069</b>
	110-130 V 50/60 Hz	<b>19065</b>	
	230-240 V 50/60 Hz	<b>19064</b>	<b>19067</b>
	380-415 V 50/60 Hz	<b>19064</b>	
DC	12 V	<b>19063</b>	
	24 V	<b>19066</b>	
	48 V	<b>19065</b>	<b>19070</b>
	110-130 V	<b>19064</b>	

Fault indication		
Fault indicating auxiliary contact OF+SD		<b>19071</b>
Open/closed auxiliary contact OF+OF		<b>19072</b>

# Multistandard moulded-case circuit-breakers - Powerpact

## Powerpact H-Frame 150 A unit-mount thermal-magnetic circuit-breakers (480 V AC, 250 V DC)

With factory sealed trip unit (suitable for reverse connection)



H-Frame, 150 A, 3P, 480 V AC 50/60 Hz, 250 V DC

Current rating at 40°C (A)	Fixed AC magnetic trip (A)		Interrupting rating Standard (80 %) rated		
	Hold	Trip	D - 18 kA	G - 35 kA	J <sup>(1)</sup> - 65 kA
15	350	750	NHDF36015TW	NHGF36015TW	NHJF36015TW
20	350	750	NHDF36020TW	NHGF36020TW	NHJF36020TW
30	350	750	NHDF36030TW	NHGF36030TW	NHJF36030TW
40	400	850	NHDF36040TW	NHGF36040TW	NHJF36040TW
50	400	850	NHDF36050TW	NHGF36050TW	NHJF36050TW
60	800	1450	NHDF36060TW	NHGF36060TW	NHJF36060TW
70	800	1450	NHDF36070TW	NHGF36070TW	NHJF36070TW
80	800	1450	NHDF36080TW	NHGF36080TW	NHJF36080TW
90	800	1450	NHDF36090TW	NHGF36090TW	NHJF36090TW
100	900	1700	NHDF36100TW	NHGF36100TW	NHJF36100TW
125	900	1700	NHDF36125TW	NHGF36125TW	NHJF36125TW
150	900	1700	NHDF36150TW	NHGF36150TW	NHJF36150TW

## Powerpact J-Frame 250 A unit-mount thermal-magnetic circuit-breakers

With factory sealed trip unit (suitable for reverse connection)



J-Frame, 250 A, 3P, 480 V AC 50/60 Hz, 250 V DC

Current rating at 40°C (A)	Fixed AC magnetic trip (A)		Interrupting rating Standard (80 %) rated		
	Hold	Trip	D - 18 kA	G - 35 kA	J <sup>(1)</sup> - 65 kA
150	750	1500	NJDF36150TW	NJGF36150TW	NJJF36150TW
175	875	1750	NJDF36175TW	NJGF36175TW	NJJF36175TW
200	1000	2000	NJDF36200TW	NJGF36200TW	NJJF36200TW
225	1125	2250	NJDF36225TW	NJGF36225TW	NJJF36225TW
250	1250	2500	NJDF36250TW	NJGF36250TW	NJJF36250TW

## H-Frame 150 A and J-Frame 250 A electronic trip UL rated circuit-breakers (480 V AC, 50/60 Hz)

With factory sealed trip unit (suitable for reverse connection)



Electronic trip unit type	Trip function	Sensor rating (A)	Interrupting rating Standard (80 %) rated		
			D - 18 kA	G - 35 kA	J <sup>(1)</sup> - 65 kA
<b>Micrologic 3.2</b>					
Standard	LI	60	NHDF36060U31XTW	NHGF36060U31XTW	NHJF36060U31XTW
		100	NHDF36100U31XTW	NHGF36100U31XTW	NHJF36100U31XTW
		150	NHDF36150U31XTW	NHGF36150U31XTW	NHJF36150U31XTW
		250	NJDF36250U31XTW	NJGF36250U31XTW	NJJF36250U31XTW
<b>Micrologic 5.2 E</b>					
Energy	LSI	60	NHDF36060U53XTW	NHGF36060U53XTW	NHJF36060U53XTW
		100	NHDF36100U53XTW	NHGF36100U53XTW	NHJF36100U53XTW
		150	NHDF36150U53XTW	NHGF36150U53XTW	NHJF36150U53XTW
		250	NJDF36250U53XTW	NJGF36250U53XTW	NJJF36250U53XTW

(1) UL Listed/CSA Certified as current limiting circuit-breakers.

## Accessories

### Mechanical lug kits for H-Frame and J-Frame circuit-breaker

Circuit-breaker application		Qty per kit	
Al lugs for use with Al or Cu wire (HD/HG/HJ)	15-150 A	3	AL150HDS
Al lugs for use with Al or Cu wire (JD/JG/JJ)	150-175 A	3	AL175JD
Al lugs for use with Al or Cu wire (JD/JG/JJ)	200-250 A	3	AL250JD

### Rotary handles

Same rotary handles as for Compact NSX - see pages 1/13, 1/14



## L-Frame 600 A electronic trip UL rated 3P circuit-breakers (480 V AC, 50/60 Hz)

With factory sealed trip unit suitable for reverse connection

PB11142



Electronic trip unit type	Trip function	Sensor rating (A)	Interrupting rating Standard (80 %) rated		
			D - 18 kA	G - 35 kA	J <sup>(1)</sup> - 65 kA
<b>Micrologic 3.3</b>					
Standard	LI	250 A	NLDF36250U31XTW	NLGL36250U31XTW	NLJF36250U31XTW
		400 A	NLDF36400U31XTW	NLGF36400U31XTW	NLJF36400U31XTW
		600 A	NLDF36600U31XTW	NLGF36600U31XTW	NLJF36600U31XTW
<b>Micrologic 5.3 E</b>					
Energy	LSI	400 A	NLDF36400U53XTW	NLGF36400U53XTW	NLJF36400U53XTW
		600 A	NLDF36600U53XTW	NLGF36600U53XTW	NLJF36600U53XTW

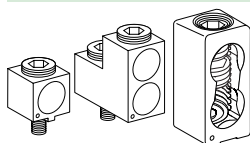
<sup>(1)</sup> UL Listed/CSA Certified as current limiting circuit-breakers.

## Accessories

### Mechanical lug kits for L-Frame circuit-breakers

Al lugs for use with Al or Cu wire

DB1413118



Ampere rating	Unit mount	Number of wires per lug and wire range <sup>(2)</sup>		3P
250	■	(1) 2 AWG - 500 kcmil Al	Set of 3	<b>AL400L61K3</b>
400/600	■	(2) 2/0 AWG - 500 kcmil Al or Cu	Set of 3	<b>AL600LS52K3</b>
400/600	■	(2) 3/0 AWG - 500 kcmil Al or Cu	Set of 3	<b>AL600LF52K3</b>

### Rotary handles

Same rotary handles as for Compact NSX - see pages 1/13, 1/14

<sup>(2)</sup> For control wire installation, use an 8 - 32 x 1/4 in. screw (not provided) into tapped control wire hole in lower left hand corner of lug.

# Moulded-case circuit-breakers - Compact NSX



## Compact NSX with thermal-magnetic trip unit TM-D

Compact NSX100F (36 kA at 380/415 V)		
Rating	3P 3d	4P 4d
TM16D	LV429637	LV429657
TM25D	LV429636	LV429656
TM32D	LV429635	LV429655
TM40D	LV429634	LV429654
TM50D	LV429633	LV429653
TM63D	LV429632	LV429652
TM80D	LV429631	LV429651
TM100D	LV429630	LV429650
Compact NSX160F (36 kA at 380/415 V)		
Rating	3P 3d	4P 4d
TM80D	LV430633	LV430653
TM100D	LV430632	LV430652
TM125D	LV430631	LV430651
TM160D	LV430630	LV430650
Compact NSX250F (36 kA at 380/415 V)		
Rating	3P 3d	4P 4d
TM125D	LV431633	LV431653
TM160D	LV431632	LV431652
TM200D	LV431631	LV431651



## Compact NSX with electronic trip unit Micrologic 5.2 A (LSI protection, ammeter)

Compact NSX100F (36 kA at 380/415 V)	
Rating	3P 3d
40	LV429882
100	LV429880
Compact NSX160F (36 kA at 380/415 V)	
Rating	3P 3d
100	LV430881
160	LV430880
Compact NSX250F (36 kA at 380/415 V)	
Rating	3P 3d
100	LV431862
160	LV431861
250	LV431860

### With electronic trip unit Micrologic 5.2 E (LSI protection, energy meter)

To be ordered with 2 catalogue numbers: 1 basic frame + 1 trip unit

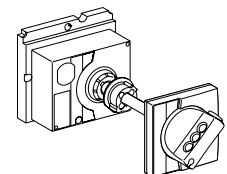
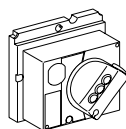
### With electronic trip unit Micrologic 6.2 A (LSIG protection, ammeter)

To be ordered with 2 catalogue numbers: 1 basic frame + 1 trip unit

### With electronic trip unit Micrologic 6.2 E (LSIG protection, energy meter)

To be ordered with 2 catalogue numbers: 1 basic frame + 1 trip unit

## Accessories



### Direct rotary handle

With black handle	LV429337
With red handle on yellow front	LV429339
MCC conversion accessory	LV429341
CNOMO conversion accessory	LV429342

### Extended rotary handle

With black handle	LV429338
With red handle on yellow front	LV429340
With telescopic handle for withdrawable device	LV429343

### Accessories for direct or extended rotary handle

Indication auxiliary	1 early-break contact	LV429345
	2 early-make contacts	LV429346





### Compact NSX400/630N Electronic trip unit Micrologic 2.3 (LS<sub>o</sub>I protection)

Compact NSX400N (50 kA at 380/415 V)	250 A	3P 3d LV432707	4P 3d, 4d, 3d + N/2 LV432708
	400 A	LV432693	LV432694
Compact NSX630N (50 kA at 380/415 V)	630 A	LV432893	LV432894



### Compact NSX400/630N Electronic trip unit Micrologic 5.3 & 6.3

#### Electronic trip unit Micrologic 5.3 A (LSI protection, ammeter)

Compact NSX400N (50 kA at 380/415 V)	400 A	3P 3d LV432699	4P 3d, 4d, 3d + N/2, 3d + OSN LV432700
Compact NSX630N (50 kA at 380/415 V)	630 A	LV432899	LV432900

#### With electronic trip unit Micrologic 5.3 E (LSI protection, energy meter)

To be ordered with 2 catalogue numbers: 1 basic frame + 1 trip unit

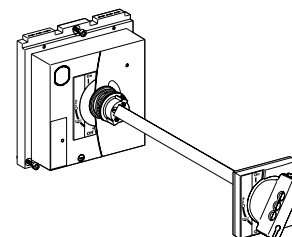
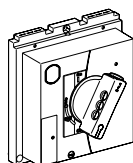
#### With electronic trip unit Micrologic 6.3 A (LSIG protection, ammeter)

To be ordered with 2 catalogue numbers: 1 basic frame + 1 trip unit

#### With electronic trip unit Micrologic 6.3 E (LSIG protection, energy meter)

To be ordered with 2 catalogue numbers: 1 basic frame + 1 trip unit

## Accessories



### Direct rotary handle

With black handle	LV432597
With red handle on yellow front	LV432599
MCC conversion accessory	LV432606
CNOMO conversion accessory	LV432602

### Extended rotary handle

With black handle	LV432598
With red handle on yellow front	LV432600
With telescopic handle for withdrawable device	LV432603

### Accessories for direct or extended rotary handle

Indication auxiliary	1 early-break contact	LV432605
	2 early-make contacts	LV429346

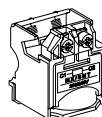
## Electrical auxiliaries



### Auxilliary contacts (changeover)

OF or SD or SDE or SDV

29450

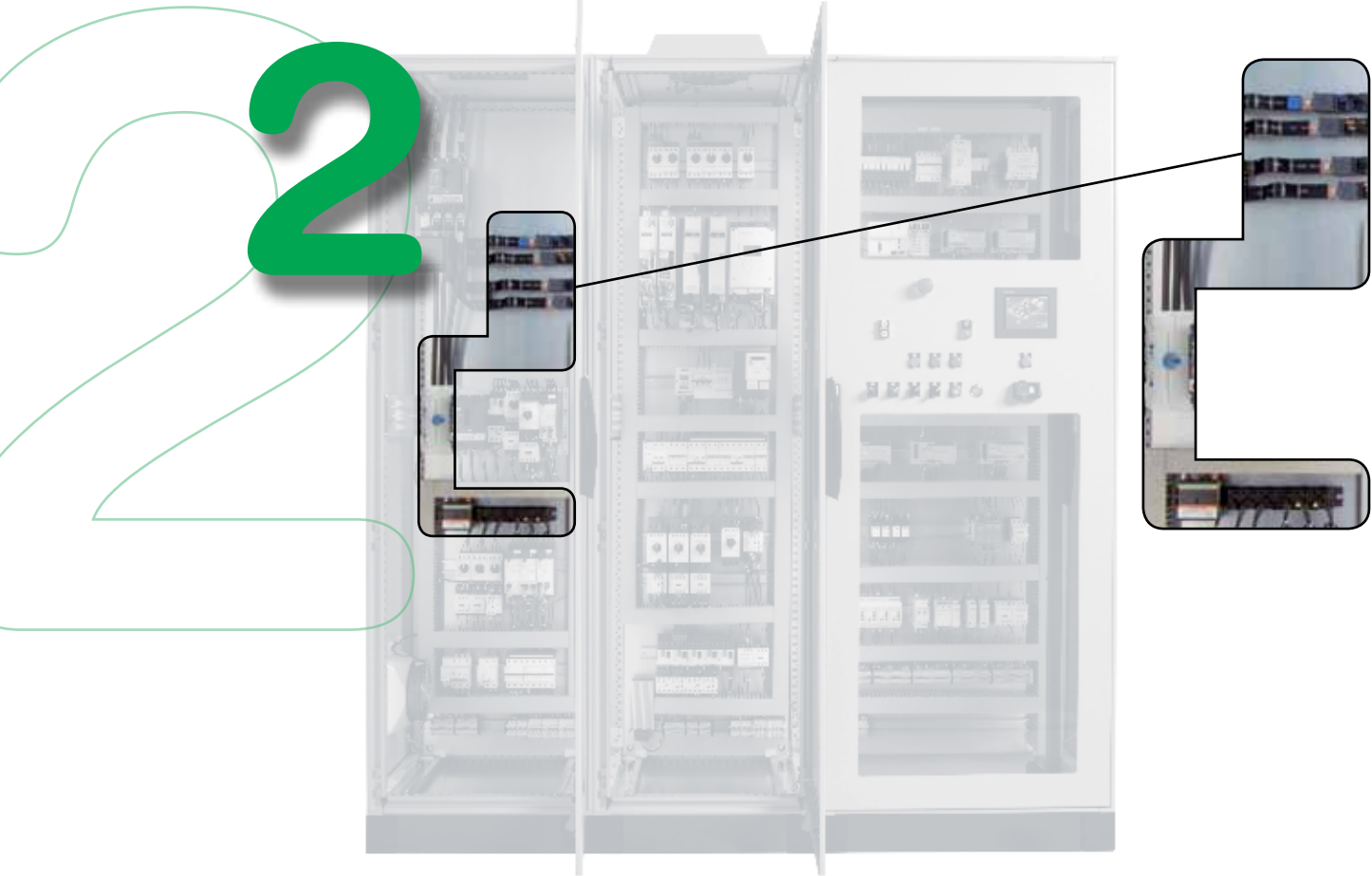


### Voltage releases

	Voltage	MX	MN
AC	24 V 50/60 Hz	LV429384	LV429404
	48 V 50/60 Hz	LV429385	LV429405
	110-130 V 50/60 Hz	LV429386	LV429406
	220-240 V 50/60 Hz and 208-277 V 60 Hz	LV429387	LV429407
	380-415 V 50 Hz and 440-480 V 60 Hz	LV429388	LV429408
	525 V 50 Hz and 600 V 60 Hz	LV429389	LV429409
DC	12 V	LV429382	LV429402
	24 V	LV429390	LV429410
	30 V	LV429391	LV429411
	48 V	LV429392	LV429412
	60 V	LV429383	LV429403
	125 V	LV429393	LV429413
	250 V	LV429394	LV429414



# Power distribution systems



**! NEW**

## Linergy

All Schneider Electric distribution and connection systems are now been brought together into a single brand name: **Linergy**



See our leaflet *EDCED112025EN*





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- Linergy distribution & connection systems - Distribution blocks p. 2/11
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# Lineryg distribution & connection systems - Panorama



Schneider Electric offers safe and simple products for electric current carrying, current distribution and component mounting.

## Power busbars

## Device feeders

⇒ *Applications:*

This power busbar system is designed for dispatching the power vertically to devices feeders or as a horizontal devices feeder for circuit-breakers, motor controllers...

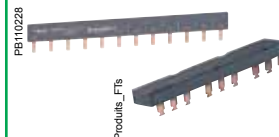
⇒ *Applications:*

These devices feeder systems are designed for feeding the power to modular and non-modular protection devices on single or multiple Din rail rows.

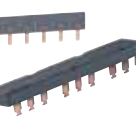
### BZ



### FH



### FT



### FM



### HK



<b>Description</b>		630 A / 60 mm busbar system, to compose with a range of snap-on mounting plates for circuit-breakers, contactors, motor controllers and snap-on cable connectors for horizontal or vertical power distribution.	Insulated comb busbars, with accessories. FT simplifies cabling of TeSys motor starters. FH is specially dedicated to Acti 9 miniature circuit-breakers, even when lateral auxiliaries are mounted.	Insulated busbars, with spring connectors and accessories. Quick connection simplifies phase balancing.	Insulated busbars, with plug-in prewired connectors and mounting plates, accessories. <b>Hot-plug: safely plug and unplug a connector live.</b>	
<b>Technical information</b>	Rating	630 A	63 to 100 A	63, 80, 160 A	160 A	
	Connection technology type	–	Screw	–	–	
	Cabling range (mm <sup>2</sup> )	–	–	–	–	
<b>Standards and certifications</b>		IEC - UL	IEC	IEC - UL	IEC	IEC - UL
<b>References</b>		LA9Z●●●	1481● 1488● 1489● 2108● 2109●	GV2●●● GV3●●●	0400● 0401● 0402●	AK5●●●
<b>Details</b>		Page 2/4	Page 2/8	Page 2/9	Page 2/8	Page 2/10

## Distribution blocks

### ⇒ Applications:

The wired power distribution is a flexible solution for feeding various components when their electrical connections are on multiple levels.

## Terminal blocks

### ⇒ Applications:

Screw, spring and 'push-in' modular terminal blocks and earth/neutral bars offer a universal solution when a reliable and simple connection is needed in distribution and control panel boards.

### DX

PB104600-10



### DS

PB11244-10



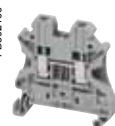
### BS

0550344



### TR

PB502166



PB502141



PB502231



Quick distribution block, for flexible or rigid cables. Installation on rail (63 A) or mounting plate (125, 160 A).

Single and four pole multistage distribution blocks. Lateral upstream cable terminals for easier connection. Installation on Din rail or mounting plate.

Multistage distribution blocks. Simple or threaded holes on copper bars. Cabling accessories. Horizontal or vertical mounting.

Common range of accessories.

Common applications.

For connection extra-reliability.

One-hand cabling.

63, 125, 160 A

100, 125, 160, 250 A

160, 250, 400, 630 A

up to 309 A (IEC),  
300 A (UL-CSA)

Up to 76 A (IEC),  
85 A (UL-CSA)

Up to 20 A  
(IEC-ULCSA)

Spring

Screw

Screw

Screw

Spring

Push-in

6 to 16

1.5 to 120

M6 holes,  
16 to 50 mm<sup>2</sup>

0.18 to 150

0.16 to 16

2.5, 4

IEC

IEC

IEC

IEC - UL

IEC - UL

IEC - UL

0403●  
0404●

1350●  
1351●  
1493●

0405●

NSYTR●●●

NSYTR●●●

NSYTR●●●

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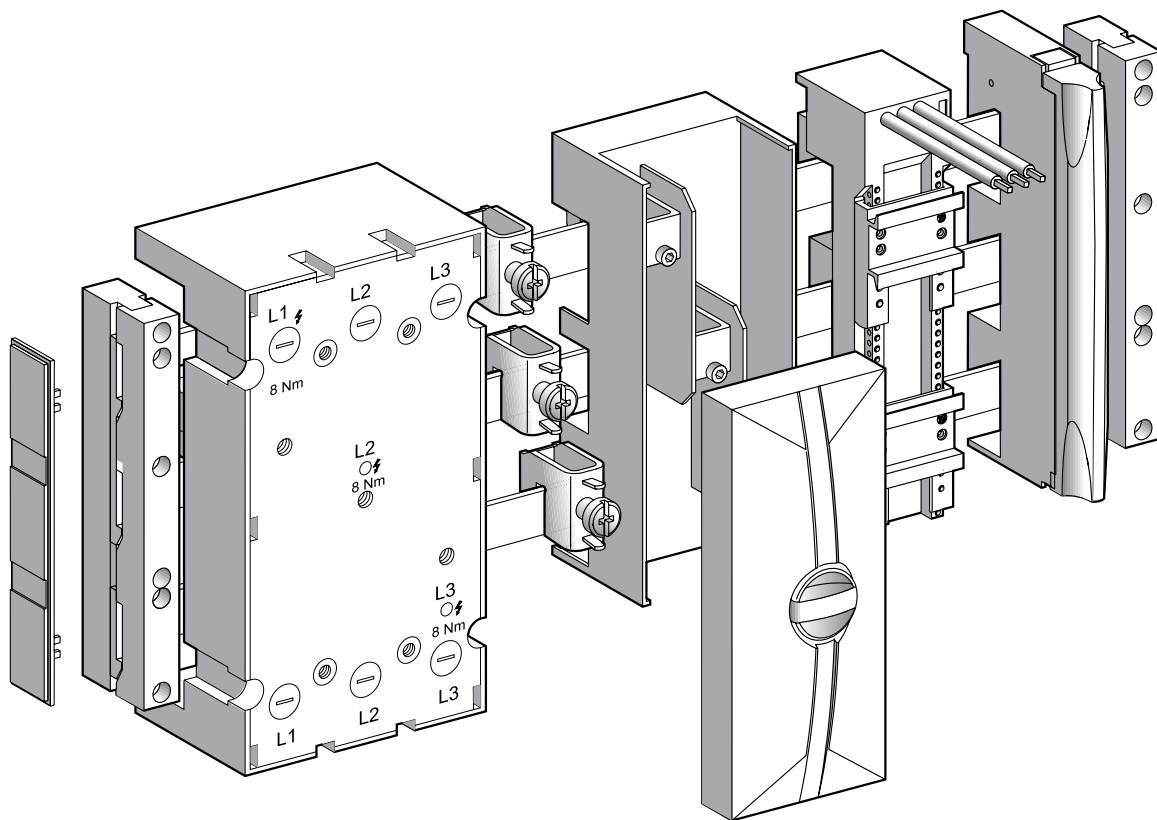
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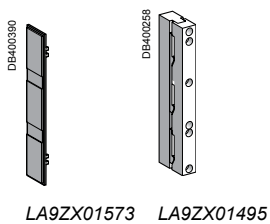
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## Lineryy BZ

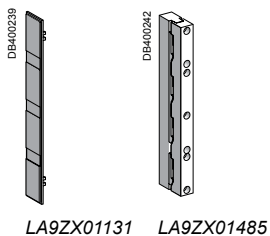
DB400244



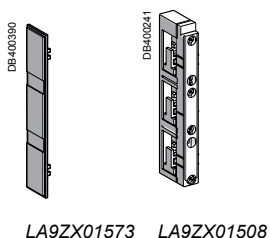
The busbar system is composed of: copper busbars (see your distributor), busbar supports and covers, mounting plate and accessories.

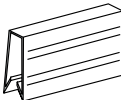


IEC busbar supports and accessories		Sale in ind. Q.	Unit reference
3-pole	For 12, 15, 20, 25, 30 x 5/10 mm <sup>2</sup> busbars	10	LA9ZX01495
	End covers for 3-pole busbar support	10	LA9ZX01573
4-pole	For 12, 15, 20, 25, 30 x 5/10 mm <sup>2</sup> busbars	10	LA9ZX01485
	End covers for 4-pole busbar support (5 left, 5 right)	10	LA9ZX01131



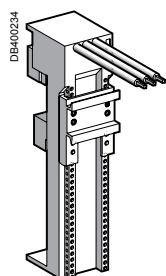
UL busbar supports and accessories		Sale in ind. Q.	Unit reference
3-pole	For 12, 20, 30 x 5/10 mm busbars	10	LA9ZX01508
	Base plate 240 x 700	2	LA9ZX01515
	End covers for busbar support	10	LA9ZX01573



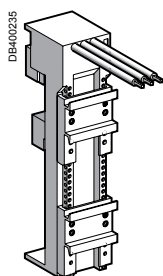
Other accessories		Sale in ind. Q.	Unit reference
Covers, length 1 m			
	For 12-30 x 5 mm <sup>2</sup> busbars	10	LA9ZX01244
	For 12-30 x 10 mm <sup>2</sup> busbars--	10	LA9ZX01245



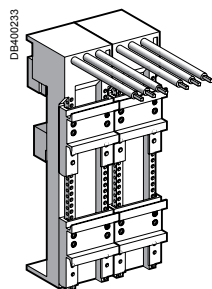
## Mounting plates



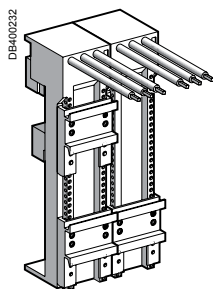
LA9ZA32621



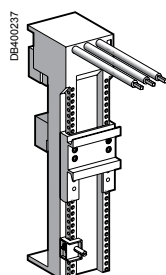
LA9ZA32434



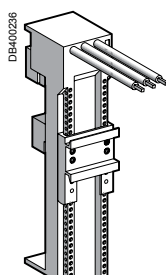
LA9ZA32622



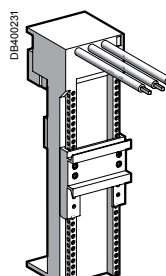
LA9ZA32623



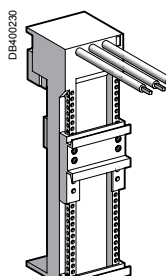
LA9ZA32427



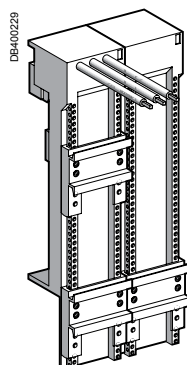
LA9ZA32428



LA9ZA32624



LA9ZA32625



LA9ZA32626

### For TeSys GV2 motor circuit-breakers

Operating current AC-3 440 V	Protection by motor circuit-breaker	For contactor	Mounting plate l x h	Sale in ind. Q.	Unit reference
<b>Mounting plate, 1-way</b>					
25 A	GV2 ME GV2 P GV2 LE	LC1 D LC1 K LP4 K06-K12	45 x 200	4	LA9ZA32621
32 A	GV2 ME GV2 P GV2 LE	LC1 D	45 x 200	4	LA9ZA32434
<b>Mounting plate, 2-way (3)</b>					
25 A	GV2 ME GV2 P GV2 LE	LC1 D LC1 K LP4 K06-K12	90 x 200	2	LA9ZA32622
32 A	GV2 ME GV2 P GV2 LE	LC1 D	90 x 200	2	LA9ZA32623

### TeSys U starter-controllers

Operating current AC-3 440 V	Protection by power base	Mounting plate l x h	Sale in ind. Q.	Unit reference
<b>Mounting plate, 1-way</b>				
32 A	LUB12, LUB32	45 x 200	4	LA9ZA32427
<b>Mounting plate, 2-way</b>				
32 A	LUB12, LUB32	45 x 260	4	LA9ZA32428

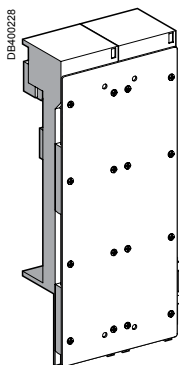
### For TeSys GV3 motor circuit-breakers

Operating current AC-3 440 V	Protection by power base	For contactor	Mounting plate l x h	Sale in ind. Q.	Unit reference
<b>Mounting plate, 1-way (1)</b>					
63 A	GV3 P	–	54 x 200	4	LA9ZA32624
	GV3 P	LC1 D40A...65 A	54 x 260	4	LA9ZA32625
<b>Mounting plate, 2-way (1) (2)</b>					
63 A	GV3 P	LC1 D40A...65 A	117 x 260	4	LA9ZA32626

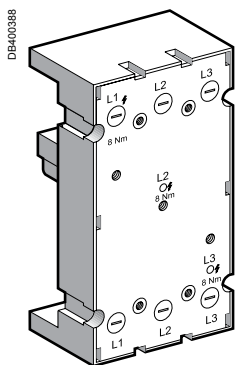
(1) Contactor-circuit-breaker combination without additional part.

(2) Use the LAD 9R3 kit for the execution of changeover contactors.

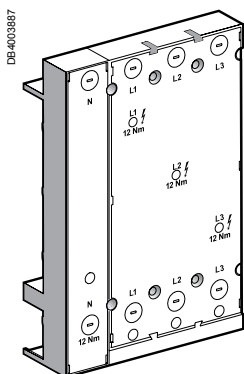
## Mounting plates - ISFT fuse-switch disconnectors



LA9ZA32627



LV432623



LV432624

### For TeSys integral contactor-circuit-breakers

Operating current AC-3 440 V	Protection by contactor-circuit-breaker	Mounting plate l x h	Sale in ind. Q.	Unit reference
<b>Mounting plate, 1-way</b>				
63 A	LD1, LD4 LD	108 x 260	1	LA9ZA32627

### For TeSys GV7 motor circuit-breakers

Operating current AC-3 440 V	Protection by contactor-circuit-breaker	Mounting plate l x h	Sale in ind. Q.	Unit reference
<b>Mounting plate, 1-way</b>				
80 A	GV7	104 x 190	1	LV429372

### For Compact NSX circuit-breakers

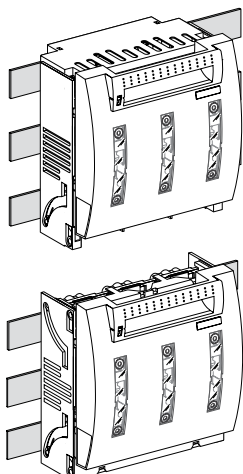
Operating current AC-3 440 V		Mounting plate l x h	Sale in ind. Q.	Unit reference
100-250 A	Mounting plate for 3P circuit-breakers	104 x 190	1	LV429372
	Mounting plate for 4P circuit-breakers	139 x 251	1	LV429373
400-630 A	Mounting plate for 3P circuit-breakers	139 x 270	1	LV432623
	Mounting plate for 4P circuit-breakers	184 x 284	1	LV432624

### For PowerPact 3P circuit-breakers

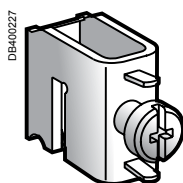
Ratings 600 V (UL) - 690 V AC (IEC)		Sale in ind. Q.	Unit reference
Mounting plate for H frame circuit-breakers 100-250 A (104 x 190 x 63)		1	LA9ZA32600
Mounting plate for J frame circuit-breakers 250 A (104 x 190 x 63)		1	LV429372
Mounting plate for L frame circuit-breakers 400-630 A (139 x 270 x 63)		1	LV432623

### ISFT160 to ISFT630 3-pole fixed front-connected fuse-switch disconnectors

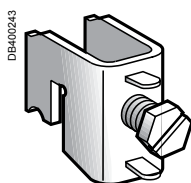
Push-on connection to 60 mm busbars	ISFT160	49805
	ISFT250	49814
Hook-on connection to 60 mm busbars	ISFT160	49806
	ISFT250	49815
	ISFT400	49820
	ISFT630	49826



## Terminals, connection module

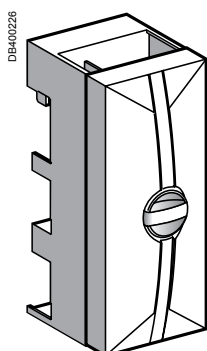


LA9ZX01285

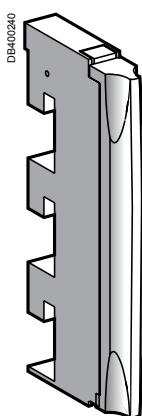


LA9ZX01287

Terminals				
	I max		Sale in ind. Q.	Unit reference
One-pole for flat bars, 5 mm <sup>2</sup>	270 A	Capacity 4-35 mm <sup>2</sup>	50	LA9ZX01285
	400 A	Capacity 16-70 mm <sup>2</sup>	25	LA9ZX01287
3P cover, width 84 mm			10	LA9ZX01413



LA9ZX01243



LA9ZX01563

Terminals on mounting plate				
	I max		Sale in ind. Q.	Unit reference
3P, on mounting plate + cover, for 12 x 5 to 30 x 10 busbars	440 A	Capacity 35-120 mm <sup>2</sup>	1	LA9ZX01243

Connection module				
	I max		Sale in ind. Q.	Unit reference
3P, spring terminal connection + cover, for busbars of 12 x 5 to 30 x 10	80 A	Capacity 1.5-16 mm <sup>2</sup>	8	LA9ZX01563




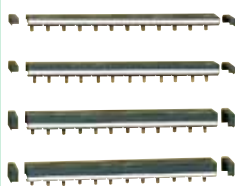
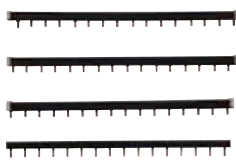
## Lineryg HK - Pre-assembled panel busbar system



Rating		160 A					
Number of tap-off every 18 mm		12	18	24	30	48	54
References		AK5 JB143	AK5 JB144	AK5 JB145	AK5 JB146	AK5 JB149	AK5 JB1410
Accessories							
	Use	No. of points	Sold in lots of	Thermal current	Cable lengths	References	
 Removable power sockets	1P + N	1	6 (2 x N+L1, 2 x N+L2 et 2 x N+L3)	16 A 32 A	200 mm 1000 mm	AK5 PC12 AK5 PC32L	
	2P	1	6 (2 x L1+L2, 2 x L1+L3 et 2 x L2+L3)	16 A 32 A	200 mm 1000 mm	AK5 PC12PH AK5 PC32LPH	
	3P	2	6	16 A 32 A	200 mm 250 mm 1000 mm	AK5 PC13 AK5 PC33 AK5 PC33L	
	3P + N	2	6	16 A 32 A	200 mm 250 mm 1000 mm	AK5 PC14 AK5 PC34 AK5 PC34L	
	3P + commun	2	6	16 A 10 A (commun) 32 A 10 A (commun)	200 mm 250 mm	AK5 PC131 AK5 PC331	
		Maximum no. of connections		Sold in lots of	Csa mm <sup>2</sup>		Reference
 Cable guide	4 cables maximum		20	from 2.5 to 4 mm <sup>2</sup>		AK5 GF1	



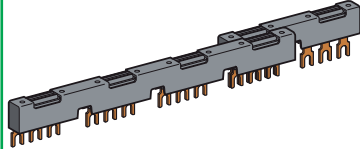
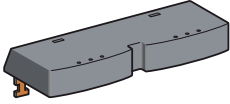

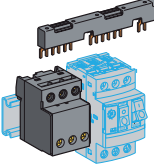
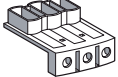


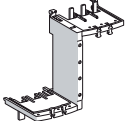
## Lineryg FH - Comb busbars for miniature circuit-breakers

Type		For DPN			For iC60 and C60		For C120 and NG125	
Rating		80 A			80 / 100 A		125 A	
								
Length	in 9 mm modules	24	48	96	24	48	45	48
	in 18 mm modules	12	24	48	12	24	22.5	24
Quantity per cat. no.		1			1		1	
Accessories included	Side plates	4			2		2	
	Tooth covers	1 (6 modules of 9 mm)	2 (6 modules of 9 mm)	-	-		8 for 1P or 2P comb busbars, 4 for 3P or 4P comb busbars	
Powered device module type		9 mm			18 mm		27 mm	
Characteristics		-			80 A with 1 power supply point 100 A with 2 power supply points		63 A maximum per outgoing line	
References	1P	-	-	-	<b>14881</b>	<b>14891</b>	-	<b>14811</b>
	2P	<b>21086</b>	<b>21088</b>	<b>21089</b>	<b>14882</b>	<b>14892</b>	-	<b>14812</b>
	3P	-	-	-	<b>14883</b>	<b>14893</b>	<b>14813</b>	-
	4P	<b>21090</b>	<b>21092</b>	<b>21093</b>	<b>14884</b>	<b>14894</b>	-	<b>14814</b>
<b>Accessories</b>								
Type		References						
Side plates		Sets of 40 side plates: <b>21094</b> : 2P <b>21095</b> : 4P			Set of 20 side plates + 16 tooth covers: <b>14886</b> : 1P, 2P <b>14887</b> : 3P, 4P		<b>14818</b> : Set of 4 side plates + 20 tooth covers (2P, 3P, 4P)	
Tooth covers		<b>21096</b> : 12 tooth covers (6 modules of 9 mm)			Set of 40 tooth covers: <b>14888</b>			
Connectors		<b>21098</b> : 4 connectors for 25 mm <sup>2</sup> cable			<b>21098</b> : 4 connectors for 25 mm <sup>2</sup> cable		-	

## Lineryg FM - Insulated busbars - spring connection



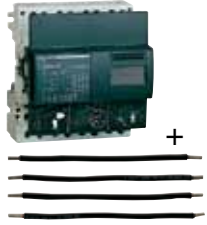


Type		For cable links				
Rating		63 A	80 A	160 A	200 A	
						
Length	in 9 mm modules	24	96	48	48	72
	in 18 mm modules	12	48	24	24	36
Upstream connection capacity		Tunnel terminals for cables up to 25 mm <sup>2</sup>	Tunnel terminals for cables up to 25 mm <sup>2</sup>	Direct on connecting pads by 50 mm <sup>2</sup> cables or by 20 x 3 flexible bar with a prefabricated connection from a busbar		
Downstream connection capacity	Max. 4 mm <sup>2</sup> Phase	2	-	-	-	-
	Neutral	4	-	-	-	-
	Max. 6 mm <sup>2</sup> Phase	2	-	-	-	-
	Neutral	4	-	-	-	-
Max. 10 mm <sup>2</sup> Phase		-	18	6	12	18
	Neutral	-	18	6	18	27
Accessories included	Pre-stripped copper connections	10 of 4 mm <sup>2</sup> + 6 of 6 mm <sup>2</sup> (L=100 mm)	12 blue + 12 black	20 of 4 mm <sup>2</sup> + 6 of 6 mm <sup>2</sup> (L=100 mm)		
	Protective cover	-	-	For pads (IPxxB)		
	Screws and nuts	-	-	For pads		
References	2P	-	-	-	<b>04012</b>	-
	3P	-	-	-	<b>04013</b>	-
	4P	<b>04008</b>	<b>04000</b>	<b>04018</b>	<b>04014</b>	<b>04026</b>
<b>Accessories</b>						
Type		Manufactured cable links for upstream liaison				
References / type of liaison		-	-	4 x 160 A cable links <b>04030</b> - Between Lineryg FM and switchgear	4 x 200 A cable links <b>04021</b> - Between Lineryg FM and Powerclip busbar <b>04029</b> - Between Lineryg FM and back busbar <b>04024</b> - Between Lineryg FM and busbar in duck	

## Linergy FT - Comb busbars for motor circuit-breakers






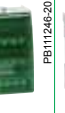



Compatibility with motor circuit-breaker		TeSys GV2 or LUB - 63 A					TeSys GV3 P - 115 A	
								
Number of derivations		2	3	4	5	2	3	
References	45 mm pitch	<b>GV2 G245</b>	<b>GV2 G345</b>	<b>GV2 G445</b>	-	-	-	
	54 mm pitch	<b>GV2 G254</b>	<b>GV2 G354</b>	<b>GV2 G454</b>	<b>GV2 G254</b>	-	-	
	64 mm pitch	-	-	-	-	<b>GV3 G264</b>	<b>GV3 G364</b>	
	72 mm pitch	<b>GV2 G272</b>	-	<b>GV2 G472</b>	-	-	-	
Accessories								
Supply of the row		<p>Terminal block for supply to one or more GV2 G busbar sets, Connection from the top: <b>GV1 G09</b></p>  <p>Connection from the side: <b>GV1 G05</b> Can receive the add-on limiter GV1 L3 (GV2 ME and GV2 P)</p> 					<p>Cover "Large Spacing" UL508 type E (Only one cover required on supply side) <b>GV3 G66</b></p> 	
Association with a contactor		<p>Combination blocks Allow a contactor to be installed under a GV2 <b>GV2 AF01</b> for LC1 K or LP1 K contactor</p>  <p><b>GV2 AF3</b> for LC1 D09...D38 contactor</p> 					<p>Set of S-shape busbars For circuit-breakers GV3P and contactors LC1 D40A...D65A <b>GV3 S</b></p> 	



## Lineryy DX - Fast connection distribution blocks

Rating	63 A		125 A	160 A	160 A	
						
Number of poles	4P		4P	4P	1P	
Total connection capacity (dia. for flexible cables)	4 mm <sup>2</sup>	-	7	-	-	
	6 mm <sup>2</sup>	12 per phase + 12 neutral		3	6	
	10 mm <sup>2</sup>	-	2	-	-	
	16 mm <sup>2</sup>	-	1 tunnel terminal	-	6	
	25 mm <sup>2</sup>	4 tunnel terminals per phase + 1 neutral		-	-	
	35 mm <sup>2</sup>	-	1 tunnel terminal	-	-	
	70 mm <sup>2</sup>	-	-	-	1 tunnel terminal	
Characteristics	Incoming through the top Clip-on to rail	Incoming through the bottom Clip-on to rail	Set of 4 35 mm <sup>2</sup> flexible connections, length 210 mm to be ordered separately (cat. no. 04047) Clip-on to rail	Set of 4 prefabricated flexible connections supplied, for connection with an INS100/160 or NSA160 switch, installed on the right or left Clip-on to rail	Clip-on to rail	
Size	in 9 mm modules	8	8	12	12	4.5
	in 18 mm modules	4	4	6	6	2.5
References	<b>04040</b>	<b>04041</b>	<b>04045 + 04047</b>	<b>04046</b>	<b>04031</b>	

## Lineryy DS and Lineryy BS - Screw connection distribution blocks

Type	Lineryy DS							Lineryy BS		
Rating	125 A	160 A	250 A	100 A	125 A	160 A	160 A	160 A	250 A	400 A
										
Number of poles	2P			4P				4P		
Total connection capacity	10	13	14	4 x 7	4 x 12	4 x 15	4 x 12	4 + 13 (dia. for flexible cables: 50 mm <sup>2</sup> )		
Characteristics	Clip-on to rail			Clip-on to rail				To be screwed on back. 13 M6 tapped holes + 4 plain holes of dia. 12.2 mm		
Size	in 9 mm modules	3	4	5	8	14	20	18		
	in 18 mm modules									
References	<b>LGY112510</b>	<b>LGY116013</b>	<b>LGY125014</b>	<b>LGY410028</b>	<b>LGY412548</b>	<b>LGY412560</b>	<b>LGY416048</b>	<b>04052</b>	<b>04053</b>	<b>04054</b>
Neutral terminal strip (optional)	-	-	-	LGYN1007	LGYN12512	LGYN12515	LGYN12512			

## Lineryg TR - Clip-on mounting on 35 mm rails



Screw clamp technology		Terminal blocks	End plates	Commoning links
		(sold in lots of 50)	(sold in lots of 50)	(sold in lots of 50)
2.5 mm <sup>2</sup> c.s.a.	Conducting	NSYTRV22	NSYTRACR22	NSYTRAL22 (2)
	Protective earth conductor	NSYTRV22PE		
4 mm <sup>2</sup> c.s.a.	Conducting	NSYTRV42	NSYTRACR22	NSYTRAL42 (2)
	Protective earth conductor	NSYTRV42PE		
6 mm <sup>2</sup> c.s.a.	Conducting	NSYTRV62	NSYTRACR22	NSYTRAL62 (2)
	Protective earth conductor	NSYTRV62PE		
10 mm <sup>2</sup> c.s.a.	Conducting	NSYTRV102	NSYTRACR22	NSYTRAL102
	Protective earth conductor	NSYTRV102PE		
16 mm <sup>2</sup> c.s.a.	Conducting	NSYTRV162	NSYTRACR162	NSYTRAL162
	Protective earth conductor	NSYTRV162PE		
35 mm <sup>2</sup> c.s.a.	Conducting	NSYTRV352	included	NSYTRAL352
	Protective earth conductor	NSYTRV352PE		
50 mm <sup>2</sup> c.s.a.	Conducting	NSYTRV502 (1)	included	NSYTRAL502
	Protective earth conductor	NSYTRV502PE (1)		
70 mm <sup>2</sup> c.s.a.	Conducting	NNSYTRV702 (1)	included	NSYTRAL702
95 mm <sup>2</sup> c.s.a.	Conducting (lug / lug)	NSYTRV952BB (1)	-	NSYTRAL952
	Conducting (lug / connector)	NSYTRV952BC (1)		
150 mm <sup>2</sup> c.s.a.	Conducting	NSYTRV1502BB (1)	-	NSYTRAL1502

(1) Lots of 10

(2) For a 3, 4, 5, 10 or 20-pole commoning link replace the last number of the reference by 3, 4, 5, 10 or 20 respectively, 2, 3 and 10 for NSYTRV62, NSYTRAL62PE

Nota: End stop, for all terminal blocks: Clip-on (52 mm) = NSYTRAAB35 – With screw (9.5 mm) = NSYTRAABV35



Spring clamp technology		Terminal blocks	End covers	Commoning links
		(sold in lots of 50)	(sold in lots of 50)	(sold in lots of 50)
2.5 mm <sup>2</sup> c.s.a.	Conducting	NSYTRR22	NSYTRACR22	NSYTRAL22 (1)
	Protective earth conductor	NSYTRR22PE		
4 mm <sup>2</sup> c.s.a.	Conducting	NSYTRR42	NSYTRACR42	NSYTRAL42 (1)
	Protective earth conductor	NSYTRR42PE		
6 mm <sup>2</sup> c.s.a.	Conducting	NSYTRR62	NSYTRACR62	NSYTRAL62 (1)
	Protective earth conductor	NSYTRR62PE		
10 mm <sup>2</sup> c.s.a.	Conducting	NSYTRR102	NSYTRACR102	NSYTRAL102
	Protective earth conductor	NSYTRR102PE		
16 mm <sup>2</sup> c.s.a.	Conducting	NSYTRR162	NSYTRACR162	NSYTRAL162
	Protective earth conductor	NSYTRR162PE		

(1) For a 3, 4, 5, 10 or 20-pole commoning link replace the last number of the reference by 3, 4, 5, 10 or 20 respectively, 2, 3 and 10 for NSYTRR62, NSYTRR62PE

Nota: End stop, for all terminal blocks: Clip-on (52 mm) = NSYTRAAB35 – With screw (9.5 mm) = NSYTRAABV35



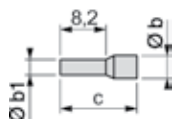
Push-in technology		2-way terminal blocks	End covers	2-pole commoning links
		(sold in lots of 50)	(sold in lots of 50)	(sold in lots of 50)
2.5 mm <sup>2</sup> c.s.a.	Conducting	NSYTRP22	NSYTRACR22	NSYTRAL22 (1)
	Protective earth conductor	NSYTRP22PE		
4 mm <sup>2</sup> c.s.a.	Conducting	NSYTRP42	NSYTRACR42	NSYTRAL42 (1)
	Protective earth conductor	NSYTRP42PE		

(1) For a 3, 4, 5, 10 or 20-pole commoning link replace the last number of the reference by 3, 4, 5, 10 or 20 respectively.



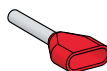
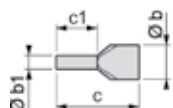
## Conforming to DIN 46228 (1) - DZ5/AZ5

mm <sup>2</sup>	Øb	Øb1	c
0.5	3	1.4	13
0.75	3.1	1.6	13
1	3.4	1.8	13.5
1.5	4	2.1	13.5
2.5	4.6	2.7	14.5



Type			Single cable ends Sold in lots of 10 x 100		
<b>Packaging</b>			Individual or "strings" of bags	Dispenser pack	Strips of 50 in bag
<b>Conductor c.s.a.</b>	<b>0.5</b>	White	<b>DZ5CE005D</b>	<b>AZ5CE005D</b>	<b>DZ5CEB005D</b>
<b>in mm<sup>2</sup></b>	<b>0.75</b>	Grey	<b>DZ5CE007D</b>	<b>AZ5CE007D</b>	<b>DZ5CEB007D</b>
	<b>1</b>	Red	<b>DZ5CE010D</b>	<b>AZ5CE010D</b>	<b>DZ5CEB010D</b>
	<b>1.5</b>	Black	<b>DZ5CE015D</b>	<b>AZ5CE015D</b>	<b>DZ5CEB015D</b>
	<b>2.5</b>	Blue	<b>DZ5CE025D</b>	<b>AZ5CE025D</b>	<b>DZ5CEB025D</b>

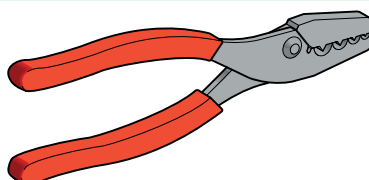
mm <sup>2</sup>	Øb	Øb1	c	c1
0.75	2.8 x 5	1.8	15	8
1	3.4 x 5.4	2.05	15	8
1.5	3.6 x 6.6	2.3	15	8
2.5	4.2 x 7.8	2.9	18.5	10



Type			Double cable ends Sold in lots of 5 x 100		
<b>Packaging</b>			Dispenser pack		
<b>Conductor c.s.a.</b>	<b>2 x 0.75</b>	Grey	<b>AZ5DE007D</b>		
<b>in mm<sup>2</sup></b>	<b>2 x 1</b>	Red	<b>AZ5DE010D</b>		
	<b>2 x 1.5</b>	Black	<b>AZ5DE015D</b>		
	<b>2 x 2.5</b>	Blue	<b>AZ5DE025D</b>		

(1) For insulated cable ends conforming to standard NF C 63-023, please refer to your Schneider Electric agency.

## Cabling accessories



Type	Pliers/cutters				
<b>Functions</b>	Stripping	Cutting/stripping	Crimping	Crimping (ratchet)	Cutting/stripping/crimping (2)
<b>For cable c.s.a.</b>	0.08 to 4 mm <sup>2</sup>	0.4 to 4 mm <sup>2</sup>	0.5 to 16 mm <sup>2</sup>	0.25 to 6 mm <sup>2</sup>	0.5 to 2.5 mm <sup>2</sup>
<b>References</b>	<b>AT1PA7</b>	<b>AT2PE1</b>	<b>AT1PA2</b>	<b>AT2PA5</b>	<b>AT2TRIF01</b>

(2) For use with cable ends packed in strips of 50.



# PratiKa plugs and sockets - Low voltage and extra-low voltage



## A complete range of high performance industrial plugs and sockets

The PratiKa range of industrial plugs and sockets is basically designed to suit all needs and all kinds of environments: tertiary sector, industry, building sites, workshops, agricultural sector, as well as indoor and outdoor of any kind of building.

This wide range of plugs and sockets is the result of Schneider's experience and know-how, it is a complete range, available for the 16 A, 32 A, 63 A and 125 A with degree of protection IP44 and IP67 in the wander, panel and wall versions.

- These solutions are:
- fast to connect
  - safe in the use
  - functional and ergonomic
  - easy and intuitive.



## Circuits with risks of direct or indirect contacts with live parts

Sockets with safety transformer: 230 / 24 V or 400 / 24 V; 160 VA, panel or wall-mounted.

Plugs and sockets for circuits powered with extra low voltages: 20-25 V; 40-50 V AC, DC.

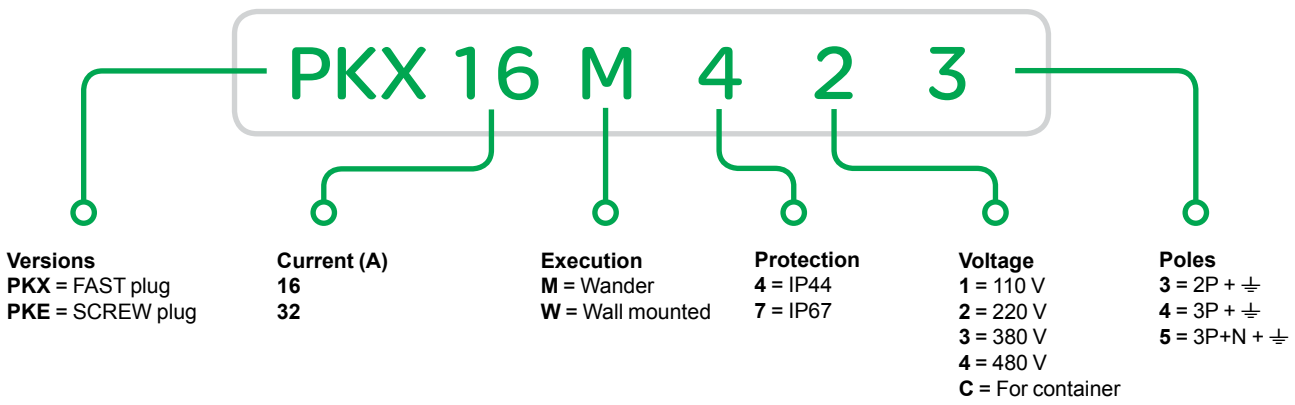
The range includes 16 and 32 A versions available in different number of poles: 2P and 3P.

Consult our website: [www.schneider-electric.com](http://www.schneider-electric.com)

### PratiKa with FAST connection

The **FAST** connecting system is the most innovating solution of this series which guarantees the connection without stripping the conductor, in total absence of screw. This logo is the guarantee of the new patented connecting system of the **FAST** series. This solution is dedicated to flexible cables both for the 16 A and 32 A.



## Learn how to define your PratiKa industrial plugs and sockets







## Selection Guide

### PratiKa plugs 16 - 32 A

Rated current	Poles and wires	Freq. Hz	Rated voltage	Clock position of contact	Wander plugs		Wander sockets	
					FAST connect 	SCREW connect	FAST connect 	SCREW connect
16 A	2P + $\perp$	50/60	200-250 V AC	6 h	PKX16M423	PKE16M423	PKY16M423	PKF16M423
	3P + $\perp$	50/60		9 h	PKX16M424	PKE16M424	PKY16M424	PKF16M424
	3P+N + $\perp$	50/60		9 h	PKX16M425	PKE16M425	PKY16M425	PKF16M425
	2P + $\perp$	50/60	380-415 V AC	9 h	PKX16M433	PKE16M433	PKY16M433	PKF16M433
	3P + $\perp$	50/60		6 h	PKX16M434	PKE16M434	PKY16M434	PKF16M434
	3P+N + $\perp$	50/60		6 h	PKX16M435	PKE16M435	PKY16M435	PKF16M435
32 A	2P + $\perp$	50/60	200-250 V AC	6 h	PKX32M423	PKE32M423	PKY32M423	PKF32M423
	3P + $\perp$	50/60		9 h	PKX32M424	PKE32M424	PKY32M424	PKF32M424
	3P+N + $\perp$	50/60		9 h	PKX32M425	PKE32M425	PKY32M425	PKF32M425
	2P + $\perp$	50/60	380-415 V AC	9 h	PKX32M433	PKE32M433	PKY32M433	PKF32M433
	3P + $\perp$	50/60		6 h	PKX32M434	PKE32M434	PKY32M434	PKF32M434
	3P+N + $\perp$	50/60		6 h	PKX32M435	PKE32M435	PKY32M435	PKF32M435

### PratiKa sockets 16 - 32 A

Rated current	Poles and wires	Freq. Hz	Rated voltage	Clock position of contact	Panel mounted plugs	Panel mounted sockets			
					SCREW connect	Angled SCREW connect	FAST connect 	Straight SCREW connect	FAST connect 
16 A	2P + $\perp$	50/60	200-250 V AC	6 h	81804	PKF16F423	PKY16F423	PKF16G423	PKY16G423
	3P + $\perp$	50/60		9 h	81805	PKF16F424	PKY16F424	PKF16G424	PKY16G424
	3P+N + $\perp$	50/60		9 h	81806	PKF16F425	PKY16F425	PKF16G425	PKY16G425
	2P + $\perp$	50/60	380-415 V AC	9 h	81807	PKF16F433	PKY16F433	PKF16G433	PKY16G433
	3P + $\perp$	50/60		6 h	81808	PKF16F434	PKY16F434	PKF16G434	PKY16G434
	3P+N + $\perp$	50/60		6 h	81809	PKF16F435	PKY16F435	PKF16G435	PKY16G435
32 A	2P + $\perp$	50/60	200-250 V AC	6 h	81816	PKF32F423	PKY32F423	PKF32G423	PKY32G423
	3P + $\perp$	50/60		9 h	81817	PKF32F424	PKY32F424	PKF32G424	PKY32G424
	3P+N + $\perp$	50/60		9 h	81818	PKF32F425	PKY32F425	PKF32G425	PKY32G425
	2P + $\perp$	50/60	380-415 V AC	9 h	81819	PKF32F433	PKY32F433	PKF32G433	PKY32G433
	3P + $\perp$	50/60		6 h	81820	PKF32F434	PKY32F434	PKF32G434	PKY32G434
	3P+N + $\perp$	50/60		6 h	81821	PKF32F435	PKY32F435	PKF32G435	PKY32G435

### PratiKa sockets 10 - 16 A - Schuko german type

Rated current	Poles and wires	Rated voltage	Panel m. - 50x50 mm - Straight	Panel m. - 65x65 mm - Straight
10 - 16 A	2P + $\perp$	200-250 V AC	IP54 PKS51B	IP54 PKS61B

# Power supplies and transformers








## Contents

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- Phaseo power supplies p. 3/5
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## Phaseo safety transformers – Low voltage - Very low voltage

Range	Cost effective	Common applications	Evolved application
			
Type	Single primary voltage (230 V) Single secondary winding	Dual primary voltage (230/400 V) Single secondary winding	Dual primary voltage (230/400 V) Double secondary winding
References	ABT7ESM serie	ABL6TS serie	ABT7PDU, ABT7TDU series
Output voltage	230 V $\pm$ 15 V 50/60 Hz	230/400 V $\pm$ 15 V 50/60 Hz	230/400 V $\pm$ 15 V 50/60 Hz
Output voltage	24 V	12 V, 24 V, 48 V, 115 V, 230 V	2x24 V, 2x115 V
Power	40 VA... 400 VA	25 VA... 2500 VA	25 VA... 2500 VA
Max op. temperature	40°C	50°C	60°C



- **Ease of installation:**

- Omega rail clip-in (\*).
- Or screw fixing.
- 230 V or 400 V input (\*).
- Series/Parallel wiring by jumpers (\*).

- **Perfect integration in panels:**

- Protection cover(\*).
- LED "ON" (\*).
- Choice between 40°C/50°C/60°C transformers.

(\* ) depending on references.

## Phaseo regulated DC power supplies – Switch mode technology

<b>Application</b>	Multi purpose: residential, buildings, industry	Machines, moving equipment	Multi purpose: buildings, industry	Automation, sensitive equipment in laboratories, datacenters industry...
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Type	Low power	Medium power	Medium power		High power	Medium power	High power	
			Compact	Compact			Compact 3 phase	
<b>References</b>	<b>ABL8MEM serie</b>	<b>ABL1R serie</b>	<b>ABL8REM serie</b>	<b>ABL4RSM serie</b>	<b>ABL4WSR serie</b>	<b>ABL8RP serie</b>	<b>ABL8RPM serie</b>	<b>ABL8W serie</b>
Network	N/L; L1/L2	N/L	N/L; L1/L2	N/L; L1/L2	L1 / L2 / L3	N/L; L1/L2	N/L; L1/L2	L1/L2/L3
AC input voltage (V)	100 to 240		100 to 240	120 to 230	400... 500	100 to 500	100 to 240	380... 500
DC input voltage	-	120 to 370	100... 250	100 to 350	-	-	-	-
DC output voltage (V)	5; 12 or 24	12 or 24	24	24 (adjustable)	24	24	24	24
DC output Power (W)	7.2 to 30	2.5 to 240	72 to 120	84 to 480	480; 780; 960	72 to 240	480	480 or 960
Integrated Anti-harmonic filter *	-	-	■	-	-	■	■	■
Extended functionalities	-					-	Battery backup, Power supply redundancy with extension modules	
Mounting	Din rail or panel	Panel	Din rail					

(1) Power supply complies with IEC/EN 61000-3-2



- **Worldwide range:**
  - 100- 500 V (\*).
  - UL/CSA/CE certifications.
- **Large range:** from 0.3 A up to 40 A output current.
- **Cost reduction:** overdimensioning is no longer necessary thanks to the integrated energy reserve (\*).
- **Ease of installation:**
  - Omega rail clip-in.
  - High connection capacity.

(\* ) depending on references.

# Phaseo transformers



Type of transformer	Double winding operating temperature									
	+60°C					+50°C				
<b>Rated input voltage</b>	230/400 V AC (±15 V) 1-phase									
<b>Certifications</b>	cULus, ENEC									
<b>Rated power / Rated output current</b>	25 VA	40 VA	63 VA	100 VA	160 VA	250 VA	320 VA	400 VA	630 VA	1000 VA
<b>Visualization</b>	LED display of voltage presence at primary								Without	
<b>Fixing (mm)</b>	DIN rail 35x15 or on panel mount by screw					On panel mount by screw				
<b>References</b>	ABT7PDU*** <sup>(1)</sup>								ABT7TDU*** <sup>(1)</sup>	
Rated output voltage 24/48 V	<b>002B</b>	<b>004B</b>	<b>006B</b>	<b>010B</b>	<b>016B</b>	<b>025B</b>	<b>032B</b>	<b>040B</b>	<b>063B</b>	<b>100B</b>
115/230 V	<b>002G</b>	<b>004G</b>	<b>006G</b>	<b>010G</b>	<b>016G</b>	<b>025G</b>	<b>032G</b>	<b>040G</b>	<b>063G</b>	<b>100G</b>

(1) Complete the reference according to the power and voltage using the table below (example: ABT7PDU002G)



Type of transformer	Single winding operating temperature +50°C									
<b>Rated input voltage</b>	230/400 V AC (±15 V) 1-phase									
<b>Certifications</b>										
<b>Rated output power</b>	25 VA	40 VA	63 VA	100 VA	160 VA	250 VA	400 VA	630 VA	1000 VA	
<b>Fixing (mm)</b>	On panel mount by screw									
<b>References</b>	ABL6TS*** <sup>(2)</sup>									
Rated output voltage 24 V	<b>02B</b>	<b>04B</b>	<b>06B</b>	<b>10B</b>	<b>16B</b>	<b>25B</b>	<b>40B</b>	<b>63B</b>	<b>100B</b>	
115 V	<b>02G</b>	<b>04G</b>	<b>06G</b>	<b>10G</b>	<b>16G</b>	<b>25G</b>	<b>40G</b>	<b>63G</b>	<b>100G</b>	
230 V	<b>02U</b>	<b>04U</b>	<b>06U</b>	<b>10U</b>	<b>16U</b>	<b>25U</b>	<b>40U</b>	<b>63U</b>	<b>100U</b>	

(2) Complete the reference according to the power and voltage using the table below (example: ABL6TS02G)



Type of transformer	Single winding operating temperature +40°C						
<b>Rated input voltage</b>	230 V AC (±15 V) 1-phase						
<b>Certifications</b>	Without						
<b>Rated power / Rated output current</b>	40 VA	63 VA	100 VA	160 VA	250 VA	320 VA	400 VA
<b>Fixing (mm)</b>	On panel mount by screw						
<b>References</b>	ABT7ESM*** <sup>(3)</sup>						
Rated output voltage 24 V	<b>004B</b>	<b>006B</b>	<b>010B</b>	<b>016B</b>	<b>025B</b>	<b>032B</b>	<b>040B</b>

(3) Complete the reference according to the power and voltage using the table below (example: ABT7ESM004B)

## Regulated, Switch-mode - Rail mounting or panel



Type of power supply	7 to 60 W Single-phase					
Rated input voltage	100...240 V AC					
Rated output voltage	24 V			5 V		12 V
Rated power / Rated output current	7.5 W / 0.3 A	15 W / 0.6 A	30 W / 1.2 A	60 W / 2.5 A	20 W / 4 A	25 W / 2 A
Reset	Auto					
Conformity to IEC 61000-3-2	Without					
Certifications	cULus, cCSAus, TUV, CE, C-Tick					
Dimensions W x D x H (mm)	36 x 59 x 90		54 x 59 x 90	72 x 59 x 90	54 x 59 x 90	
Fixing (mm)	DIN rail 35x7.5 or 35x15 or on panel mount by screw					
References	ABL8MEM24003	ABL8MEM24006	ABL8MEM24012	ABL7RM24025	ABL8MEM05040	ABL8MEM12020



Type of power supply	60 W to 240 W						
Input voltage	85... 264 V AC			85... 132 V AC / 170... 264 V AC			
Output voltage	12 VDC		24 VDC		24 VDC		
Rated power / Rated output current	60 W / 5 A	100 W / 8.3 A	60 W / 2.5 A	100 W / 4.2 A	150 W / 6.2 A	240 W / 10 A	
Certifications	UL, c CSA us, CE, Ctick						
Dimensions W x D x H (mm)	150 x 38 x 98	200 x 38 x 98	150 x 38 x 98	200 x 38 x 98	200 x 50 x 98	200 x 65 x 98	
Fixing (mm)	Panel mount by scw, by bracket ABL1A01 (1), on DIN rail 35mm by panel ABL1A02 (1)						
References	Without filter	ABL1REM12050	-	ABL1REM24025	ABL1REM24042	ABL1REM24062	ABL1REM24100
	With filter (2)	-	ABL1RPM12083	-	ABL1RPM24042	ABL1RPM24062	ABL1RPM24100

(1) has to order separately.

(2) Anti harmonic IEC/EN 61000-3-2



Type of power supply	72 to 240 W Single-phase - Wide input range			480 to 960 W single and 3-phases		
Rated input voltage	100... 120 V AC and 200... 500 V AC			100...120 V AC and 200...240 V AC		3 x 380...500 V AC
Rated output voltage	24 V			24 V		
Rated power / Rated output current	72 W / 3 A	120 W / 5 A	240 W / 10 A	480 W / 20 A		960 W / 40 A
Permissible temporary inrush current (boost)	1.5 In during 4 s			1.5 In during 4 s		
Reset	Auto or manual			Auto or manual		
Conformity to IEC 61000-3-2	Yes			Yes		
Diagnostic relay (output voltage > 21.6 V)	No	Yes		Yes		
Certifications	cCSAus, CB scheme, CE			cCSAus, CB scheme, CE		
Dimensions W x D x H (mm)	44 x 120 x 143	56 x 120 x 143	85 x 140 x 143	145 x 140 x 143	95 x 155 x 143	165 x 155 x 143
Fixing (mm)	DIN rail 35x7.5 or 35x15					
References	ABL8RPS24030	ABL8RPS24050	ABL8RPS24100	ABL8RPM24200	ABL8WPS24200	ABL8WPS24400

## Regulated, Switch-mode Compact - Rail mounting



Type of power supply	60 to 144 W single-phase			
Rated input voltage	100... 240 V AC			
Rated output voltage	24 V	12 V	48 V	
Rated power / Rated output current	72 W / 3 A	120 W / 5 A	60 W / 5 A	144 W / 2.5 A
Reset	Auto		Auto or manual	
Conformity to IEC 61000-3-2	No		Yes	
Certifications	cULus, cCSAus, TUV, CE, C-Tick			
Dimensions W x D x H (mm)	27 x 120 x 120	54 x 120 x 120		
Fixing (mm)	DIN rail 75x7.5, 35x7.5 or 35x15			
References	<b>ABL8REM24030</b>	<b>ABL8REM24050</b>	<b>ABL7RP1205</b>	<b>ABL7RP4803</b>



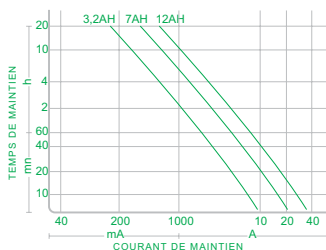
Type of power supply	85 to 480 W Single-phase			
Rated Input Voltage AC	120... 230 V 50/60 Hz	120 / 230 V		
Rated Input Voltage DC	100... 370 V	300... 350 V		
Rated adjustable output Voltage	23... 27.5 V	24... 28 V		
Rated power / Rated output current	84 W / 3.5 A	120 W / 5 A	240 W / 10 A	480 W / 20 A
Temporary permissible inrush current output	6 A for 30 s	8 A for 30 s	15 A for 30 s	30 A for 5 s
Reset after overload	Auto			
Diagnostic relay (output voltage > 21.6 V)	Yes			
Fixing (mm)	DIN rail 35x7.5			
Dimensions W x D x H (mm)	39 x 115 x 134	64 x 140 x 139	80 x 127 x 146	
References	<b>ABL4RSM24035</b>	<b>ABL4RSM24050</b>	<b>ABL4RSM24100</b>	<b>ABL4RSM24200</b>



Type of power supply	480 to 960 W 3-phase		
Rated Input Voltage AC	400 ... 500 V 50/60 Hz		
Working on 2 phases	Possible with output current = 75 % of the nominal output current.		
Output Voltage	24 V		
Rated power / Rated output current	480 W / 20 A	720 W / 30 A	960 W / 40 A
Temporary permissible inrush current output	30 A for 5 s	45 A for 5 s	60 A for 5 s
Reset after overload	Auto		
Diagnostic relay	Yes		
Fixation (mm)	DIN rail 35x7.5		
Dimensions W x D x H (mm)	80 x 127 x 146		
References	<b>ABL4WSR24200</b>	<b>ABL4WSR24300</b>	<b>ABL4WSR24400</b>



# Phaseo power supplies - Function modules for regulated switch mode power supplies



Type of module	Microcuts and cuts network solutions. (1)		
<b>Compatibility</b>	Output connection of Universal power supplies ABL8RPS24..., ABL8WPS24..., ABL4RSM24..., ABL4WSR24...		
<b>Technology</b>	Buffer module	battery backup module + battery	
<b>Rated output voltage</b>	40 A	20 A	40 A
<b>Holding time 1 A</b>	2 s typique	adjustable from 10 s to 24 h (battery depending)	
<b>Holding time for maximum current output</b>	100 ms typique	adjustable from 10 s to 30 mn (battery depending)	adjustable from 10 to 10 mn (battery depending)
<b>Certifications</b>	cCSAus, CB scheme, CE		
<b>Dimensions W x D x H (mm)</b>	85 x 140 x 146	86 x 175 x 143	86 x 175 x 143
<b>Fixing (mm)</b>	DIN rail 35x7.5 or 35x15 (1)		
<b>References Control module</b>	<b>ABL8BUF24400</b>	<b>ABL8BBU24200</b>	<b>ABL8BBU24400</b>
<b>References battery</b>	3,2 Ah (2)	<b>ABL8BPK24A03</b>	<b>ABL8BPK24A03</b>
	7 Ah (2)	<b>ABL8BPK24A07</b>	<b>ABL8BPK24A07</b>
	12 Ah (2)	<b>ABL8BPK24A12</b>	<b>ABL8BPK24A12</b>

(1) Battery module except 7 Ah and 12 Ah. For battery module 3.2 Ah with ABL1A02 kit.

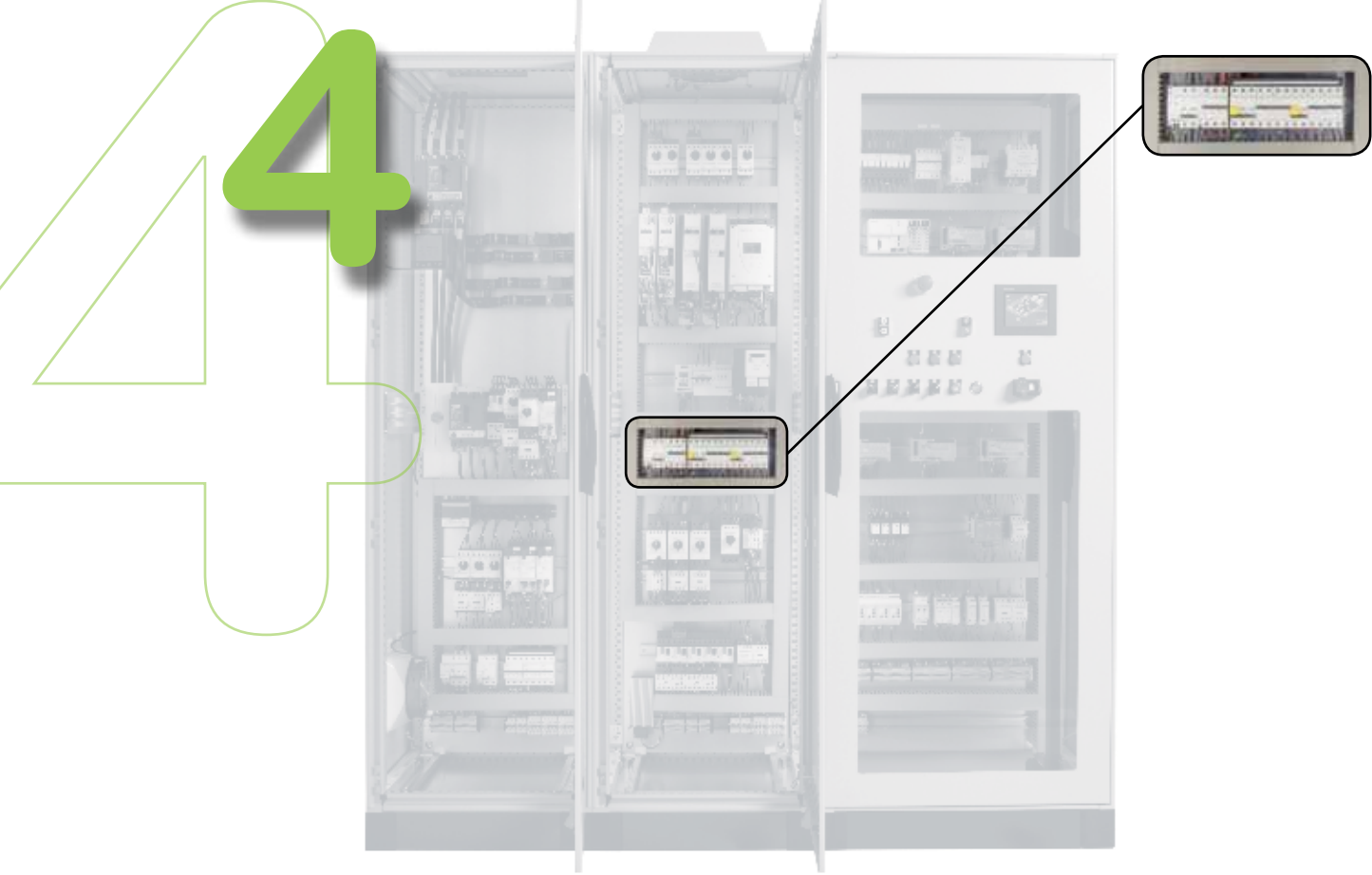
(2) Battery to be chosen according to the graph.



Type of module	Redundancy power supplies solutions
<b>Compatibility</b>	Connection of 2 power supplies inputs ABL4... or ABL8RP, ABL8WP up to 20 A (1 power supply 40 A)
<b>Rated output voltage</b>	24 V
<b>Rated output current</b>	40 A
<b>Certifications</b>	cCSAus, CB scheme, CE
<b>Dimensions W x D x H (mm)</b>	44 x 140 x 146
<b>Fixing (mm)</b>	DIN rail 35x7.5 ou 35x15
<b>References</b>	<b>ABL8RED24400</b>

Type of module	Starter protection solution
<b>Compatibility</b>	Output connection of Universal power supplies ABL8RPS24100..., ABL8RPM24200..., ABL8WPS24..., ABL4RSM24... and ABL4WSR24...
<b>Rated output current</b>	10 A par voie
<b>Calibres</b>	1 / 2.5 / 4 / 5 / 7 / 8 / 10 A
<b>Number of channels</b>	4
<b>Diagnostic relay</b>	Yes
<b>Manual switch off (1 per channel)</b>	Two-pole
<b>Certifications</b>	cCSAus, CB scheme, CE
<b>Dimensions (mm)</b>	71 x 109 x 110
<b>Fixing (mm)</b>	DIN rail 35x7.5 or 35x15 or on panel mount by screw
<b>References</b>	<b>ABL8PRP24100</b>

# Circuit and Load protection



**The safest, simplest, and most efficient system**  
for power distribution solutions

## ● Acti 9

- > Safer
- > More efficient
- > Simpler and smarter
- > Monitor and adjust specific loads



• VisiSafe and Class 2 give complete safety for the life of your installation.



• Two certifications for one product, 100 per cent MCB and RCD coordination, and easy ordering and design.



• VisiTrip, super immunization, and automatic reclosers increase continuity of service and enhance reliability.



• Manage loads, reduce operating or project costs, and accurately plan maintenance.



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# Circuit and Load protection - Panorama

Range	Short circuit and overload protection: Miniature circuit-breaker				Fuse holder			
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Voltage	60 V DC/pole	250 V DC/pole	230 / 400 V AC		500 V AC	690 V AC			
Number of poles	1 or 2P		1, 2, 3 and 4P		-				
Nominal current (A)	1 to 63		80 to 125		25	32	50	125	
					8 x 32 mm	10 x 38 mm	14 x 51 mm	22 x 58 mm	
Breaking capacity (kA)	6	6	10		20	120			
Type of loads / Tripping curve <sup>(1)</sup>	B, C, D	C	B, C, D		-				
Width	18 mm/pole		27 mm/pole		-				
Product reference	IEC	Acti 9 iC60N	Acti 9 C60H-DC	Acti 9 iC60N	Multi 9 C120N	DF8	DF10	DF14	DF22
	IEC/UL	Multi 9 C60N	Multi 9 C60H-DC	Multi 9 C60N	-	DF8	DF10	DF14	DF22

(1) Tripping curve: B (3 In < I\_m < 5 In).  
 C (5 In < I\_m < 10 In).  
 D (10 In < I\_m < 14 In).

Type of loads: Standard.  
 Inrush current.  
 Electronics or high cable length.



## Wide functionalities, quality without boundaries

The Acti 9 and Multi 9 circuit-breakers are recognised in over 100 countries for their quality and the breadth of their range, making it an indispensable component for developing low voltage installations with complete peace of mind.

**Acti 9: provides an extremely high level of functionalities,**

**Multi 9: for IEC/UL market applications.**

Fuse Holders

**Reliable and effective solution** to protect low voltage equipment against short-circuits.

Range	Earth leakage protection		Surge protection	
	RCBO <sup>(3)</sup>		RCCB <sup>(4)</sup>	
Voltage	230 / 400 V AC			
Number of poles	1P+N	2, 3 and 4P		
Nominal current (A)	6 to 32		25 to 63	-
Breaking capacity (kA)	-	-	-	20
Type of loads / Tripping curve <sup>(1)</sup>	C class A 30 or 300 mA		Class A 30 or 300 mA	Type 2
Width	36 mm	27 to 63 mm	36 to 72 mm	72 to 120 mm
Product reference	IEC IEC/UL	Acti 9 DPN Vigi Acti 9 Vigi iC60 blocks <sup>(2)</sup>	Acti 9 RCCB ID Multi 9 GFP	Quick PRD 20r

(1) Tripping curve: B (3 In<Im<5 In).  
C (5 In<Im<10 In).  
D (10 In<Im<14 In).

Type of loads: Standard.  
Inrush current.  
Electronics or high cable length.

(2) For use with iC60N MCB.

(3) RCBO: with overcurrent protection for individual circuit protection.

(4) RCCB: without overcurrent protection for group protection.

Discover the new Acti 9 range in your national Acti 9 catalogue.  
Multi 9 range is a worldwide offer presented in the following pages.



Earth leakage protection

### Applications

Protection against:

- electrocution (in accordance with installation standards IEC 364 and material standards)
- risk of fire due to leakage currents.

The simplicity of combining Vigi iC60 modules with iC60 circuit-breakers makes them extremely easy to install.

Surge protection

### Applications

Protection of electrical installations in all industrial and tertiary buildings against induced or conducted surges resulting from indirect lightning strokes.

Improved continuity of service and safety due to:

- certified coordination with disconnection circuit-breakers
- simplified installation of the Quick ranges, due to the integrated disconnecter.

## Circuit breakers

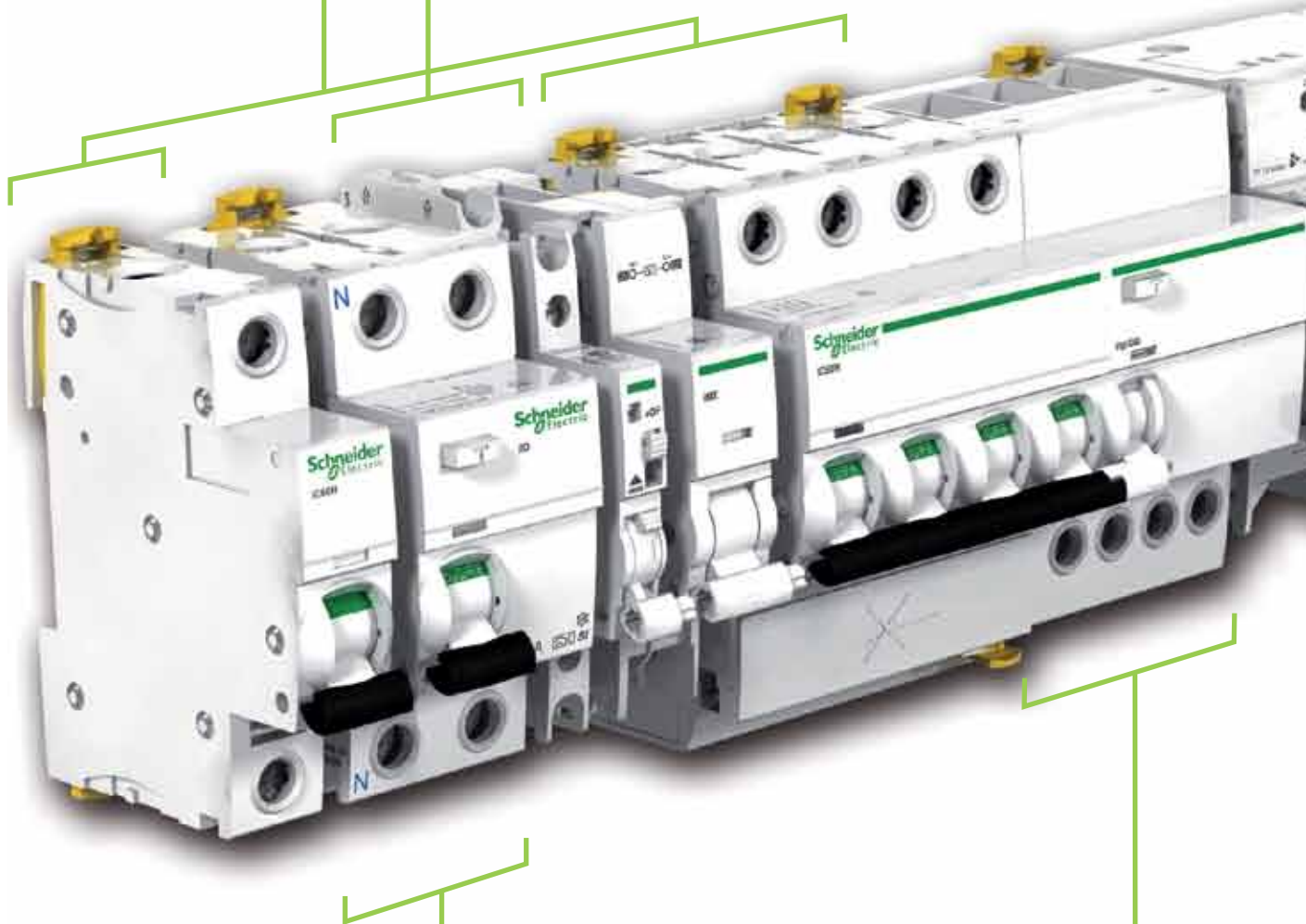
1 pole  
1 pole + neutral  
2 poles  
3 poles  
4 poles

## Electrical auxiliaries

Tripping, notification, indication, and remote status indication

## Installation systems

IP20B terminals, splitter block, full range of mounting and wiring accessories, communicating architecture



## Residual current circuit-breaker

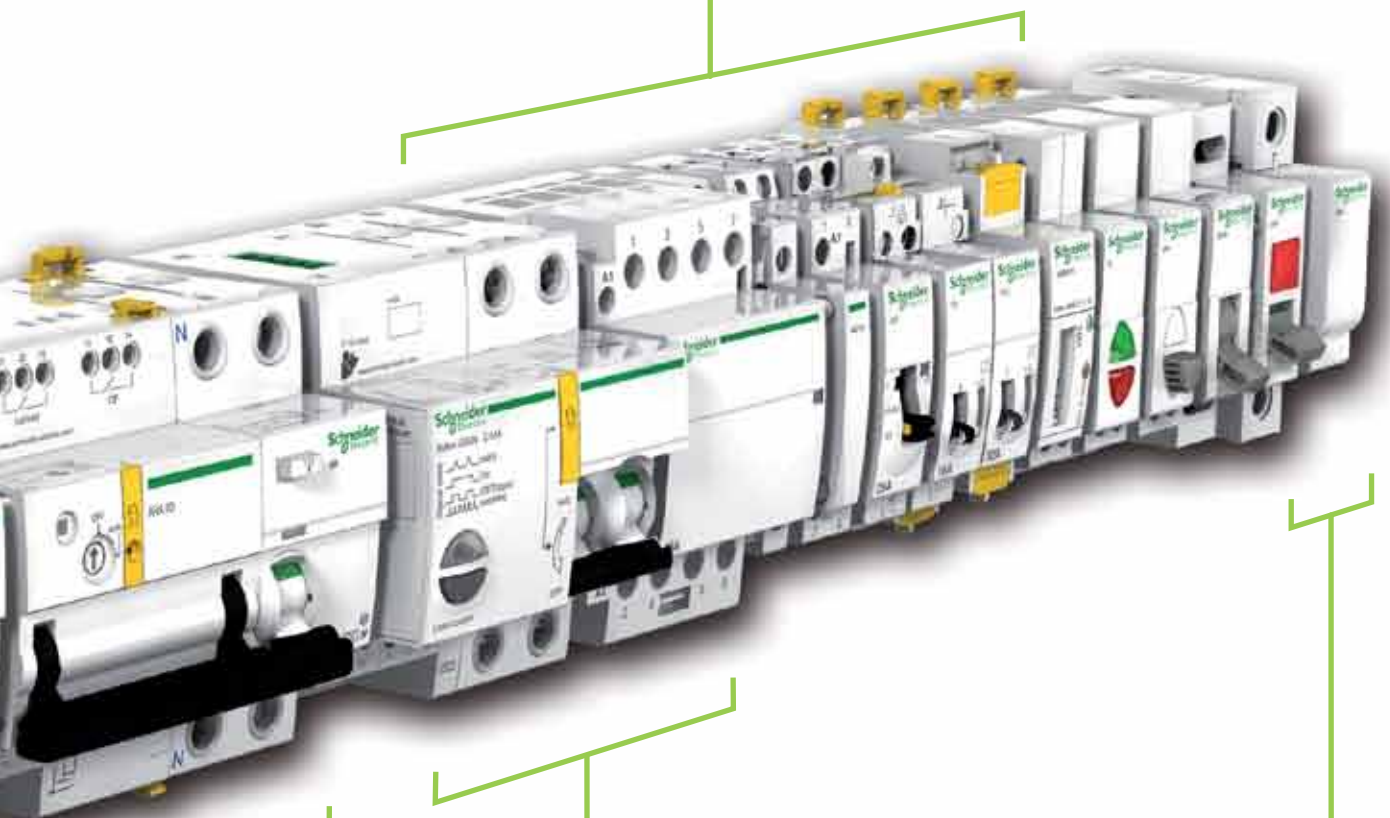
2 poles  
4 poles

## Vigi residual current device module

2 poles  
3 poles  
4 poles

## Control

Contactors, impulse relays, indicator lights, pushbuttons, kilowatt hour meters, and selector switches, etc.



## Integrated remote control circuit-breaker

2 poles  
3 poles  
4 poles

## Automatic recloser auxiliaries

## Surge arresters

Type 2 or 3  
1 pole  
1 pole + neutral  
2 poles  
3 poles  
3 poles + neutral  
4 poles



# Miniature circuit-breakers - Multi 9 C60N UL489

Multi 9 C60N

Conformity: UL489 / CSA C22.2 No. 5-02 / IEC 60947-2 / GB 14048-2



## C60N UL489 circuit-breaker

Type	120 to 240 V ~						480 Y / 277 V ~					
	1P		2P		3P		1P		2P		3P	
Rating (A)	Curve		Curve		Curve		Curve		Curve		Curve	
	C	D	C	D	C	D	C	D	C	D	C	D
0.5	60100	60117	60134	60151	-	-	MGN61300	MGN61333	MGN61311	MGN61344	-	-
1	60101	60118	60135	60152	60168	60184	MGN61301	MGN61334	MGN61312	MGN61345	MGN61323	MGN61356
1.5	60102	60119	60136	60153	60169	60185	-	-	-	-	-	-
2	60103	60120	60137	60154	60170	60186	MGN61302	MGN61335	MGN61313	MGN61346	MGN61324	MGN61357
3	60104	60121	60138	60155	60171	60187	MGN61303	MGN61336	MGN61314	MGN61347	MGN61325	MGN61358
4	60105	60122	60139	60156	60172	60188	MGN61304	MGN61337	MGN61315	MGN61348	MGN61326	MGN61359
5	60106	60123	60140	60157	60173	60189	MGN61305	MGN61338	MGN61316	MGN61349	MGN61327	MGN61360
6	60107	60124	60141	60158	60174	60190	MGN61306	MGN61339	MGN61317	MGN61350	MGN61328	MGN61361
7	60108	60125	60142	60159	60175	60191	-	-	-	-	-	-
8	60109	60126	60143	60160	60176	60192	MGN61307	MGN61340	MGN61318	MGN61351	MGN61329	MGN61362
10	60110	60127	60144	60161	60177	60193	MGN61308	MGN61341	MGN61319	MGN61352	MGN61330	MGN61363
13	60111	60128	60145	60162	60178	60194	-	-	-	-	-	-
15	60112	60129	60146	60163	60179	60195	MGN61309	MGN61342	MGN61320	MGN61353	MGN61331	MGN61364
20	60113	60130	60147	60164	60180	60196	MGN61310	MGN61343	MGN61321	MGN61354	MGN61332	MGN61365
25	60114	60131	60148	60165	60181	60197	-	-	-	-	-	-
30	60115	60132	60149	60166	60182	60198	-	-	-	-	-	-
35	60116	60133	60150	60167	60183	60199	-	-	-	-	-	-
Width in 9 mm modules	2		4		6		2		4		6	

Utilization in alternative current and direct current  
 Utilization in alternative current only






### Interrupting ratings

Rating (A) 25°C/77°F	Number of 0.71 in. poles (18-mm)	Voltage	Interrupting rating (kA rms)	
			AIR UL489/CSA	Icu IEC 60947-2
0.5 to 20	1P	277 V ~	10	10
	2P/3P	480Y/277 V ~	10	10
0.5 to 35	1P	120 V ~	10	-
		240 V ~	5	10
	2P/3P	240 V ~	10	20
		415 V ~	-	10
		440 V ~	-	6
	1P	60 V ⋯	10 (1)	10 (1)
2P	125 V ⋯	10 (1)	10 (1)	

(1) C curve only available





Connection accessories	Comb busbars						Accessories				
	Comb busbar						Insulated connector		Tooth cover end-piece		
	 1P x 240 V - 12 modules		 3P x 480Y - 12 modules		 3P 480Y - Can accept auxiliaries						
<b>Function</b>	<ul style="list-style-type: none"> <li>■ The comb busbars make it easier to install Schneider Electric UL489 circuit-breakers</li> <li>■ They must not be cut</li> </ul>						<ul style="list-style-type: none"> <li>■ Comb busbar power supply</li> <li>■ Vertical incoming feeder</li> </ul>		<ul style="list-style-type: none"> <li>■ Insulation of teeth remaining free</li> </ul>		
<b>Use</b>	<ul style="list-style-type: none"> <li>■ Power supply by insulated connector</li> </ul>						<ul style="list-style-type: none"> <li>■ For semi-rigid copper cable of 4 to 35 mm<sup>2</sup> (#1-#12 AWG)</li> <li>■ Tightening torque: 6 N.m (53 lb.in) max.</li> </ul>				
Number of poles	1P		2P		3P		All		All		
Voltage rating (Ue)	240 V AC    480Y/277 V AC		240 V AC    480Y/277 V AC		240 V AC    480Y/277 V AC		240 V AC    480Y/277 V AC		-		
Catalogue numbers	10170	10171	10180	10181	10172	10182	10173	10183 10193*	10175	10185	10190
Number of 18 mm modules	6	12	6	12	12		12		-		-
<b>Set of</b>	5		5		5		5		15		9

# Miniature circuit-breakers - Multi 9 C60N UL1077

Multi 9 C60N

Conformity to C60 UL1077 / CSA C22.2 No. 235-04 / IEC 60947-2 / GB 14048-2



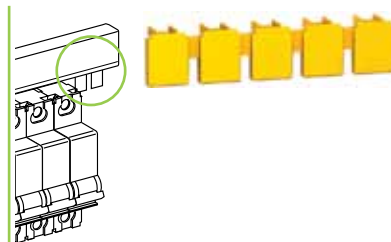
C60N UL1077 circuit-breaker												
Type	1P			2P			3P			4P		
Rating (In)	Curve			Curve			Curve			Curve		
	B	C	D	B	C	D	B	C	D	B	C	D
0.5 A	-	17411	17421	-	17441	17451	-	-	-	-	-	-
1 A	24110	24425	24500	24125	24442	24516	24140	24459	24532	24155	24476	24548
1.2 A	17402	17412	17422	17432	17442	17452	-	-	-	-	-	-
1.5 A	17403	17413	17423	17433	17443	17453	-	-	17470	-	-	-
2 A	24111	24426	24501	24126	24443	24517	24141	24460	24533	24156	24477	24549
3 A	24112	24427	24502	24127	24444	24518	24142	24461	24534	24157	24478	24550
4 A	24113	24428	24503	24128	24445	24519	24143	24462	24535	24158	24479	24551
5 A	17404	17414	17424	17434	17444	17454	-	-	-	-	-	-
6 A	24114	24430	24504	24129	24447	24520	24144	24464	24536	24159	24481	24552
7 A	17405	17415	17425	17435	17445	17455	-	-	-	-	-	-
8 A	24115	24431	24505	24130	24448	24521	24145	24465	24537	24160	24482	24553
10 A	24116	24432	24506	24131	24449	24522	24146	24466	24538	24161	24483	24554
13 A	24117	24433	24507	24132	24450	24523	24147	24467	24539	24162	24484	24555
15 A	17406	17416	17426	17436	17446	17456	17461	17466	17471	-	-	-
16 A	24118	24434	24508	24133	24451	24524	24148	24468	24540	24163	24485	24556
20 A	24119	24435	24509	24134	24452	24525	24149	24469	24541	24164	24486	24557
25 A	24120	24436	24510	24135	24453	24526	24150	24470	24542	24165	24487	24558
30 A	17407	17417	17427	17437	17447	17457	17462	17467	17472	-	-	-
32 A	24121	24437	24511	24136	24454	24527	24151	24471	24543	24166	24488	24559
35 A	17408	17418	17428	17438	17448	17458	17463	17468	17473	-	-	-
40 A	24122	24438	24512	24137	24455	24528	24152	24472	24544	24167	24489	24560
50 A	24123	24439	24513	24138	24456	24529	24153	24473	24545	24168	24490	24561
60 A	17409	17419	17429	17439	17449	17459	17464	17469	17474	-	-	-
63 A	24124	24440	24514	24139	24457	24530	24154	24474	24546	24169	24491	24562
Width in 9-mm modules	2			4			6			8		

Interrupting ratings					
Rating (A) 25°C/77°F	Number of 18 mm (0.71 in.) poles	Voltage	Breaking capacity (kA rms)		
			AIR UL1077/CSA	Icu IEC 60947-2	
0.5 to 63	1P	240 V ~	10	10	
	2P/3P/4P	240 V ~	10	20	
	1P	2P/3P/4P	277 V ~	5	-
			415 V ~	-	3
			415 V ~	-	10
			440 V ~	-	6
		480Y/277 V ~	5	-	
0.5 to 63 B and C curves	1P	60 V -	-	10	
	1P	65 V -	10	-	
		125 V -	10	10	

# Comb busbar - C60 UL1077



Comb busbar and accessory for C60 UL1077 / CSA C22.2 No. 235-04  
IEC 60947-2 / GB 14048-2



Comb busbars for C60 UL - 8.5 inches (216 mm)				Accessory
References	1-phase <b>10285</b>	2-phase <b>10286</b>	3-phase <b>10287</b>	Tooth caps for 18 mm comb busbar (20 pieces) <b>60488</b>

# Miniature circuit-breakers - Multi 9 C60H-DC C curve

Multi 9 C60H  
For Direct Current applications







C60H-DC				
Operating voltage (Ue)	12...250 V DC		12...500 V DC	
Rated voltage (Un)	250 V DC		500 V DC	
Number of poles	1P		2P	
Curve	C		C	
Number of modules of 9 mm	2		4	
Diagrams	<p>DB116587</p> <p>Supply from above or below, observing the polarity</p>		<p>DB116588</p> <p>Supply from above or below</p>	
Standards	UL1077	IEC 60947-2 EN 60947-2 GB 14048.2	UL1077	IEC 60947-2 EN 60947-2 GB 14048.2
Breaking capacity	5 kA / 250 V DC	20 kA / 110 V DC 10 kA / 220 V DC 6 kA / 250 V DC	5 kA / 500 V DC	20 kA / 220 V DC 10 kA / 440 V DC 6 kA / 500 V DC
<b>Rating (A) at 25°C/77°F</b>	<b>UL1077, IEC 60947-2, EN 60947-2, GB 14048.2</b>			
0.5	MGN61500		MGN61520	
1	MGN61501		MGN61521	
2	MGN61502		MGN61522	
3	MGN61503		MGN61523	
4	MGN61504		MGN61524	
5	MGN61505		MGN61525	
6	MGN61506		MGN61526	
10	MGN61508		MGN61528	
13	MGN61509		MGN61529	
15	MGN61510		MGN61530	
16	MGN61511		MGN61531	
20	MGN61512		MGN61532	
25	MGN61513		MGN61533	
30	MGN61514		MGN61534	
32	MGN61515		MGN61535	
40	MGN61517		MGN61537	
<b>Rating (A) at 25°C/77°F</b>	<b>IEC 60947-2, EN 60947-2, GB 14048.2</b>			
50	MGN61518		MGN61538	
63	MGN61519		MGN61539	



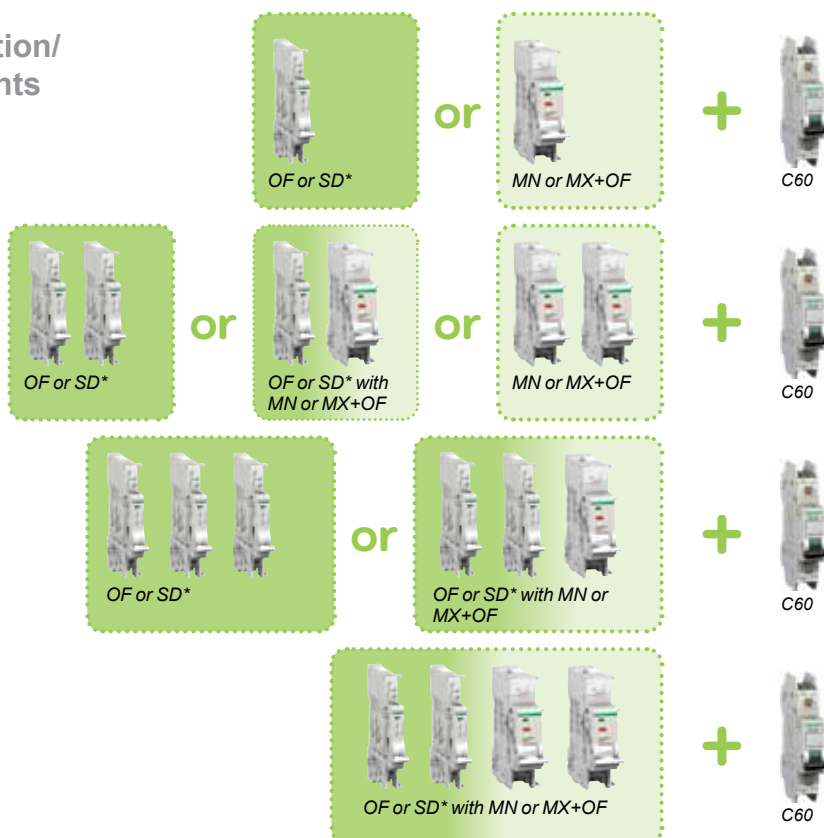
## Compliance with electrical auxiliaries standards

- For UL 489 circuit breaker File #217688.
- For CSA C22.2 No. 5.2 circuit breakers File #179014.
- For UL 1077 Supplementary Protectors File #E90509.
- For CSA C22.2 No. 235-M04 Supplementary Protectors File #179014.
- For IEC 60947-2 and IEC 60947-5-1 circuit-breakers.
- CE Marked.

Auxiliaries Type	Tripping		Indication																																											
	MN	MX+OF	OF	SD																																										
	<b>Undervoltage release</b>	<b>Shunt release</b>	<b>Open/closed auxiliary contact</b>	<b>Fault indicating switch</b>																																										
	Instantaneous	With open/closed auxiliary contact																																												
																																														
<b>Technical specifications</b>	<ul style="list-style-type: none"> <li>■ Causes tripping of the device with which it is combined when its input voltage decreases (between 70% and 35% of Un). Prevents closing of the device until its input voltage has been restored</li> </ul>	<ul style="list-style-type: none"> <li>■ Causes tripping of the associated device when powered</li> <li>■ Includes an open/closed contact (OF) to indicate the "open" or "closed" position of the associated device</li> </ul>	<ul style="list-style-type: none"> <li>■ Changeover contact indicating the "open" or "closed" position of the associated device</li> </ul>	<ul style="list-style-type: none"> <li>■ Changeover contact indicating the position of the associated device in the event of:                             <ul style="list-style-type: none"> <li>□ an electrical fault</li> <li>□ actuation of the tripping auxiliary</li> </ul> </li> <li>■ Same indication function as VISI-TRIP</li> </ul>																																										
<b>Technical specifications</b>	<table border="1"> <tr> <td>Rated voltage (Ue)</td> <td>V AC</td> <td>220...240</td> <td>48</td> <td>48</td> <td>120</td> <td>24</td> <td>-</td> <td>120...277</td> <td>48</td> <td>-</td> <td>12...24</td> <td>220...240</td> <td>220...240</td> </tr> <tr> <td></td> <td>V DC</td> <td>-</td> <td>48</td> <td>-</td> <td>-</td> <td>-</td> <td>24</td> <td>110...125</td> <td>-</td> <td>48</td> <td>12...24</td> <td>12...130</td> <td>12...130</td> </tr> <tr> <td>References</td> <td></td> <td><b>27105</b></td> <td><b>27106</b></td> <td><b>27107</b></td> <td><b>27108</b></td> <td><b>27109</b></td> <td><b>27110</b></td> <td><b>27118</b></td> <td><b>26925</b></td> <td></td> <td><b>26925</b></td> <td><b>26925</b></td> <td><b>26928</b></td> </tr> </table>				Rated voltage (Ue)	V AC	220...240	48	48	120	24	-	120...277	48	-	12...24	220...240	220...240		V DC	-	48	-	-	-	24	110...125	-	48	12...24	12...130	12...130	References		<b>27105</b>	<b>27106</b>	<b>27107</b>	<b>27108</b>	<b>27109</b>	<b>27110</b>	<b>27118</b>	<b>26925</b>		<b>26925</b>	<b>26925</b>	<b>26928</b>
Rated voltage (Ue)	V AC	220...240	48	48	120	24	-	120...277	48	-	12...24	220...240	220...240																																	
	V DC	-	48	-	-	-	24	110...125	-	48	12...24	12...130	12...130																																	
References		<b>27105</b>	<b>27106</b>	<b>27107</b>	<b>27108</b>	<b>27109</b>	<b>27110</b>	<b>27118</b>	<b>26925</b>		<b>26925</b>	<b>26925</b>	<b>26928</b>																																	

## Multi 9 C60 possible Composition/ Authorised types of components

- Indication auxiliaries
- Tripping auxiliaries



# Ground Fault Protector - Multi 9 GFP

Multi9 GFP

Conformity UL1053 / IEC 61008



SI type GFPs are ideal for operation in environments with a humid atmosphere and/or polluted by aggressive agents: swimming pools, marinas, agri-food industries, water treatment stations, industrial sites, etc.



GFP UL 1053 type AC SI					
Type	2P		4P		
	<b>Sensitivity (mA)</b>	<b>References</b>	<b>References</b>	<b>References</b>	
Rating (A)	UL 1053	IEC 61008	120 or 240 V 230 or 240 V	240 V 480Y/277 V 230/400 or 240/415 V	240 V 480Y/277 V 230/400 or 240/415 V
25	26 260	30 300	<b>60949</b> <b>60951</b>	<b>60969</b> -	<b>60989</b> <b>60991</b>
40	26 260	30 300	<b>60952</b> -	<b>60972</b> -	<b>60992</b> <b>60994</b>
63	26	30	<b>60955</b>	-	<b>60995</b>
<b>Width in mod. of 9 mm (0.354 in.)</b>			4	8	

## Coordination

### Short-Circuit Current Rating (SCCR)

The Ground-Fault Protector GFP must be used with upstream overcurrent protection suitable for the circuit. GFP is suitable for use on a circuit capable of delivering not more than values (kA) below when protected by devices listed below.

### Overcurrent protection required for UL applications of GFP

GFP	Circuit breaker type									
	C60 240 V		C60 277 V	C60 480Y/277 V		QOU	240 V ~	QO	240 V ~	HDL
	1P and 2P	3P	1P	2P	3P	1P and 2P	3P	1P and 2P	3P	2P
2P 240 V ~ <sup>(1)</sup>	10	-	-	-	-	10	-	10	-	65
2P 480Y/277 V ~ <sup>(1)</sup>	-	-	10	10	-	-	-	-	-	-
4P 480Y/277 V ~ <sup>(1)</sup>	-	10	-	-	10	-	10	-	10	-

<sup>(1)</sup> include all amperages of GFP

**10** Max short-Circuit Current withstand (kA)



0...125 A



Type			Fuse carriers without "blown fuse" indicator			
Rated insulation voltage (Ui)			500 V	690 V		
Fuse size			8.5 x 31.5 mm	10 x 38 mm	14 x 51 mm	22 x 58 mm
Conventional thermal current (Ith)			25 A	32 A	50 A	125 A
References	Number of poles	1P	DF81	DF101	DF141	DF221
		N	DF10N	DF10N	DF14N	DF22N
		1P+N	DF81N	DF101N	DF141N	DF221N
		2P	DF82	DF102	DF142	DF222
		3P	DF83	DF103	DF143C	DF223C
		3P+N	DF83N	DF103N	DF143NC	DF223NC



Type			Fuse carriers with "blown fuse" indicator			
Rated insulation voltage (Ui)			500 V	690 V		
Fuse size			8.5 x 31.5 mm	10 x 38 mm	14 x 51 mm	22 x 58 mm
Conventional thermal current (Ith)			25 A	32 A	50 A	125 A
References	Number of poles	1P	DF81V	DF101V	DF141V	DF221V
		1P+N	DF81NV	DF10NV	DF14NV	DF22NV
		2P	DF82V	DF102V	DF142V	DF222V
		3P	DF83V	DF103V	DF143VC	DF223VC
		3P+N	DF83NV	DF103NV	DF143NVC	DF223NVC

## Accessories

Type		Auxiliary early break and blown fuse signalling contacts			
Fuse carrier to be equipped		DF14		DF22	
Fuse size		14 x 51 mm		22 x 58 mm	
Number of poles		3P or 3P + N		3P or 3P + N	
Number of contacts		1	2	1	2
References		DF14AM1	DF14AM2	DF22AM1	DF22AM2

Type		Fuse carrier assembly kits			
Fuse carrier to be assembled		DF8	DF10	DF14	DF22
Fuse size		8.5 x 31.5 mm	10 x 38 mm	14 x 51 mm	22 x 58 mm
Kit contents		1 pin, 2 clips		1 pin, 3 clips	
References		DF10AP		DF14AP	DF22AP

# Motor control

# 5



# Let TeSys®



be your  
drive



#### TeSys range

TeSys GV, TeSys GK, TeSys GS, TeSys DF, TeSys K, TeSys D,  
TeSys F, TeSys B, TeSys LR, TeSys LT, TeSys M, TeSys T,  
TeSys Vario, TeSys U, TeSys LE, TeSys LG

## TeSys, innovative and intuitive solutions to protect, control and command

The TeSys range is suitable for motor and power applications.

TeSys offers all the best in class features you need for protection, safety, monitoring and control.

TeSys provides you all kind of solutions from the most universal to the most advanced.

Wherever you are in the world and whichever TeSys products you choose, you will get the reliability, standards-compatibility and ease of ordering and installing. Let TeSys be your drive.





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# Motor control - Panorama

## Selection aid



Motor starter structure	Contactors LC	Thermal mag. circuit-breakers GV	Fuse switch disconnecter ISFT	Thermal overload relay LR	Starter controller LU
Disconnection and breaking 		△	+		■
Short-circuit protection 		△	+		■
Overload protection 		△		☆	■
Control 	●				■

## Range



Motor Power (AC3/kw)	0.37 to 5.5	0.37 to 15	18.5 to 37	37 to 75
I <sub>e</sub> max AC3 (A)	9 to 12	9 to 38	40 to 80	80 to 150
I <sub>e</sub> AC1 (A)	20	25 to 50	50 to 125	125 to 200
Contactor ref. ○	LC1K...	LC1D...		
Thermal overload relay ref. ☆	LRK...	LRD...		
Breaking capacity △	100 kA	15 to 100 kA	100 kA	35 to 70 kA
Thermal Mag CB ref.	GV2		GV3	GV7
Starter controller ref. □		LUB... + LUCA...		
Fuse switch disconnecter +	ISFT 100			ISFT 160

Discover TeSys DF, our range of fuse carriers in [schneider-electric.com](http://schneider-electric.com) and "Control and Protection components" catalogue.



- **Comprehensive offer** from 9 to 150 A, meets all your PowerControl and Protection needs.
- **Worldwide, local or application-based certifications.**
- **Guaranteed savings:**
  - Reduced design time.
  - Smaller electrical enclosures.
  - Reduced installation time.

## > Composition of motor starter solutions

### "1 product" solution

A single product combines the 3 functions:  
TeSys starter-controller.

- > Fast wiring
- > Compact motor starter
- > Flexibility: last minute customization

### "2 products" solution

Thermomagnetic circuit-breaker + contactor.

- > Simple motor protection
- > Easy maintenance (contactor replacement)
- > Broad offer (e.g. connections, motor rating...)

### "3 products" solution

Magnetic circuit-breaker + contactor + thermal relay or motor management system.

- > Separated functions
- > Advanced motor protection
- > Broad offer (e.g. protection type...)



**DOL TeSys**  
- TeSys U:  
LUB12 +  
LUCA12xx

**TeSys Reverser**  
- TeSys U:  
LU2B12 +  
LUCA12xx



**DOL TeSys**  
- TeSys GV2:  
GV2P08  
- TeSys D:  
LC1D09P7

**DOL TeSys**  
- TeSys GV3:  
GV3P65  
- TeSys D:  
LC1D65AP7



**DOL TeSys**  
- TeSys GV2:  
GVL08  
- TeSys D:  
LC1D09P7  
- TeSys D:  
LRD08

**DOL TeSys**  
- TeSys GV7: GV7RS100  
- TeSys D: LC1D115P7  
- TeSys T\*: LTMR100MFM  
(\* not included in this tool, please consult the catalogue.)

# Thermal-magnetic circuit-breakers - TeSys GV2

## GV2-ME, GV2-P - 0.06...15 kW



Thermal-magnetic circuit-breakers GV2-ME and GV2-P for connection by screw clamp terminals												
GV2-ME with pushbutton control, GV2-P control by rotary knob												
Standard power ratings of 3-phase motors 50/60 Hz in category AC-3									Setting range of thermal trips A	Magnetic tripping current A (I <sub>d</sub> ± 20 %)	References	
400/415 V			500 V			690 V						
P	I <sub>cu</sub>	I <sub>cs</sub> (1)	P	I <sub>cu</sub>	I <sub>cs</sub> (1)	P	I <sub>cu</sub>	I <sub>cs</sub> (1)				
kW	kA		kW	kA		kW	kA					
-	-	-	-	-	-	-	-	-	0.1...0.16	1.5	GV2-ME01	GV2-P01
0.06	★	★	-	-	-	-	-	-	0.16...0.25	2.4	GV2-ME02	GV2-P02
0.09	★	★	-	-	-	-	-	-	0.25...0.40	5	GV2-ME03	GV2-P03
0.12	★	★	-	-	-	0.37	★	★	0.40...0.63	8	GV2-ME04	GV2-P04
0.18	★	★	-	-	-	-	-	-	0.40...0.63	8	GV2-ME04	GV2-P04
0.25	★	★	-	-	-	0.55	★	★	0.63...1	13	GV2-ME05	GV2-P05
0.37	★	★	0.37	★	★	-	-	-	1...1.6	22.5	GV2-ME06	GV2-P06
0.55	★	★	0.55	★	★	0.75	★	★	1...1.6	22.5	GV2-ME06	GV2-P06
-	-	-	0.75	★	★	1.1	★	★	1...1.6	22.5	GV2-ME06	GV2-P06
0.75	★	★	1.1	★	★	1.5	3	75	1.6...2.5	33.5	GV2-ME07	
0.75	★	★	1.1	★	★	1.5	8	100	1.6...2.5	33.5		GV2-P07
1.1	★	★	1.5	★	★	2.2	3	75	2.5...4	51	GV2-ME08	
1.1	★	★	1.5	★	★	2.2	8	100	2.5...4	51		GV2-P08
1.5	★	★	2.2	★	★	3	3	75	2.5...4	51	GV2-ME08	
1.5	★	★	2.2	★	★	3	3	100	2.5...4	51		GV2-P08
2.2	★	★	3	50	100	4	3	75	4...6.3	78	GV2-ME10	
2.2	★	★	3	★	★	4	6	100	4...6.3	78		GV2-P10
3	★	★	4	10	100	5.5	3	75	6...10	138	GV2-ME14	
3	★	★	4	50	100	5.5	6	100	6...10	138		GV2-P14
4	★	★	5.5	10	100	7.5	3	75	6...10	138	GV2-ME14	
4	★	★	5.5	50	100	7.5	6	100	6...10	138		GV2-P14
5.5	15	50	7.5	6	75	9	3	75	9...14	170	GV2-ME16	
5.5	★	★	7.5	42	75	9	6	100	9...14	170		GV2-P16
-	-	-	-	-	-	11	3	75	9...14	170	GV2-ME16	
-	-	-	-	-	-	11	6	100	9...14	170		GV2-P16
7.5	15	50	9	6	75	15	3	75	13...18	223	GV2-ME20	
7.5	50	50	9	10	75	15	4	100	13...18	223		GV2-P20
9	15	40	11	4	75	18.5	3	75	17...23	327	GV2-ME21	
9	50	50	11	10	75	18.5	4	100	17...23	327		GV2-P21
11	15	40	15	4	75	-	-	-	20...25	327	GV2-ME22 (2)	
11	50	50	15	10	75	-	-	-	20...25	327		GV2-P22
15	10	50	18.5	4	75	22	3	75	24...32	416	GV2-ME32	
15	50	50	18.5	10	75	22	4	100	24...32	416		GV2-P32

H > 100 kA

(1) as % of I<sub>cu</sub>

(2) combined with a recommended contactor

**Thermal-magnetic circuit-breakers GV2-ME for connection by spring terminals**  
Add the figure 3 to the end of the reference. Example: **GV2-ME22** becomes **GV2-ME223**

**Thermal-magnetic circuit-breakers GV2-ME for connection by ring terminals**  
Add the figure 6 to the end of the reference. Example: **GV2-ME32** becomes **GV2-ME326**



## Accessories



Accessories GV2						
<b>Combination block</b>						
For mounting on		LC1-K or LP1-K	LC1-D09...D38	LAD-31 and LC1-D09...D38		
		<b>GV2-AF01</b>	<b>GV2-AF3</b>	<b>GV2-AF4</b>		
<b>Sets of 3-pole busbars</b>						
63 A	Pitch	45 mm	54 mm	72 mm		
Number of tap-offs	2	<b>GV2-G245</b>	<b>GV2-G254</b>	<b>GV2-G272</b>		
	3	<b>GV2-G345</b>	<b>GV2-G354</b>			
	4	<b>GV2-G445</b>	<b>GV2-G454</b>	<b>GV2-G472</b>		
	5		<b>GV2-G554</b>			
<b>Protective end cover</b>						
For unused busbar outlets		<b>GV1-G10</b>				
<b>Terminal blocks</b>						
For supply to one or more GV2-G busbar sets		connection from the top	can be fitted with current limiter GV1-L3 (GV2-ME and GV2-P)			
		<b>GV1-G09</b>	<b>GV1-G05</b>			
<b>Padlockable external operator for GV2 and GV3 (150 to 290 mm)</b>						
Padlocking		In "On" and "Off" position		In "Off" position		
Handle		black		red		
Legend plate		black		yellow		
IP54	For GV2-P	<b>GV2-APN01</b>	<b>GV2-APN02</b>			
	For GV3-P	<b>GV3-APN01</b>	<b>GV3-APN02</b>			

Add-on blocks common to GV2 / GV3							
<b>Contact blocks</b>							
Contact types		N/O or N/C	N/O + N/C	N/O + N/O	(fault) + N/C	(fault) + N/O	C/O common point
<b>Instantaneous auxiliary contacts</b>							
Mounting	front	<b>GV-AE1</b>	<b>GV-AE11</b>	<b>GV-AE20</b>			
	LH side		<b>GV-AN11</b>	<b>GV-AN20</b>			
<b>Fault signalling contact + instantaneous auxiliary contact</b>							
	LH side	N/O (fault)			<b>GV-AD1001</b>	<b>GV-AD1010</b>	
		N/C (fault)			<b>GV-AD0101</b>	<b>GV-AD0110</b>	
<b>Short-circuit signalling contact</b>							
	LH side						<b>GV-AM11</b>
<b>Electric trips</b>							
<b>Undervoltage or shunt trips (1)</b>							
Side mounting (1 block on RH side of circuit-breaker)		50 Hz		60 Hz			
Voltage	24 V	<b>GV-A*025</b>		<b>GV-A*026</b>			
	48 V	<b>GV-A*055</b>		<b>GV-A*056</b>			
	100 V	<b>GV-A*107</b>					
	100...110 V			<b>GV-A*107</b>			
	110...115 V	<b>GV-A*115</b>		<b>GV-A*116</b>			
	120...127 V	<b>GV-A*125</b>					
	127 V			<b>GV-A*115</b>			
	200 V	<b>GV-A*207</b>					
	200...220 V			<b>GV-A*207</b>			
	220...240 V	<b>GV-A*225</b>		<b>GV-A*226</b>			
	380...400 V	<b>GV-A*385</b>		<b>GV-A*386</b>			
	415...440 V	<b>GV-A*415</b>					
415 V			<b>GV-A*416</b>				
<b>Padlocking device</b>							
For use with up to 4 padlocks (padlocks not supplied) Ø 6 mm shank max		<b>GV2-V03</b>					

(1) Undervoltage trips: replace the • with **U**, shunt trips: replace the • with **S**

# Thermal-magnetic circuit-breakers - TeSys GV3

## GV3-P - Thermal-magnetic 5.5...30 kW with EverLink terminal blocks



### Thermal-magnetic circuit-breakers GV3-P for connection by EverLink terminal blocks (2)

#### Control by rotary knob

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3									Setting range	References
400/415 V			500 V			660/690 V			of thermal	
P	Icu	Ics (1)	P	Icu	Ics (1)	P	Icu	Ics (1)	trips	
kW	kA		kW	kA		kW	kA		A	
5.5	100	50	7.5	12	50	11	6	50	9...13	<b>GV3-P13</b>
7.5	100	50	11	12	50	15	6	50	12...18	<b>GV3-P18</b>
11	100	50	15	12	50	18.5	6	50	17...25	<b>GV3-P25</b>
15	100	50	18.5	12	50	22	6	50	23...32	<b>GV3-P32</b>
18.5	50	50	22	10	50	30	5	60	30...40	<b>GV3-P40</b>
22	50	50	30	10	50	37	5	60	37...50	<b>GV3-P50</b>
30	50	50	37	10	50	45	5	60	48...65	<b>GV3-P65</b>

(1) as % of Icu

### Thermal-magnetic circuit-breakers GV3-P for connection by ring terminals

Add the figure **6** to the end of the reference. Example: GV3-P13 becomes GV3-P136

### Thermal-magnetic circuit-breakers GV3-P for connection by only 1 EverLink terminal block

Add the figure **1** to the end of the reference. Example: GV3P65 becomes GV3P651

(2) 4 mm BTR screw

## GV3-P - Add-on blocks and accessories (3)

Add-on blocks (front)	Fault signalling contact + instantaneous auxiliary contact	
Contact type	N/O (fault) + N/C	N/O (fault) + N/O
References (4)	<b>GV-AED011</b>	<b>GV-AED101</b>

Accessories	Cover			Busbars		
Type	IP20 for lug type terminals	IP20 for lug type terminals when used with contactor	"Wide spacing" UL508 type E	Set of 3-pole 115 A busbars for 2 circuit-breakers	Set of 3-pole 115 A busbars for 3 circuit-breakers	"S" form for side by side mounted circuit-breaker/contactors
References	<b>LAD96570</b>	<b>LAD96575</b>	<b>GV3G66</b>	<b>GV3G264</b>	<b>GV3G364</b>	<b>GV3S</b>

(3) Common add-on blocks and accessories GV2 / GV3, see page 5/15

(4) For spring terminal version add **3** to the end of the reference. Example: GV-AED011 becomes GV-AED0113



## GV3-ME - 37 kW



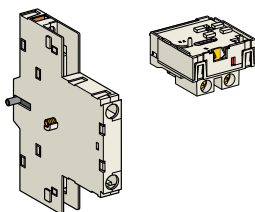
### Thermal-magnetic circuit-breakers GV3-ME for connection by screw clamp terminals

#### Pushbutton control

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3									Setting range	Reference
400/415 V			500 V			660/690 V			of thermal	
P	I <sub>cu</sub>	I <sub>cs</sub> (1)	P	I <sub>cu</sub>	I <sub>cs</sub> (1)	P	I <sub>cu</sub>	I <sub>cs</sub> (1)	trips	
kW	kA		kW	kA		kW	kA		A	
37	15	50	45	4	100	55	2	100	56...80	<b>GV3-ME80</b>

(1) as % of I<sub>cu</sub>



### Add-on blocks for GV3-ME

#### Contact blocks

##### Instantaneous auxiliary contacts (1 per breaker)

Normal early break type contacts	N/C + N/O	N/O + N/O	N/C + N/O + N/O	N/O + N/O + N/O	N/O + N/O	N/C + N/O
	<b>GV3-A01</b>	<b>GV3-A02</b>	<b>GV3-A03</b>	<b>GV3-A05</b>	<b>GV3-A06</b>	<b>GV3-A07</b>

##### Fault signalling contact

Normal early break type contacts	N/C	N/O
	<b>GV3-A08</b>	<b>GV3-A09</b>

#### Electric trips

Voltage	50 Hz	110, 120, 127 V	220, 240 V	380, 415 V
	60 Hz	120, 127 V	277 V	440, 480 V
<b>Undervoltage trip</b>	<b>GV3-B11</b>	<b>GV3-B22</b>	<b>GV3-B38</b>	
<b>Shunt trip</b>	<b>GV3-D11</b>	<b>GV3-D22</b>	<b>GV3-D38</b>	

#### Padlocking device

Start button (for bare device)	<b>GV1-V02</b>
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# Thermal-magnetic circuit-breakers - TeSys GV7

## GV7-R - 0.75...90 kW



### Thermal-magnetic circuit-breakers GV7-R for connection by screw clamp terminals

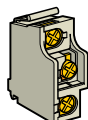
Control by rocker lever

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3									Setting range	References
400/415 V			500 V			660/690 V			of thermal	
P	I <sub>cu</sub>	I <sub>cs</sub> (1)	P	I <sub>cu</sub>	I <sub>cs</sub> (1)	P	I <sub>cu</sub>	I <sub>cs</sub> (1)	trips	
kW	kA		kW	kA		kW	kA		A	
7.5	25	100	9	18	100	11	8	100	12...20	<b>GV7-RE20</b>
9	25	100	11	18	100	15	8	100		
7.5	70	100	9	50	100	11	10	100	12...20	<b>GV7-RS20</b>
9	70	100	11	50	100	15	10	100		
9	25	100	11	18	100	15	8	100	15...25	<b>GV7-RE25</b>
11	25	100	15	18	100	18.5	8	100		
9	70	100	11	50	100	15	10	100	15...25	<b>GV7-RS25</b>
11	70	50	15	50	100	18.5	10	100		
18.5	25	100	18.5	18	100	22	8	100	25...40	<b>GV7-RE40</b>
			22	18	100					
18.5	70	100	18.5	50	100	22	10	100	25...40	<b>GV7-RS40</b>
22	25	100	30	18	100	30	8	100	30...50	<b>GV7-RE50</b>
37	25	100	45	18	100	55	8	100	48...80	<b>GV7-RE80</b>
			55	18	100					
37	70	100	45	50	100	55	10	100	48...80	<b>GV7-RS80</b>
			55	50	100					
45	25	100	-	18	100	75	8	100	60...100	<b>GV7-RE100</b>
45	70	100	-	50	100	75	10	100	60...100	<b>GV7-RS100</b>
55	35	100	75	30	100	90	8	100	90...150	<b>GV7-RE150</b>
75	70	100	90	30	100	110	8	100		
55	70	100	75	50	100	90	10	100	90...150	<b>GV7-RS150</b>
75	70	100	90	50	100	110	10	100		
90	35	100	110	30	100	160	8	100	132...220	<b>GV7-RE220</b>
110	35	100	132	30	100	200	8	100		
			160	30	100					
90	70	100	110	50	100	160	10	100	132...220	<b>GV7-RS220</b>

(1) as % of I<sub>cu</sub>





Add-on blocks						
Contact blocks						
Auxiliary contacts						
Contact type	C/O					
	GV7-AE11					
Thermal or magnetic fault discrimination						
	AC 24...48 V or DC 24...72 V			AC 110...240 V		
	GV7-AD111			GV7-AD112		
Electric trips						
Voltage	50/60 Hz	48 V	110... 130 V	200... 240 V	380...440 V	525 V
	50 Hz					
Undervoltage trip (1)		GV7-AU055	GV7-AU107	GV7-AU207	GV7-AU387	GV7-AU525
Shunt trip (1)		GV7-AS055	GV7-AS107	GV7-AS207	GV7-AS387	GV7-AS525

(1) For mounting of a GV7-AD or a GV7-AU or AS

Accessories			
Terminal shields IP405			
Supplied with sealing accessory	GV7-AC01		
Phase barriers			
Safety accessories	GV7-AC04		
used when fitting of shields is impossible			
Insulating screens			
Ensure insulation between	GV7-AC05		
the connections and the backplate			
Kit for combination with contactor			
Allowing link between the circuit-breaker and the contactor	LC1-F115 to F185	LC1-F225 and F26	LC1-D115 and D150
	GV7-AC06	GV7-AC07	GV7-AC08
Rotary handles			
Handle	black		red
Legend plate	black		yellow
■ direct	IP40	GV7-AP03	GV7-AP04
■ extended	IP55	GV7-AP01	GV7-AP02
Conversion accessory			
for mounting on enclosure door	IP43	GV7-AP05	
Locking device			
For circuit-breaker not fitted with a rotary handle	GV7-V01		

# Contactors - TeSys K

## 0.06...5.5 kW



### Connections

#### screw clamp terminals

<b>Rated operational current</b>	le max AC-3 (Ue ≤ 440 V)	6 A	9 A	12 A
	le AC-1 (≤ 40°C)	-	20 A	-
<b>Rated operational power</b>	220/240 V	1.5 kW	2.2 kW	3 kW
	<b>in category AC3</b>	380/400 V...415/440 V	2.2 kW	4 kW
	660/690 V...500 V	3 kW	4 kW	4 kW
<b>Contactor type (1)*</b>	AC	<b>LC1-K06**</b>	<b>LC1-K09**</b>	<b>LC1-K12**</b>
	DC	<b>LP1-K06**</b> or <b>LP4-K06**</b>	<b>LP1-K09**</b> or <b>LP4-K09**</b>	<b>LP1-K12**</b> or <b>LP4-K12**</b>
<b>Reversing contactor type *</b>	AC	<b>LC2-K06**</b>	<b>LC2-K09**</b>	<b>LC2-K12**</b>
	DC	<b>LP2-K06</b> or <b>LP5-K06</b>	<b>LP2-K09</b> or <b>LP5-K09</b>	<b>LP2-K12</b> or <b>LP5-K12</b>

#### spring terminals

Add the figure **3** before the voltage code. Example: **LC1-K0610\*\*** becomes **LC1-K06103\*\***

#### Faston connectors, 1 x 6.35 or 2 x 2.8

Add the figure **7** before the voltage code. Example: **LC1-K0610\*\*** becomes **LC1-K06107\*\***

#### solder pins for printed circuit boards

Add the figure **5** before the voltage code. Example: **LC1-K0610\*\*** becomes **LC1-K06105\*\***

(1) Basic reference, to be completed by adding **01** for N/C auxiliary contact, or **10** for N/O auxiliary contact.

\* Basic reference to be completed by adding the coil voltage code

### Standard control circuit voltages

#### AC supply

##### Contactors LC1-K\*\* (0.8...1.15 Uc) (0.85...1.1 Uc)

Volts	12	20	24	36	42	48	110	115	120	127	200/208	220/230	230	230/240
50/60 Hz	<b>J7</b>	<b>Z7</b>	<b>B7</b>	<b>C7</b>	<b>D7</b>	<b>E7</b>	<b>F7</b>	<b>FE7</b>	<b>G7</b>	<b>FC7</b>	<b>L7</b>	<b>M7</b>	<b>P7</b>	<b>U7</b>
Volts	256	277	380/400	400	400/415	440	480	500	575	600	660/690			
50/60 Hz	<b>W7</b>	<b>UE7</b>	<b>Q7</b>	<b>V7</b>	<b>N7</b>	<b>R7</b>	<b>T7</b>	<b>S7</b>	<b>SC7</b>	<b>X7</b>	<b>Y7</b>			

Example of complete reference: **LC1-K0910P7**

#### DC supply

##### Contactors LP1-K (0.8...1.15 Uc)

Volts	12	20	24	36	48	60	72	100	110	125	155	174	200	220	230	240	250
Code	<b>JD</b>	<b>ZD</b>	<b>BD</b>	<b>CD</b>	<b>ED</b>	<b>ND</b>	<b>SD</b>	<b>KD</b>	<b>FD</b>	<b>GD</b>	<b>PD</b>	<b>QD</b>	<b>LD</b>	<b>MD</b>	<b>MPD</b>	<b>MUD</b>	<b>UD</b>

Coil with integral suppression device available, add **3** to the code required. Example: **JD3**

#### Low consumption

##### Contactors LP4-K (0.7...1.30 Uc), coil suppression as standard

Volts	12	20	24	48	72	110	120
Code	<b>JW3</b>	<b>ZW3</b>	<b>BW3</b>	<b>EW3</b>	<b>SW3</b>	<b>FW3</b>	<b>GW3</b>

Example of complete reference: **LC1-K0910BD**



### Auxiliary contact blocks

instantaneous, screw clamp connections

	for LC1, LP1-K, LP4			for LC1, LP1-K				
Composition	2N/O	- 2N/C	1N/O 1N/C	4N/O	3N/O 1N/C	2N/C 2N/C	1N/O 3N/C	- 4N/C
References	LA1-KN20	LA1-KN02	LA1-KN11	LA1-KN40	LA1-KN31	LA1-KN22	LA1-KN13	LA1-KN04

### electronic time delay

Relay outputs, with common point changeover contact, AC or DC 24...48, 2 A maximum

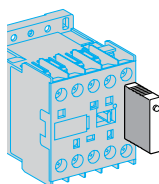
Control voltage 0.85...1.1 U<sub>c</sub>

Maximum switching capacity 250 VA or 150 W

Operating temperature -10...+60°C

Reset time: 1.5 s during the time delay period, 0.5 s after time delay period

Type	On-delay	
Timing range	1...30 s	
Composition	1	
Voltage	AC or DC 24...48 V	AC 110...240 V
References	LA2-KT2E	LA2-KT2U



### Suppressor modules

For LC1, LP1-K

Type	Varistor (AC and DC)				Diode (DC) + Zener		RC (AC)
Voltage	12...24 V	32...48 V	50...129 V	130...250 V	12...24 V	32...48 V	220...250 V
References	LA4-KE1B	LA4-KE1E	LA4-KE1FC	LA4-KE1UG	LA4-KC1B	LA4-KC1E	LA4-KA1U

# Contactors - TeSys D

## 0.06...75 kW



### Connections

screw clamp terminals or connectors

<b>Rated operational voltage</b>		690 V					
<b>Rated operational current</b>	le max AC-3 (Ue ≤ 440 V)	9 A	12 A	18 A	25 A	32 A	38 A
	le AC-1 (θ ≤ 60°C)	25 A		32 A	40 A	50 A	
<b>Rated operational power</b>	220/240 V	2.2 kW	3 kW	4 kW	5.5 kW	7.5 kW	9 kW
<b>in category AC3</b>	380/400 V	4 kW	5.5 kW	7.5 kW	11 kW	15 kW	18.5 kW
	415/440 V	4 kW	5.5 kW	9 kW	11 kW	15 kW	18.5 kW
	500 V	5.5 kW	7.5 kW	10 kW	15 kW	18.5 kW	18.5 kW
	660/690 V	5.5 kW	7.5 kW	10 kW	15 kW	18.5 kW	18.5 kW
	1000 V	–	–	–	–	–	–
<b>Contactor type *</b>		<b>LC1-D09**</b>	<b>LC1-D12**</b>	<b>LC1-D18**</b>	<b>LC1-D25**</b>	<b>LC1-D32**</b>	<b>LC1-D38**</b>
<b>Reversing contactor type * with mechanical interlock</b>		<b>LC2-D09**</b>	<b>LC2-D12**</b>	<b>LC2-D18**</b>	<b>LC2-D25**</b>	<b>LC2-D32**</b>	<b>LC2-D38**</b>

spring terminals (1)

Add the figure 3 before the voltage code. Example: **LC1-D09P7** becomes **LC1-093P7**

lug-clamps (2)

Add the figure 6 before the voltage code. Example: **LC1-D09P7** becomes **LC1-096P7**

Faston connectors (3) 2 x 6.35 (power) and 1 x 6.35 (control) up to D12 only

Add the figure 9 before the voltage code. Example: **LC1-D09P7** becomes **LC1-099P7**

\* Basic reference to be completed by adding the coil voltage code



(1)



(2)



(3)

### Standard control circuit voltages

AC supply

Volts	24	42	48	110	115	220	230	240	380	400	415	440	500
<b>Contactors LC1-D09**...D150**</b> (coils D115 and D150 with integral suppression device fitted as standard)													
50/60 Hz	<b>B7</b>	<b>D7</b>	<b>E7</b>	<b>F7</b>	<b>FE7</b>	<b>M7</b>	<b>P7</b>	<b>U7</b>	<b>Q7</b>	<b>V7</b>	<b>N7</b>	<b>R7</b>	<b>S7</b>
<b>Contactors LC1-D80**...D115**</b>													
50 Hz	<b>B5</b>	<b>D5</b>	<b>E5</b>	<b>F5</b>	<b>FE5</b>	<b>M5</b>	<b>P5</b>	<b>U5</b>	<b>Q5</b>	<b>V5</b>	<b>N5</b>	<b>R5</b>	<b>S5</b>
60 Hz	<b>B6</b>	-	<b>E6</b>	<b>F6</b>	-	<b>M6</b>	-	<b>U6</b>	<b>Q6</b>	-	-	<b>R6</b>	-

DC supply

Volts	12	24	36	48	60	72	110	125	220	250	440
<b>Contactors LC1-D09**...D65A**</b> (coils with integral suppression device fitted as standard)											
U 0.75...1.25 Uc	<b>JD</b>	<b>BD</b>	<b>CD</b>	<b>ED</b>	<b>ND</b>	<b>SD</b>	<b>FD</b>	<b>GD</b>	<b>MD</b>	<b>UD</b>	<b>RD</b>
<b>Contactors LC1-D80**...D95**</b>											
U 0.85...1.1 Uc	<b>JD</b>	<b>BD</b>	<b>CD</b>	<b>ED</b>	<b>ND</b>	<b>SD</b>	<b>FD</b>	<b>GD</b>	<b>MD</b>	<b>UD</b>	<b>RD</b>
U 0.75...1.2 Uc	<b>JW</b>	<b>BW</b>	<b>CW</b>	<b>EW</b>	-	<b>SW</b>	<b>FW</b>	-	<b>MW</b>	-	-
<b>Contactors LC1-D115** and D150**</b> (coils with integral suppression device fitted as standard)											
U 0.75...1.2 Uc	-	<b>BD</b>	-	<b>ED</b>	<b>ND</b>	<b>SD</b>	<b>FD</b>	<b>GD</b>	<b>MD</b>	<b>UD</b>	<b>RD</b>

Low consumption

**Contactors LC1-D09\*\*...D38\*\*** (coils with integral suppression device fitted as standard)

Volts DC	5	12	20	24	48	110	120	250
U 0.7...1.25 Uc	<b>AL</b>	<b>JL</b>	<b>ZL</b>	<b>BL</b>	<b>EL</b>	<b>FL</b>	<b>ML</b>	<b>UL</b>

Example of complete reference: **LC1-D09P7**



690 V			1000 V on AC supply, 690 V on DC supply			
40 A	50 A	65 A	80 A	95 A	115 A	150 A
60 A	80 A	80 A	125 A		200 A	
11 kW	15 kW	18.5 kW	22 kW	25 kW	30 kW	40 kW
18.5 kW	22 kW	30 kW	37 kW	45 kW	55 kW	75 kW
22 kW	25 kW	30 kW	45 kW	45 kW	59 kW	80 kW
22 kW	30 kW	37 kW	55 kW	55 kW	75 kW	90 kW
30 kW	33 kW	37 kW	45 kW	45 kW	80 kW	100 kW
–	–	–	45 kW	45 kW	75 kW	90 kW
<b>LC1-D40A**</b>	<b>LC1-D50A**</b>	<b>LC1-D65A**</b>	<b>LC1-D80**</b>	<b>LC1-D95**</b>	<b>LC1-D115**</b>	<b>LC1-D150**</b>
<b>LC2-D40A**</b>	<b>LC2-D50A**</b>	<b>LC2-D65A**</b>	<b>LC2-D80**</b>	<b>LC2-D95**</b>	<b>LC2-D115**</b>	<b>LC2-D150**</b>

### Mounting accessories for 3-pole reversing contactors

2 identical contactors with screw clamp terminals or connectors, horizontally mounted

Mechanical interlock with an electrical interlocking kit for the contactors	Set of connections	Mechanical interlock
LC1-D09**...D38**	<b>LAD-9R1V</b>	included
<b>with integral electrical interlocking</b>		
LC1-D80** and D95** (AC)	<b>LA9-D8069</b>	<b>LA9-D4002</b>
LC1-D80** and D95** (DC)	<b>LA9-D8069</b>	<b>LA9-D8002</b>
LC1-D115** and D150**	<b>LA9-D11569</b>	<b>LA9-D11502</b>
<b>without electrical interlocking</b>		
LC1-D09**...D38**	<b>LA9-9R1</b>	included
LC1-D40A**...D65A**	<b>LAD-9R3</b>	included
LC1-D80** and D95** (AC)	<b>LA9-D8069</b>	<b>LA9-D50978</b>
LC1-D80** and D95** (DC)	<b>LA9-D8069</b>	<b>LA9-D80978</b>



### Mechanical latch blocks

Clip-on front mounting, manual or electrical unlatching control

For use on contactor	References	Standard control circuit voltages
<b>LC1-D09**...D65A**</b> AC or DC, <b>LC1-DT20**...DT80**</b> AC or DC	<b>LAD-6K10•</b>	<b>B E F M Q</b>
<b>LC1-D80**...D150**</b> 3P AC, <b>LC1-D80**</b> and <b>D115**</b> 3P AC, <b>LC1-D115**</b> 4P DC	<b>LA6-DK20•</b>	<b>B E F M Q</b>

## Auxiliary contacts



Contact type			Instantaneous, connection by screw terminals			
Block mounting			Front mounting		Side mounting	
References	Contact	1 N/O	LADN10			–
		1 N/C	LADN01			–
		1 N/O + 1 N/C	LADN11			LAD8N11
		2 N/O	LADN20			LAD8N20
		2 N/C	LADN02			LAD8N02
		2 N/O + 2 N/C	LADN22			–
		1 N/O + 3 N/C	LADN13			–
		3 N/O + 1 N/C	LADN31			–
		4 N/O	LADN40			–
4 N/C	LADN04			–		

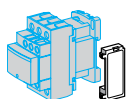


Contact type			Time delay, connection by screw terminals			
Block mounting			Front mounting		Side mounting	
Temporisation			0.1...3 s		0.1...30 s	10...180 s
References	On-delay	LADT0			LADT2	LADT4
	Off-delay	LADR0			LADR2	LADR4

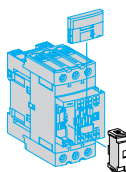
### Maximum number of auxiliary contacts that can be fitted

Type	Number of poles and size	Instantaneous						Time delay Front mounting	
		Side mounting			Front mounting				
		on left side	on right side	and	1 contact	2 contacts	4 contacts		
AC	3P	LC1D09...D38	1	–	and	–	1	or 1	or 1
		LC1D40A...D65A	1	or 1	and	–	1	or 1	or 1
		LC1D80...95 (50/60 Hz)	1	1	or	2	and 1	or 1	or 1
	4P	LC1D80...95 (50 or 60 Hz)	1	1	and	2	and 1	or 1	or 1
		LC1D115 and D150	1	–	and	–	1	or 1	or 1
		LC1DT20...DT40	1	–	and	–	1	or 1	or 1
		LC1DT60A...D80A	1	or 1	and	–	1	or 1	or 1
DC	3P	LC1D115	1	1	and	1	or 1	or 1	or 1
		LC1D09...D38	–	–	and	–	1	or 1	or 1
		LC1D40A...D65A	1	or 1	and	–	1	or 1	or 1
	4P	LC1D80 and 95	–	–	and	1	or 1	or 1	or 1
		LC1D115 and D150	1	–	and	–	1	or 1	or 1
		LC1DT20...DT40	–	–	and	–	1	or 1	or 1
		LC1DT60A...D80A	–	–	and	–	1	or 1	or 1
DC low consumption	3P	LC1D115	1	1	and	–	and 1	or 1	or 1
	4P	LC1D09...D38	–	–	and	–	1	–	–
		LC1DT20...DT40	–	–	and	–	1	–	–

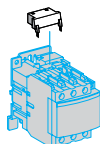
## Suppressor modules



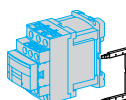
Type of module		RC circuits (Resistor-Capacitor)		
<b>Mounting</b>		Side clip-on	Front clip-on	Screw fixing
<b>For use with contactor</b>		D09...D38(3P) DT20...DT40(4P)	D40A...D65A(3P) DT60A...DT80A(4P)	D80...D150(3P) D40...D115(4P)
<b>References</b>	Voltage 24...48 V AC	<b>LAD4RCE</b>	<b>LAD4RC3E</b>	<b>LA4DA2E</b>
	50...127 V AC	<b>LAD4RCG</b>	<b>LAD4RC3G</b>	<b>LA4DA2G</b>
	110...240 V AC	<b>LAD4RCU</b>	<b>LAD4RC3U</b>	<b>LA4DA2U</b>
	380...415 V AC	–	<b>LAD4RC3N</b>	<b>LA4DA2N</b>



Type of module		Varistors (peak limiting)		
<b>Mounting</b>		Side clip-on	Front clip-on	Screw fixing
<b>For use with contactor</b>		D09...D38(3P) DT20...DT40(4P)	D40A...D65A(3P) DT60A...DT80A(4P)	D80...D150(3P) D40...D115(4P)
<b>References</b>	Voltage 24...48 V AC	<b>LAD4VE</b>	<b>LAD4V3E</b>	<b>LA4DE2E</b>
	50...127 V AC	<b>LAD4VG</b>	<b>LAD4V3G</b>	<b>LA4DE2G</b>
	110...240 V AC	<b>LAD4VU</b>	<b>LAD4V3U</b>	<b>LA4DE2U</b>
	24...48 V DC	–	–	<b>LAD4DE3E (AC and DC)</b>
	50...127 V DC	–	–	<b>LAD4DE3G (AC and DC)</b>
	110...240 V DC	–	–	<b>LAD4DE3U (AC and DC)</b>



Type of module		Flywheel diodes		
<b>Mounting</b>		Side clip-on	Front clip-on	Screw fixing
<b>For use with contactor</b>		D09...D38(3P) DT20...DT40(4P)	D40A...D65A(3P) DT60A...DT80A(4P)	D80...D150(3P) D40...D115(4P)
<b>References</b>	Voltage 24...250 V DC	<b>LAD4DDL</b>	<b>LAD4D3U</b>	<b>LAD4DC3U</b>



Type of module		Bidirectional peak limiting diode		
<b>Mounting</b>		Side clip-on	Front clip-on	Screw fixing
<b>For use with contactor</b>		D09...D38(3P) DT20...DT40(4P)	D40A...D65A(3P) DT60A...DT80A(4P)	D80...D150(3P) D40...D115(4P)
<b>References</b>	Voltage 24 V AC	<b>LAD4TB</b>	<b>LAD4T3B</b>	<b>LA4DB2B</b>
	24 V DC	<b>LAD4TBDL</b>	<b>LAD4T3B</b>	<b>LA4DB2S</b>
	72 V AC	<b>LAD4TS</b>	<b>LAD4T3S</b>	<b>LA4DB3B</b>
	72 V DC	<b>LAD4TSDL</b>	<b>LAD4T3S</b>	<b>LA4DB3S</b>
	125 V DC	<b>LAD4TGDL</b>	<b>LAD4T3G (AC and DC)</b>	–
	250 V DC	<b>LAD4TUDL</b>	<b>LAD4T3U (AC and DC)</b>	–
	600 V DC	<b>LAD4TXDL</b>	<b>LAD4T3R (AC and DC)</b>	–

# Thermal overload relays - TeSys K

## 0.11...11.5 A



### Thermal overload relays, TeSys K

adjustable from 0.11 to 12 A

Connection by screw clamp terminals, direct mounting on contactors LC1-K, manual or automatic reset

Relay setting range	Fuses to be used with selected relay			References
	aM	gG	BS88	
Class 10A				
0.11...0.16 A	0.25 A	0.5 A	-	LR2-K0301
0.16...0.23 A	0.25 A	0.5 A	-	LR2-K0302
0.23...0.36 A	0.5 A	1 A	-	LR2-K0303
0.36...0.54 A	1 A	1.6 A	-	LR2-K0304
0.54...0.8 A	1 A	2 A	-	LR2-K0305
0.8...1.2 A	2 A	4 A	6 A	LR2-K0306
1.2...1.8 A	2 A	6 A	6 A	LR2-K0307
1.8...2.6 A	2 A	6 A	10 A	LR2-K0308
2.6...3.7 A	4 A	10 A	16 A	LR2-K0310
3.7...5.5 A	6 A	16 A	16 A	LR2-K0312
5.5...8 A	8 A	20 A	20 A	LR2-K0314
8...11.5 A	10 A	25 A	20 A	LR2-K0316

Thermal overload relays for use on class 10 A unbalanced loads: for above references LR2-K0305 to LR2-K0316 only, replace the prefix LR2 with **LR7**.

Example: **LR7-K0310**.

### Accessories

#### Prewiring kit

Allowing direct connection of the N/C contact of relay LRD-01...35 or LR3-D01... D35 to the contactor	For use on	
	LC1-D09...D18	<b>LAD-7C1</b>
	LC1-D25...D38	<b>LAD-7C2</b>

#### Terminal blocks (1)

For clip-on mounting on 35 mm mounting rail (AM1-DP200) or screw fixing	LRD-01...35 and LR3-D01...D35	<b>LAD-7B10</b>
For independent mounting of the relay	LRD-3***, LR3-D3***, LRD-35**	<b>LA7-D3064 (2)</b>
	LR2-K****	<b>LA7-K0064</b>

#### EverLink Terminal blocks

Separate terminal block	LRD-313... LRD-365	<b>LAD-9R3</b>
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#### Terminal block adapter

For mounting a relay beneath an LC1-D115 or D150 contactor	LRD-3***, LR3-D3***, LRD-35**	<b>LA7-D3058</b>
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#### Stop or electrical reset

Remote (3)	LRD-01...35 and LR3-D01...D35	<b>LAD-703• (4)</b>
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#### Tripping or electrical reset device

Remote (3)	All relays except LRD-01...35 and LR3-D01...D35	<b>LA7-D03• (4)</b>
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(1) Terminal blocks are supplied with terminals protected against direct finger contact and screws in the open "ready-to-tighten" position.

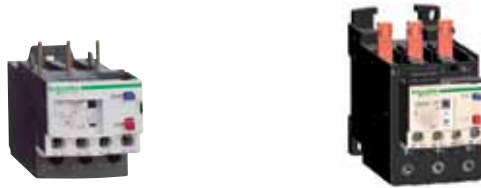
(2) To order a terminal block for connection by lug-clamps, the reference becomes LA7-D30646.

(3) The time for which the coil of remote tripping or electrical resetting device LA7-D03 or LAD-703 can remain energised depends on its rest time: 1 s pulse duration with 9 s rest time; maximum pulse duration of 20 s with a rest time of 300 s. Minimum pulse time 200 ms.

(4) Reference to be completed by adding the code indicating the control circuit voltage.



## 0.1...140 A



Thermal overload relays, TeSys D adjustable from 0.1 to 140 A					
Compensated relays with manual or automatic reset, with relay trip indicator, for AC or DC					
Relay setting range	Fuses to be used with selected relay			With contactor	References
	Connection by screw clamp terminals or connectors	aM	gG		
<b>Class 10A</b>	0.10...0.16 A	0.25 A	2 A	-	LC1-D09...D38 <b>LRD 01</b> (1)
	0.16...0.25 A	0.5 A	2 A	-	LC1-D09...D38 <b>LRD 02</b> (1)
	0.25...0.40 A	1 A	2 A	-	LC1-D09...D38 <b>LRD 03</b> (1)
	0.40...0.63 A	1 A	1.6 A	-	LC1-D09...D38 <b>LRD 04</b> (1)
	0.63...1 A	2 A	4 A	-	LC1-D09...D38 <b>LRD 05</b> (1)
	1...1.7 A	2 A	4 A	6 A	LC1-D09...D38 <b>LRD 06</b> (1)
	1.6...2.5 A	4 A	6 A	10 A	LC1-D09...D38 <b>LRD 07</b> (1)
	2.5...4 A	6 A	10 A	16 A	LC1-D09...D38 <b>LRD 08</b> (1)
	4...6 A	8 A	16 A	16 A	LC1-D09...D38 <b>LRD 10</b> (1)
	5.5...8 A	12 A	20 A	20 A	LC1-D09...D38 <b>LRD 12</b> (1)
	7...10 A	12 A	20 A	20 A	LC1-D09...D38 <b>LRD 14</b> (1)
	9...13 A	16 A	25 A	25 A	LC1-D12...D38 <b>LRD 16</b> (1)
	12...18 A	20 A	35 A	32 A	LC1-D18...D38 <b>LRD 21</b> (1)
	16...24 A	25 A	50 A	50 A	LC1-D25...D38 <b>LRD 22</b> (1)
	23...32 A	40 A	63 A	63 A	LC1-D25...D38 <b>LRD 32</b> (1)
	30...38 A	50 A	80 A	80 A	LC1-D32 and D38 <b>LRD 35</b> (1)
	55...70 A	80 A	125 A	125 A	D50...D95 <b>LRD 3361</b> (1)
	63...80 A	80 A	125 A	125 A	D65...D95 <b>LRD 3363</b> (1)
	80...104 A	100 A	160 A	160 A	D80 and D95 <b>LRD 3365</b> (1)
	80...104 A	125 A	200 A	160 A	D115 and D150 <b>LRD 4365</b> (1)
	95...120 A	125 A	200 A	200 A	D115 and D150 <b>LRD 4367</b> (1)
	110...140 A	160 A	250 A	200 A	D150 <b>LRD 4369</b> (1)
	80...104 A	100 A	160 A	160 A	Independent mtg. <b>LRD 33656</b> (1)
	95...120 A	125 A	200 A	200 A	Independent mtg. <b>LRD 33676</b> (1)
	110...140 A	160 A	250 A	200 A	Independent mtg. <b>LRD 33696</b> (1)
<b>Class 20</b>	6 A	10 A	16 A		LC1-D09...D32 <b>LRD 1508</b> (1)
	4...6 A	8 A	16 A	16 A	LC1-D09...D32 <b>LRD 1510</b> (1)
	5.5...8 A	12 A	20 A	20 A	LC1-D09...D32 <b>LRD 1512</b> (1)
	7...10 A	16 A	20 A	25 A	LC1-D09...D32 <b>LRD 1514</b> (1)
	9...13 A	16 A	25 A	25 A	LC1-D12...D32 <b>LRD 1516</b> (1)
	12...18 A	25 A	35 A	40 A	LC1-D18...D32 <b>LRD 1521</b> (1)
	17...25 A	32 A	50 A	50 A	LC1-D25 and D32 <b>LRD 1522</b> (1)
	23...28 A	40 A	63 A	63 A	LC1-D25 and D32 <b>LRD 1530</b> (1)
	25...32 A	40 A	63 A	63 A	LC1-D25 and D32 <b>LRD 1532</b> (1)
	55...70 A	100 A	125 A	125 A	D65...D95 <b>LR2 D3561</b> (1)
	63...80 A	100 A	160 A	125 A	D80 and D95 <b>LR2 D3563</b> (1)
Connection by EverLink terminal blocks, with BTR screws					
<b>Class 10A</b>	9...13 A	16 A	25 A	25 A	LC1-D40A...D65A <b>LRD 313</b> (2)
	12...18 A	20 A	32 A	35 A	LC1-D40A...D65A <b>LRD 318</b> (2)
	17...25 A	25 A	50 A	50 A	LC1-D40A...D65A <b>LRD 325</b> (2)
	23...32 A	40 A	63 A	63 A	LC1-D40A...D65A <b>LRD 332</b> (2)
	30...40 A	40 A	80 A	80 A	LC1-D40A...D65A <b>LRD 340</b> (2)
	37...50 A	63 A	100 A	100 A	LC1-D40A...D65A <b>LRD 350</b> (2)
	48...65 A	63 A	100 A	100 A	LC1-D40A...D65A <b>LRD 365</b> (2)
<b>Class 20</b>	9...13 A	20 A	32 A	35 A	LC1-D40A...D65A <b>LRD 313L</b> (2)
	12...18 A	25 A	40 A	40 A	LC1-D40A...D65A <b>LRD 318L</b> (2)
	17...25 A	32 A	50 A	50 A	LC1-D40A...D65A <b>LRD 325L</b> (2)
	23...32 A	40 A	63 A	63 A	LC1-D40A...D65A <b>LRD 332L</b> (2)
	30...40 A	50 A	80 A	80 A	LC1-D40A...D65A <b>LRD 340L</b> (2)
	37...50 A	63 A	100 A	100 A	LC1-D40A...D65A <b>LRD 350L</b> (2)
	48...65 A	80 A	125 A	125 A	LC1-D40A...D65A <b>LRD 365L</b> (2)

### Class 10 A with connection by lug-clamps:

Select overload relay with screw clamp terminals or connectors from the table above and add one of the following suffixes:

- figure 6 for relays LRD 01 to LRD 35 and LRD 313 to LRD 365.
- **A66** for relays LRD 3361 to LRD 3365.

Relays LRD 43 are suitable as standard, for use with lug-clamps.

(1) For independent mounting on a DIN rail, order an EverLink LAD7B106 terminal block.

### Thermal overload relays for use with unbalanced loads Class 10 A with connection by screw clamp terminals and lug-clamp terminals:

In the reference selected above, change LRD (except LRD 4\*\*\*) to **LR3D**

Example: LRD 01 becomes **LR3D 01**

Example with EverLink terminals: LRD 340 becomes **LR3D 340**

Example with lug-clamp terminals: LRD 3406 becomes **LR3D 3406**

(2) For independent mtg. on a DIN rail, order an EverLink LAD96560 terminal block.

# Starter controller for 3-phase motors - TeSys U

## Standard motor starter



=



+



Function characteristics, LUB... + LUCA...	Maximum motor power < 400/415 V	Power base		Standard control unit	
		Non-reversing	Reversing (1)	Class 10 (2)	Setting range
- Thermal overload protection against: short-circuit, overcurrent, phase failure or imbalance, insulation breaks (equipment only).	0.09 kW	LUB12	LU2B12**	LUCA6X**	0.15...0.6 A
	0.25 kW	LUB12	LU2B12**	LUCA1X**	0.35...1.4 A
	1.5 kW	LUB12	LU2B12**	LUCA05**	1.25...5 A
	5.5 kW	LUB12	LU2B12**	LUCA12**	3...12 A
- Manual reset following thermal fault.	7.5 kW	LUB32	LU2B32**	LUCA18**	4.5...18 A
	15 kW	LUB32	LU2B32**	LUCA32**	8...32 A

## Advanced motor starter



Function characteristics, LUB... + LUCA...	Maximum motor power < 400/415 V	Power base		Advanced control unit		
		Non-reversing	Reversing (1)	Class 10 (2) (3)	Class 20 (2)	Setting range
- Thermal overload protection against: short-circuit, overcurrent, phase failure or imbalance, insulation breaks (equipment only).	0.09 kW	LUB12	LU2B12**	LUCB6X**	LUCD6X**	0.15...0.6 A
	0.25 kW	LUB12	LU2B12**	LUCB1X**	LUCD1X**	0.35...1.4 A
	1.5 kW	LUB12	LU2B12**	LUCB05**	LUCD05**	1.25...5 A
	5.5 kW	LUB12	LU2B12**	LUCB12**	LUCD12**	3...12 A
- Manual reset following thermal fault.	7.5 kW	LUB32	LU2B32**	LUCB18**	LUCD18**	4.5...18 A
	15 kW	LUB32	LU2B32**	LUCB32**	LUCD32**	8...32 A

(3) For single-phase-motors, replace LUCB\*\*\*\* by LUCC\*\*\*\*.

## Multifunction motor starter



Function characteristics, LUB... + LUCA...	Maximum motor power < 400/415 V	Power base		Multifunction control unit	
		Non-reversing	Reversing (1)	Class 5 to 30	Setting range
- Thermal overload protection against: short-circuit, overcurrent, phase failure or imbalance, insulation breaks (equipment only).	0.09 kW	LUB12	LU2B12**	LUCM6XBL	0.15...0.6 A
	0.25 kW	LUB12	LU2B12**	LUCM1XBL	0.35...1.4 A
	1.5 kW	LUB12	LU2B12**	LUCM05BL	1.25...5 A
	5.5 kW	LUB12	LU2B12**	LUCM12BL	3...12 A
- Manual, automatic or remote reset, - Thermal overload test function, - Overtorque and no-load running, alarm, - Motor operation log, - Motor parameters display on LUCM..., PC or HMI, - Integrated Modbus communication.	7.5 kW	LUB32	LU2B32**	LUCM18BL	4.5...18 A
	15 kW	LUB32	LU2B32**	LUCM32BL	8...32 A

(1) Complete the references of the power bases according to the following table.

Example: LU2B12

\*\*

(2) Complete the references of the control units according to the following table.

Example: LUCA/B/D/M6X

\*\*

### Standard control circuit voltages

24 V DC

BL

24 V AC

B

48 V AC / 48...72 V DC

ES

110...240 V AC / 110...220 V DC

FU

## Function modules



Type of optional function	Thermal overload alarm		Thermal fault signalling		Motor load indication
	NO	YES	1 NO +1 NC	1 NC	
Compatible with LUCA	NO	NO	NO	NO	NO
Compatible with LUCL	NO	NO	NO	NO	NO
Compatible with LUCB, LUCD	YES	YES	YES	YES	YES
Compatible with LUCM	NO	NO	NO	NO	YES
Output signal	1 NO	1 NO +1 NC	1 NC	1 NO	4...20 mA
Reset	NA	Manual	Automatic or remote		NA
References	LUFW10	LUFDH11	LUFDA01	LUFDA10	LUFV2

## Communication modules



Type of communication	Modbus	Advantys STB	Profibus DP	CANopen	DeviceNet	AS-Interface	Parallel wiring
Only compatible with 24 V DC control units LUCA..BL, LUCB..BL, LUCD..BL, LUCM..BL	YES	YES	YES	YES	YES	YES	YES
Transfer speed	19.2 Kbps	Dpg. on NIM (1)	9.6...12 Mbps	20 K...1 Mbps	125...500 Kbaud	167 Kbps	NA
Number of slaves	31 per Modbus master	Dpg. on Network Interface Module	125 per Profibus DP module	128 per CANopen module	63 per DeviceNet module	62 per AS-Interface master	8 per LU9GC02 splitter box
Pre-wired coil connection (A1 A2)	LU9BN11C, LU9MRC	LU9BN11L, LU9MRL	LU9BN11L, LU9MRL	LU9BN11L, LU9MRL	LU9BN11L, LU9MRL	LU9BN11C, LU9MRC	LU9Rxx
Connecting cable to PC	VW3 A8 306 R**	LU9RCD**, LU9RDD**	TSXPBSCA**	TSXCANC**	DeviceNet standard	XZCG0142	TSXCDP***
References	L UFC033	L UL C15	L UL C07	L UL C08	L UL C09	ASIL UFC51	L UFC00

(1) Network Interface Module.

### Information carried by the Modbus, Advantys STB or CANopen bus

Type of control unit	LUCA**BL	LUCB**BL, LUCD**BL	LUCM**BL
Start and Stop commands	X	X	X
Starter status (ready, running, fault)	X	X	X
Thermal alarm		X	X
Remote reset via the bus		X	X
Indication of motor load		X	X
Signalling and fault differentiation		X	X
Alarms (overcurrent...)			X
Remote programming and monitoring of all the functions			X
"Log" function			X
Monitoring function			X

## Contact blocks



Type of contact block		Add-on		Auxiliary		
Signalling contacts	of any fault	NC (95-96)	NO (97-98)	-	-	-
	position of control handle	NO (17-18)	NO (17-18)	-	-	-
2 auxiliary contacts module	-	-	-	NO (33-34)	NC (31-32)	NC (31-32)
	-	-	-	NO (43-44)	NO (43-44)	NC (41-42)
References	Screw clamp terminals	LUA1C11	LUA1C20	LUFN20	LUFN11	LUFN02
	Without connections	LUA1C110	LUA1C200	-	-	-

# Fuse-switch disconnecter - ISFT100 & ISFT160

## ISFT100

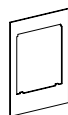
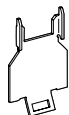


### ISFT100 3-pole fixed front-connected fuse-switch disconnectors

Basic device for mounting on a backplate

Connection via 1.5 to 50 mm<sup>2</sup> cable connectors **49800**

### Mechanical accessories



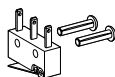
Type	Accessory for mounting on a DIN rail	Escutcheon (not compatible with comb busbars)	
		For 1 device	For 2 devices
References	<b>49877</b>	<b>49878</b>	<b>49879</b>

### Connection



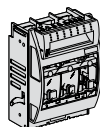
Type (accessories for 1.5 to 50 mm <sup>2</sup> cable connectors)	Distribution connector	Comb busbar			Incoming connector	Comb busbar coupler	Insulated comb cover for free outgoing
	3 x 10 mm <sup>2</sup> (Set of 3)	2 devices	3 devices	4 devices	25 to 95 mm <sup>2</sup> (Set of 3)	5 devices (joins 2-device + 3-device comb)	
References	<b>49860</b>	<b>49861</b>	<b>49862</b>	<b>49863</b>	<b>49865</b>	<b>49890</b>	<b>49864</b>

### Electrical auxiliary



Type	Auxiliary changeover contact NO + NC
Reference	<b>49885</b>

## ISFT160



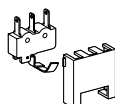
### ISFT160 3-pole fixed front-connected fuse-switch disconnectors

Basic device for mounting on a backplate

Connection via standard M8 terminals **49803**

Connection via 1.5 to 50 mm<sup>2</sup> cable connectors **49804**

### Electrical auxiliary

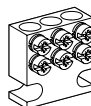
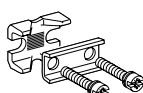


Type	Auxiliary changeover contact NO + NC
Reference	<b>49883</b>

# Fuse-switch disconnecter - ISFT160 & ISFT250 to ISFT630

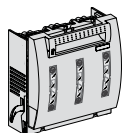


## Connection



Type (terminal shields are mandatory for lugs)	Lugs for 95 mm <sup>2</sup> copper cables	Connectors			Long terminal shields	Short terminal shields
	(Set of 3)	Distribution 3 x 16 mm <sup>2</sup> (Set of 3)	For Cu/Al bare cables 1.5 x 95 mm <sup>2</sup> (Set of 3)	For flexible bars 12 x 6 mm (Set of 3)	(Set of 1)	(Set of 1)
References	<b>28951</b>	<b>49867</b>	<b>49866</b>	<b>49868</b>	<b>49869</b>	<b>49880</b>

## ISFT250 to ISFT630

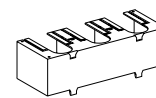
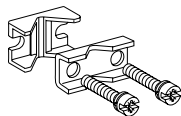


ISFT250 to ISFT630 3-pole fixed front-connected fuse-switch disconnectors		
Basic device for mounting on a backplate		
Connection via standard M10 terminals	<b>ISFT250</b>	<b>49813</b>
	<b>ISFT400</b>	<b>49819</b>
	<b>ISFT630</b>	<b>49825</b>

## Connection

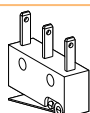


Type (terminal shields are mandatory for lugs)	Lugs				
	For ISFT250 to 630			For ISFT400 to 630	
	120 mm <sup>2</sup> copper cables (Set of 3)	150 mm <sup>2</sup> copper cables (Set of 3)	185 mm <sup>2</sup> copper cables (Set of 3)	240 mm <sup>2</sup> copper cables (Set of 3)	300 mm <sup>2</sup> copper cables (Set of 3)
References	<b>29252</b>	<b>29253</b>	<b>29254</b>	<b>32500</b>	<b>32502</b>



Type (terminal shields are mandatory for lugs)	Connectors				Terminal shields		
	For ISFT250	For ISFT400 to 630	For ISFT250	For ISFT400 to 630	For ISFT250	For ISFT400	For ISFT630
	For Cu/Al bare cables 6 to 150 mm <sup>2</sup> (Set of 3)	For Cu/Al bare cables 6 to 240 mm <sup>2</sup> (Set of 3)	For flexible bars 16 x 15 mm (Set of 3)	For flexible bars 21 x 15 mm (Set of 3)	(Set of 1)	(Set of 1)	(Set of 1)
References	<b>49870</b>	<b>49873</b>	<b>49871</b>	<b>49874</b>	<b>49872</b>	<b>49875</b>	<b>49876</b>

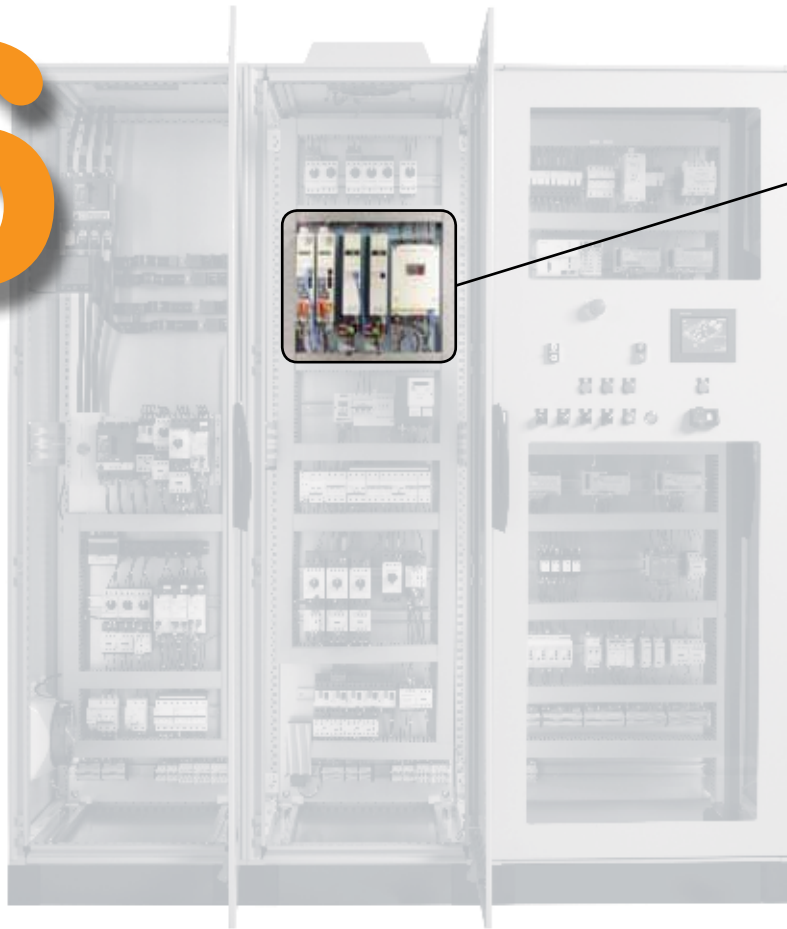
## Electrical auxiliary



Type	Auxiliary changeover contact NO + NC
Reference	<b>49885</b>

# Motion and Drives

# 6



## Altivar 32 - More than 150 application-specific functions

The Altivar 32 range of variable speed drives controls asynchronous and synchronous motors rated from 0.18 to 15 kW operating in open loop mode in complex machines:

- Compact, vertical and slim format (45 mm)
- Integrated function blocks for creating simple control system functions (timers, counters, comparators, etc.)
- Machine safety functions integrated as standard (STO, SLS, SS1)
- Open design: communicates with most industrial networks



## Lexium 32 - Inspired by Simplicity

The Lexium 32 servo drive range (0.15 to 7 kW) is a drive system designed for applications where high precision and dynamic positioning are critical:

- Suitable for packaging, materials processing (cutting, turning, milling, etc.) and handling, printing and textile applications
- 3 servo drive families and two types of servo motor available
- Simplified engineering: motor sizing, CAD and cabinet drawings, support for PLCopen libraries and SoMove setup software
- Integrated "Safe Torque Off" function
- Quick integration: wide selection of fieldbus modules

**NEW**



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• Soft starters and variable speed drives - Selection guide	p. 6/3
• Simple machines - Altistart 01	p. 6/7
• Simple machines - Altistart 22	p. 6/9
• Pumping and ventilation machines - Altistart 48	p. 6/11
• Simple machines - Altivar 12	p. 6/13
• Building - Altivar 212	p. 6/14
• Simple industrial machines - Altivar 312, Altivar 31C	p. 6/15
• Complex machines - Altivar 32	p. 6/16
• Drives, motors and linear motion axes - Selection guide	p. 6/18

The Altistart, Altivar and Lexium ranges increase the efficiency of your machines, reduce their energy consumption and optimise their kinematics. Easy to install, offering intuitive programming and extensive communication options, they are easily integrated into your control system architectures.

## Soft starters and variable speed drives






### Altistart and Altivar

Use Altistart soft starters to start your motors smoothly and protect the mechanics of your equipment. With the Altivar range of variable speed drives, you save energy and manage the speed of your motors to optimise and enhance productivity in your installations.










## Starters - Low voltage

		Simple machines	Complex machines/ Special machines
		⇒Applications: Compressors, fans, pumps, conveyors, car wash gantries, etc.	⇒Applications: Pumps, fans, turbines, compressors, conveyors, conveyor belts, lifting screws, escalators, etc.
		⇒Applications: Pumps, high inertia fans and machines, compressors, conveyors, agitators, mixers, escalators, etc.	
		<b>Altistart 01</b>	<b>Altistart 22</b>
			
		Soft start and Soft start/soft stop units	Soft start/soft stop units
		<b>Altistart 48</b>	
			
		Soft start/soft stop units	
<b>Description</b>		<ul style="list-style-type: none"> <li>• <b>Compact</b></li> <li>• <b>Simple:</b> easy mounting, wiring and adjustment</li> <li>• <b>Efficient:</b> Current peaks limitation on starting, reduction of mechanical shocks, increased service life for your machines</li> <li>• <b>Energy saving</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Innovative</b> with its <b>integrated Bypass</b> contactor for motors up to 315 kW</li> <li>• <b>Cost-effective</b></li> <li>• <b>Compact dimensions</b></li> <li>• <b>Quick setup</b></li> <li>• <b>Protection of motor and starter</b></li> <li>• <b>Energy saving</b></li> <li>• <b>3 controlled phases</b></li> </ul>
<b>Technical information</b>	Power range for 50...60 Hz supply	0.37...15 kW	4... 400 kW
	Voltage	Single-phase 110...480 V Three-phase 110...480 V	Three-phase 208...600 V Three-phase 230...440 V
	Drive/Output frequency	–	–
	Motor type	Asynchronous Synchronous	Yes No
<b>Communication</b>	Integrated	–	Modbus
	As an option	Can be used with TeSys U motor starter-controller to create a complete motor starter solution	– DeviceNet, Fipio, PROFIBUS DP, Ethernet
<b>Standards and certifications</b>		IEC/EN 60947-4-2, C-Tick, CSA, UL, CE	IEC/EN 60947-4-2, C-Tick, CSA, UL, CE, GOST, CCC, ABS Class A EMC IEC/EN 60947-4-2, C-Tick, CSA, UL, CE, DNV, GOST, CCC, NOM, SEPRO and TCF Classes A and B EMC
<b>Intended use</b>		Buildings, Simple machines.	Machines, Infrastructures and Buildings

# Soft starters and variable speed drives - Selection guide

## Standard drives - Low voltage

		Simple machines		
		⇒ Applications:	⇒ Applications:	⇒ Applications:
		<ul style="list-style-type: none"> <li>Simple machines for industry (small handling applications, packaging, pumps, fans, etc.)</li> <li>Simple consumer machines (access barriers, rotating advertising hoardings, medical beds, treadmills, dough mixers, etc.)</li> <li>Other types of application:                             <ul style="list-style-type: none"> <li>Mobile machines and small appliances equipped with a power socket</li> <li>Applications which traditionally use other solutions (2-speed DC motors, mechanical drives, etc.).</li> </ul> </li> </ul>	Simple industrial machines (material handling and packaging, textile machines, special machines, pumps and fans).	Simple industrial machines (material handling and packaging, textile machines, special machines, pumps and fans).
		<b>Altivar 12</b>	<b>Altivar 312</b>	<b>Altivar 31C IP55</b>
				
		Variable speed drives for small machines with 240 V three-phase asynchronous motor	Variable speed drives for three-phase asynchronous motors	Variable speed drives for three-phase asynchronous motors for machines in harsh environments.
<b>Description</b>		<ul style="list-style-type: none"> <li><b>Compact</b></li> <li><b>Easy to set up</b> (Plug &amp; Play)</li> <li><b>Reliable, cost-effective solution</b> for compact machines</li> </ul>	<ul style="list-style-type: none"> <li><b>Open:</b> large number of communication cards available as options</li> <li><b>User-friendly:</b> simplified interface</li> <li><b>Autotuning:</b> maximum performance</li> </ul>	<ul style="list-style-type: none"> <li><b>Rugged</b> even in the most hostile environments:                             <ul style="list-style-type: none"> <li>Installed as close as possible to the motor</li> <li>Integrated functions for applications requiring IP55 degree of protection</li> <li>Modbus and CANopen communication protocols</li> </ul> </li> <li><b>Flexibility</b> to adapt to each machine:                             <ul style="list-style-type: none"> <li>Customisable depending on the model</li> <li>Easy configuration</li> </ul> </li> </ul>
<b>Technical information</b>	Power range for 50...60 Hz supply	0.18...4 kW	0.18...15 kW	0.18...15 kW
	Voltage	Single-phase 100...240 V Three-phase 200...240 V	Single-phase 200...240 V Three-phase 200...600 V	Single-phase 200...240 V Three-phase 380...500 V
	Drive/Output frequency	0.5...400 Hz	0.5...500 Hz	0.5...500 Hz
	Motor type	Asynchronous Synchronous	Yes No	Yes No
<b>Communication</b>	Integrated	Modbus	Modbus and CANopen	Modbus and CANopen
	As an option	–	CANopen Daisy chain, DeviceNet, PROFIBUS DP, Modbus TCP, Fipio	DeviceNet, Ethernet TCP/IP, Fipio, PROFIBUS DP
<b>Standards and certifications</b>		IEC/EN 61800-5-1, IEC/EN 61800-3 (environments 1 and 2, categories C1 to C3) CE, UL, CSA, C-Tick, GOST, NOM		IEC/EN 61800-5-1, IEC/EN 61800-3 (environments 1 and 2, categories C1 to C3) CE, UL, CSA, C-Tick, GOST
<b>Intended use</b>		Machines		

Complex machines	Complex machines/ Special machines		Pumps and Fans		
<p>⇒ <b>Applications:</b></p> <p>Industrial machines: hoisting, packaging, material handling, special machines (wood-working machines, metal processing machinery, etc.).</p>	<p>⇒ <b>Applications:</b></p> <p>High performance applications:</p> <ul style="list-style-type: none"> <li>• Material handling</li> <li>• Hoisting</li> <li>• Wood-working machines</li> <li>• Process machinery</li> <li>• Textile machines</li> <li>• Packaging</li> </ul>	<p>⇒ <b>Applications:</b></p> <p>High performance applications:</p> <ul style="list-style-type: none"> <li>• Material handling</li> <li>• Hoisting</li> <li>• Wood-working machines</li> <li>• Process machinery</li> <li>• Textile machines</li> <li>• Packaging</li> </ul>	<p>⇒ <b>Applications:</b></p> <p>Range specifically for high performance pumps and fans for the industrial and building markets.</p>	<p>⇒ <b>Applications:</b></p> <p>Pumping and ventilation machines in harsh environment</p>	
<p><b>Altivar 32</b></p>  <p>Variable speed drives for asynchronous motors and open-loop synchronous motors</p>	<p><b>Altivar 71</b></p>  <p>For three-phase synchronous and asynchronous motors. Constant torque applications.</p>	<p><b>Altivar 71Q</b></p>  <p>Water-cooled variable speed drives for three-phase synchronous and asynchronous motors. Constant torque applications.</p>	<p><b>Altivar 61</b></p>  <p>Variable speed drives for three-phase asynchronous motors. Variable torque applications.</p>	<p><b>Altivar 61Q</b></p>  <p>Water-cooled variable speed drives for three-phase asynchronous and synchronous motors. Variable torque applications</p>	
<ul style="list-style-type: none"> <li>• <b>Compact: "Book"</b> format</li> <li>• <b>Integrated Safety function</b> compliant to IEC 61508 SIL3 and PL-e</li> <li>• <b>Open:</b> communication cards available as options</li> <li>• <b>Integrated programmable logic functions</b></li> <li>• <b>Simple setup</b></li> <li>• <b>Energy saving: Control of energy efficient permanent magnet synchronous motors</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Wide range</b></li> <li>• <b>Quick start-up</b> and easy diagnostics: multi-language graphic display terminal</li> <li>• <b>Open</b> to most industrial communication buses</li> <li>• <b>Integrated safety</b></li> <li>• <b>Motor control:</b> high-performance in open-loop and closed loop mode</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Improved robustness</b> with water cooling</li> <li>• <b>Efficient cooling system reduced need of air conditioning</b></li> <li>• Long time operation <b>without maintenance</b></li> <li>• Excellent protection against corrosion due to <b>stainless steel cooling pipes</b></li> <li>• <b>Very high starting torque</b> for frequent start-up applications</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Wide range</b></li> <li>• <b>Easy setup and diagnostics</b> with the multi-language graphic display terminal</li> <li>• <b>Open</b> to the main communication buses</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Improved robustness</b> with water cooling</li> <li>• <b>Efficient cooling system reduced need of air conditioning</b></li> <li>• Prolonged <b>maintenance-free</b> operational life</li> <li>• Excellent protection against corrosion due to <b>stainless steel cooling pipes</b></li> </ul>	
0.18...15 kW	0.37...630 kW	90...630 kW	0.37...800 kW	110...800 kW	
Single-phase 200...240 V Three-phase 380...480 V	Single-phase 200...240 V Three-phase 200...690 V	Three-phase 380...480 V Three-phase 500...690 V	Single-phase 200...240 V Three-phase 200...690 V	Three-phase 380...480 V Three-phase 500...690 V	
0.1...599 Hz	0...599 Hz up to 37 kW / 200...240V and 380...480V 0...500 Hz for the rest of the range	0...500 Hz	0.1...599 Hz up to 37 kW / 200...240V and 380...480V 0.1...500 Hz for the rest of the range	0.1...500 Hz	
Yes	Yes	Yes	Yes	Yes	
Yes	Yes	Yes	Yes	Yes	
Modbus and CANopen	Modbus and CANopen	Modbus et CANopen	Modbus and CANopen	Modbus et CANopen	
EtherNet/IP, Modbus TCP, PROFIBUS DP V1, EtherCAT, Devicenet	Modbus TCP, Modbus/Uni-Telway, EtherNet/IP, DeviceNet, PROFIBUS DP, PROFIBUS DP V1, INTERBUS S, CC-Link,	Modbus TCP, Fipio, Modbus/Uni-Telway, Modbus Plus, EtherNet/IP, DeviceNet, PROFIBUS DP, PROFIBUS DP V1, INTERBUS S, CC-Link,	Modbus TCP, Fipio, Modbus/Uni-Telway, Modbus Plus, EtherNet/IP, DeviceNet, PROFIBUS DP, PROFIBUS DP V1, INTERBUS S, CC-Link, Lonworks, METASYS N2, APOGEE FLN P1, BACnet	<b>HVAC protocols:</b> LonWorks, BACnet, METASYS N2, APOGEE FLN P1 <b>Industrial protocols:</b> Modbus TCP, Modbus/Uni-Telway, Fipio, Modbus Plus, PROFIBUS DP, PROFIBUS DP V1, DeviceNet, Ethernet IP, CC-Link, INTERBUS	
IEC/EN 61800-5-1, IEC/EN 61800-3 (environments 1 and 2, Categories C2 and C3), UL508C, EN 954-1 Category 3, ISO/EN 13849-1/-2 Category 3 (PLd), IEC 61800-5-2, IEC 61508 (parts 1&2) level SIL1 SIL2 SIL3, draft standard EN 50495E, CE, UL, CSA, C-Tick, GOST, NOM.	IEC/EN 61800-3, EN 55011, EN 55022, CSA, UL, C-TICK, CE, NOM, DNV, GOST	IEC/EN 61800-3, EN 55011, EN 55022, CSA, UL, C-TICK, CE, NOM, DNV, GOST	IEC/EN 61800-3, EN 55011, EN 55022, CSA, UL, C-TICK, CE, NOM, DNV, GOST	IEC/EN 61800-3, EN 55011, EN 55022, CSA, UL, C-TICK, CE, NOM, DNV, GOST	
Machines	Machines, industrial processes and infrastructures	Machines, industrial processes or infrastructures	Buildings and infrastructures	Building or infrastructures	

# Soft starters and variable speed drives - Selection guide

## Specialized drives - Low voltage

		HVAC	Lifts	
		<p>⇒ <i>Applications:</i> Range specifically for HVAC applications (heating, ventilation, air conditioning) in buildings.</p>	<p>⇒ <i>Applications:</i> Lifts</p>	
		<p><b>Altivar 212</b></p>  <p>Variable speed drives for three-phase asynchronous motors. Variable torque building HVAC applications.</p>	<p><b>Altivar LIFT</b></p>  <p>Variable speed drives for lifts.</p>	
<b>Description</b>		<ul style="list-style-type: none"> <li>• <b>Compact size:</b> side-by-side mounting</li> <li>• <b>Simplicity:</b> Dedicated HVAC functions and remote graphic keypad option</li> <li>• <b>Openness:</b> Integrated communications for building management systems</li> <li>• <b>EMC filters</b> built-in</li> <li>• <b>Reduction of the total harmonic distortion</b> THDI&lt;30 %</li> <li>• <b>Protection class:</b> IP21 and IP55</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Quick start-up</b> and easy diagnostics with the multi-language graphic display terminal and dedicated Lift configuration menu.</li> <li>• <b>Dedicated Lift functions</b> for greater comfort and safety</li> <li>• <b>Energy saving:</b> Control of energy efficient permanent magnet synchronous motors</li> </ul>	
<b>Technical information</b>	Power range for 50...60 Hz supply	0.75...75 kW	4...22 kW	
	Voltage	Three-phase 200...480 V	Single-phase 200...240 V Three-phase 200...480 V	
	Drive/Output frequency	0.5...200 Hz	0...599 Hz	
	Number of quadrants	—	—	
	Cooling system	—	—	
	Protection class	—	—	
	Motor type	Asynchronous Synchronous	Yes No	Yes Yes
<b>Communication</b>	Integrated	Modbus, METASYS N2, APOGEE FLN P1, BACnet	Modbus and CANopen	
	As an option	Lonworks	Modbus TCP, Modbus/Uni-Telway, EtherNet/IP, DeviceNet, PROFIBUS DP, PROFIBUS DP V1, INTERBUS S, CC-Link	
<b>Standards and certifications</b>		IEC/EN 61800-3, EN 55011, EN 55022, CSA, UL, C-TICK, CE, NOM	IEC/EN 61800-3, EN55011, EN 55022, CSA, UL, C-TICK, CE, NOM et EN81-1 (chap 12.7.3)	
<b>Intended use</b>		Buildings	Machines	



## Starters

Dimensions (in mm)		width x height x depth
ATS01	N103FT/N106 FT	22.5 x 100 x 100.4
	N109FT/N112 FT/N125 FT	45 x 124 x 130.7
	N206●●/N209●●/N212●●	45 x 154 x 130.7
	N222●●/N232●●	



Type	Soft start units	Soft start/soft stop units
Motor power	0.37 to 11 kW	0.75 to 15 kW
Degree of protection	IP20	
Reduction of current peaks	1 controlled phase	2 controlled phases
Adjustable starting time	1...5 s	1...10 s
Adjustable deceleration time	Freewheel stop	1...10 s
Adjustable breakaway torque	30...80 % of DOL motor starting torque	
Logic inputs	–	3 logic inputs (start, stop and startup boost)
Logic outputs	–	1 logic output
Relay outputs	–	1 relay output
Control supply voltage	110... 220 V AC ± 10 %, 24 V DC ± 10 %	

### Soft starters for 0.37 to 11 kW motors

Motor						Starter Nominal current	Reference (2)
Motor power (1)							
Single phase		3-phase				A	
230 V	210 V	230 V	230 V	400 V	460 V		
kW	HP	kW	HP	kW	HP		
<b>Single phase 110...230 V or 3-phase 110...480 V supply voltage, 50/60 Hz</b>							
0.37	–	0.37	0.5	1.1	0.5	3	ATS 01N103FT
		0.55	–	–	1.5		
0.75	0.5	0.75	1	2.2	2	6	ATS 01N106FT
		1.1	1.5	3	3		
1.1	1	1.5	2	4	5	9	ATS 01N109FT
1.5	1.5	2.2	3	5.5	7.5	12	ATS 01N112FT
2.2	2	3	5	7.5	10	25	ATS 01N125FT
		3	4	7.5	15		
		5.5		11			

### Soft start/soft stop units for 0.75 to 15 kW motors (3)

Motor		Starter Nominal current	Reference (2)
Motor power (1)			
kW	HP	A	
<b>3-phase supply voltage: 200...240 V 50/60 Hz</b>			
0.75/1.1	1/1.5	6	ATS 01N206LU
1.5	2	9	ATS 01N209LU
2.2/3	3/–	12	ATS 01N212LU
4/5.5	5/7.5	22	ATS 01N222LU
7.5	10	32	ATS 01N232LU
<b>3-phase supply voltage: 380...415 V 50/60 Hz</b>			
1.5/2.2/3	–	6	ATS 01N206QN
4	–	9	ATS 01N209QN
5.5	–	12	ATS 01N212QN
7.5/11	–	22	ATS 01N222QN
15	–	32	ATS 01N232QN
<b>3-phase supply voltage: 440...480 V 50/60 Hz</b>			
–	2/3	6	ATS 01N206RT
–	5	9	ATS 01N209RT
–	7.5	12	ATS 01N212RT
–	10/15	22	ATS 01N222RT
–	20	32	ATS 01N232RT

(1) Standard power ratings of motors, HP power ratings indicated according to standard UL508.

(2) For thermal protection of the motor, please use a thermal circuit-breaker GVp ME, GV3 P or GV7 RE (see combinations pages 60545/2 and 60545/3).

(3) Control power supply built into the starter.

# Simple machines - Altistart 01, 0.37...15 kW

## Starters with TeSys model U



Dimensions (in mm)		width x height x depth
ATSU01	N206LT/N209LT/N212LT	45 x 124 x 130.7
	N222LT/N232LT	45 x 154 x 130.7

Type						Soft start/soft stop units				
Motor power						0.75 to 15 kW				
Degree of protection						IP20				
Reduction of current peaks						Yes				
Adjustable starting and stopping times						1...10 s				
Adjustable breakaway torque						30... 80 % of DOL motor starting torque				
Logic inputs						3 logic inputs (start, stop and startup boost)				
Logic outputs						1 logic output				
Relay outputs						1 relay output				
Control supply voltage						24 V DC, 100 mA, ± 10 %				
References						Soft start/soft stop units	TeSys starter-controller model U		Power connector	
							Power base	Control unit (1)		between ATSU and TeSys model U
Supply voltage						Three-phase 200...480 V				
Motor power										
230 V		400 V		460 V		Nominal current (IcL)				
kW	HP	kW	HP							
0.75	1	1.5	2	6 A		ATSU01N206LT	LUB12	LUC●05BL	VW3G4104	
1.1	1.5	2.2/3	3	6 A		ATSU01N206LT	LUB12	LUC●12BL	VW3G4104	
1.5	2	–	5	9 A		ATSU01N209LT	LUB12	LUC●12BL	VW3G4104	
–	–	4	–	9 A		ATSU01N209LT	LUB12	LUC●12BL	VW3G4104	
2.2	3	5.5	7.5	12 A		ATSU01N212LT	LUB12	LUC●12BL	VW3G4104	
3	–	–	–	12 A		ATSU01N212LT	LUB32	LUC●18BL	VW3G4104	
4	5	7.5	10	22 A		ATSU01N222LT	LUB32	LUC●18BL	VW3G4104	
5.5	7.5	11	15	22 A		ATSU01N222LT	LUB32	LUC●32BL	VW3G4104	
7.5	10	15	20	32 A		ATSU01N232LT	LUB32	LUC●32BL	VW3G4104	

(1) To compose your reference, replace ● in the reference with: «A» for a standard control unit, «M» for a multifunction unit and «B» for an advanced unit.



## Soft start/soft stop units



Dimensions (in mm)	width x height x depth
ATS22 D17 to D47	Size A: 130 x 265 x 169
D62 to D88	Size B: 145 x 295 x 207
C11 to C17	Size C: 150 x 356 x 229
C21 to C41	Size D: 206 x 425 x 299
C48 to C59	Size E: 304 x 455 x 340

Supply voltage		Three-phase 208...600 V	Three-phase 230...440 V
<b>Protection</b>	Degree of protection	IP20: for ATS 22D17●●●D88 starters IP00: for ATS 22C11●●●C59 starters (protection of terminals available as an option)	
	Motor thermal protection	Class 10, 20 or 30 (1)	
Drive	Number of controlled phases	3	
	Types of control	Configurable voltage ramp, torque ramp	
	Operating cycle	Standard	
Functions		Integrated Bypass contactor	
Number of I/O	Analog inputs	1 PTC probe	
	Logic inputs	3	
	Logic outputs	-	
	Analog outputs	-	
	Relay outputs	2	
Dialogue		Integrated display terminal, SoMove setup software	
<b>Communication</b>	Integrated	Modbus	
Standards and certifications		IEC/EN 60947-4-2, class A EMC, CE, UL, CSA, C-Tick, GOST, CCC, ABS	
Motor connection			Possible to connect the starter in the motor delta connection (2)

(1) Soft starter sizing according to thermal protection class

Starting current	Protection class		
	Class 10	Class 20	Class 30
$\leq 3.5 I_n$	Nominal*	Nominal +1**	Nominal +2***
max starting time	16s	32s	48s

\* nominal size of the soft starter acc. to the nominal motor current (Motor FLA)

\*\* oversize of the soft starter by 1 rating compared to the nominal motor current (Motor FLA)

\*\*\* oversize of the soft starter by 2 ratings compared to the nominal motor current (Motor FLA)

(2) please find the references details in ATS22 catalogue for motor delta connection

# Simple machines - Altistart 22, 4...400 kW

## Soft start/soft stop units

Connection in the motor power supply line				Soft start/soft stop unit 230...440 V - 50/60 Hz	
Motor					
Power indicated on rating plate					
230 V kW	400 V kW	440 V kW	Nominal current starter (IcL)	Reference	Size
4	7.5	7.5	17	ATS22D17Q	Size A
7.5	15	15	32	ATS22D32Q	Size A
11	22	22	47	ATS22D47Q	Size A
15	30	30	62	ATS22D62Q	Size B
18.5	37	37	75	ATS22D75Q	Size B
22	45	45	88	ATS22D88Q	Size B
30	55	55	110	ATS22C11Q	Size C
37	75	75	140	ATS22C14Q	Size C
45	90	90	170	ATS22C17Q	Size C
55	110	110	210	ATS22C21Q	Size D
75	132	132	250	ATS22C25Q	Size D
90	160	160	320	ATS22C32Q	Size D
110	220	220	410	ATS22C41Q	Size D
132	250	250	480	ATS22C48Q	Size E
160	315	355	590	ATS22C59Q	Size E

Connection in the motor power supply line											Soft start/soft stop unit 208...600 V - 50/60 Hz				
Motor											208...600 V		230...600V		
Motor power											Control power supplS6				
208 V	230 V	460 V	575 V	230 V	400 V	440 V	500 V	525 V	660 V	690 V	Nominal current (IcL)	110 V		220 V	
HP				kW								Reference	Size	Reference	Size
3	5	10	15	4	7.5	7.5	9	9	11	15	17 A	ATS22D17S6U	Size A	ATS22D22S6	Size A
7.5	10	20	25	7.5	15	15	18.5	18.5	22	22	32 A	ATS22D32S6U	Size A	ATS22D38S6	Size A
-	15	30	40	11	22	22	30	30	37	37	47 A	ATS22D47S6U	Size A	ATS22D62S6	Size A
15	20	40	50	15	30	30	37	37	45	45	62 A	ATS22D62S6U	Size B	ATS22D75S6	Size B
20	25	50	60	18.5	37	37	45	45	55	55	75 A	ATS22D75S6U	Size B	ATS22D88S6	Size B
25	30	60	75	22	45	45	55	55	75	75	88 A	ATS22D88S6U	Size B	ATS22C11S6	Size B
30	40	75	100	30	55	55	75	75	90	90	110 A	ATS22C11S6U	Size C	ATS22C14S6	Size C
40	50	100	125	37	75	75	90	90	110	110	140 A	ATS22C14S6U	Size C	ATS22C17S6	Size C
50	60	125	150	45	90	90	110	110	132	160	170 A	ATS22C17S6U	Size C	ATS22C21S6	Size C
60	75	150	200	55	110	110	132	132	160	200	210 A	ATS22C21S6U	Size D	ATS22C25S6	Size D
75	100	200	250	75	132	132	160	160	220	250	250 A	ATS22C25S6U	Size D	ATS22C32S6	Size D
100	125	250	300	90	160	160	220	220	250	315	320 A	ATS22C32S6U	Size D	ATS22C41S6	Size D
125	150	300	350	110	220	220	250	250	355	400	410 A	ATS22C41S6U	Size D	ATS22C48S6	Size D
150	-	350	400	132	250	250	315	315	400	500	480 A	ATS22C48S6U	Size E	ATS22C59S6	Size E
-	200	400	500	160	315	355	400	400	560	560	590 A	ATS22C59S6U	Size E	ATS22C66S6	Size E





## Soft start/soft stop units

Dimensions (in mm)		width x height x depth	
ATS48	D17Q to D47Q	<b>Size A:</b>	160 x 275 x 190
	D62Q to C11Q	<b>Size B:</b>	190 x 290 x 235
	C14Q to C17Q	<b>Size C:</b>	200 x 340 x 265
	C21Q to C32Q	<b>Size D:</b>	320 x 380 x 265
	C41Q to C66Q	<b>Size E:</b>	400 x 670 x 300
	C79Q to M12Q	<b>Size F:</b>	770 x 890 x 315



Supply voltage			Three-phase 230...415 V (1)			
			Standard		Severe (2)	
Type of application						
Starter control supply voltage			220...415 V			
Protection	Degree of protection		IP20: ATS48D17● to ATS48C11● starters IP00: ATS48C14● to ATS48M12● starters			
	Motor thermal protection		Class 10	Class 20 and 30		
EMC	Class A		On all starters			
	Class B		On all starters up to 170 A			
Starting mode			Torque control (patented TCS: Torque Control System)			
I/O	Analog inputs		1 PTC probe			
	Logic inputs		4 logic inputs, 2 of which are configurable			
	Logic outputs		2 configurable logic outputs			
	Analog outputs		1 analog output			
	Relay outputs		3 relay outputs, 2 of which are configurable			
Dialogue			Integrated or remote display terminal (in option), SoMove software workshop			
Communication	Integrated		Modbus			
	With gateway		DeviceNet, Ethernet, Fipio, PROFIBUS DP			
Motor power						
230 V	400 V	Nominal current (IcL)				
kW	kW					
3	5.5	12 A	–	ATS48D17Q	Size A	
4	7.5	17 A	ATS48D17Q	Size A	ATS48D22Q	Size A
5.5	11	22 A	ATS48D22Q	Size A	ATS48D32Q	Size A
7.5	15	32 A	ATS48D32Q	Size A	ATS48D38Q	Size A
9	18.5	38 A	ATS48D38Q	Size A	ATS48D47Q	Size A
11	22	47 A	ATS48D47Q	Size A	ATS48D62Q	Size B
15	30	62 A	ATS48D62Q	Size B	ATS48D75Q	Size B
18.5	37	75 A	ATS48D75Q	Size B	ATS48D88Q	Size B
22	45	88 A	ATS48D88Q	Size B	ATS48C11Q	Size B
30	55	110 A	ATS48C11Q	Size B	ATS48C14Q	Size C
37	75	140 A	ATS48C14Q	Size C	ATS48C17Q	Size C
45	90	170 A	ATS48C17Q	Size C	ATS48C21Q	Size D
55	110	210 A	ATS48C21Q	Size D	ATS48C25Q	Size D
75	132	250 A	ATS48C25Q	Size D	ATS48C32Q	Size D
90	160	320 A	ATS48C32Q	Size D	ATS48C41Q	Size E
110	220	410 A	ATS48C41Q	Size E	ATS48C48Q	Size E
132	250	480 A	ATS48C48Q	Size E	ATS48C59Q	Size E
160	315	590 A	ATS48C59Q	Size E	ATS48C66Q	Size E
–	355	660 A	ATS48C66Q	Size E	ATS48C79Q	Size F
220	400	790 A	ATS48C79Q	Size F	ATS48M10Q	Size F
250	500	1000 A	ATS48M10Q	Size F	ATS48M12Q	Size F
355	630	1200 A	ATS48M12Q	Size F	–	

(1) Possible to connect the starter in the motor delta connection

(2) Starting time greater than 30 seconds (fans, high inertia machines and compressors)

# Pumping and ventilation machines - Altistart 48, 4...900 kW

## Soft start/soft stop units

Dimensions (in mm)		width x height x depth	
ATS48	D17Y to D47Y	<b>Size A:</b>	160 x 275 x 190
	D62Y to C11Y	<b>Size B:</b>	190 x 290 x 235
	C14Y to C17Y	<b>Size C:</b>	200 x 340 x 265
	C21Y to C32Y	<b>Size D:</b>	320 x 380 x 265
	C41Y to C66Y	<b>Size E:</b>	400 x 670 x 300
	C79Y to M12Y	<b>Size F:</b>	770 x 890 x 315



Supply voltage												Three-phase 208...690 V (1)			
Type of application												Standard		Severe (2)	
Starter control supply voltage												110...230 V			
Characteristics												Identical to 230...415 V starters			
Motor power												Nominal current (IcL)			
208 V	230 V	460 V	575 V	230 V	400 V	440 V	500 V	525 V	660 V	690 V					
HP				kW											
2	3	7.5	10	3	5.5	5.5	7.5	7.5	9	11	12 A	–	ATS48D17Y	Size A	
3	5	10	15	4	7.5	7.5	9	9	11	15	17 A	ATS48D17Y	Size A	ATS48D22Y	Size A
5	7.5	15	20	5.5	11	11	11	11	15	18.5	22 A	ATS48D22Y	Size A	ATS48D32Y	Size A
7.5	10	20	25	7.5	15	15	18.5	18.5	22	22	32 A	ATS48D32Y	Size A	ATS48D38Y	Size A
10	–	25	30	9	18.5	18.5	22	22	30	30	38 A	ATS48D38Y	Size A	ATS48D47Y	Size A
–	15	30	40	11	22	22	30	30	37	37	47 A	ATS48D47Y	Size A	ATS48D62Y	Size B
15	20	40	50	15	30	30	37	37	45	45	62 A	ATS48D62Y	Size B	ATS48D75Y	Size B
20	25	50	60	18.5	37	37	45	45	55	55	75 A	ATS48D75Y	Size B	ATS48D88Y	Size B
25	30	60	75	22	45	45	55	55	75	75	88 A	ATS48D88Y	Size B	ATS48C11Y	Size B
30	40	75	100	30	55	55	75	75	90	90	110 A	ATS48C11Y	Size B	ATS48C14Y	Size C
40	50	100	125	37	75	75	90	90	110	110	140 A	ATS48C14Y	Size C	ATS48C17Y	Size C
50	60	125	150	45	90	90	110	110	132	160	170 A	ATS48C17Y	Size C	ATS48C21Y	Size D
60	75	150	200	55	110	110	132	132	160	200	210 A	ATS48C21Y	Size D	ATS48C25Y	Size D
75	100	200	250	75	132	132	160	160	220	250	250 A	ATS48C25Y	Size D	ATS48C32Y	Size D
100	125	250	300	90	160	160	220	220	250	315	320 A	ATS48C32Y	Size D	ATS48C41Y	Size E
125	150	300	350	110	220	220	250	250	355	400	410 A	ATS48C41Y	Size E	ATS48C48Y	Size E
150	–	350	400	132	250	250	315	315	400	500	480 A	ATS48C48Y	Size E	ATS48C59Y	Size E
–	200	400	500	160	315	355	400	400	560	560	590 A	ATS48C59Y	Size E	ATS48C66Y	Size E
200	250	500	600	–	355	400	–	–	630	630	660 A	ATS48C66Y	Size E	ATS48C79Y	Size F
250	300	600	800	220	400	500	500	500	710	710	790 A	ATS48C79Y	Size F	ATS48M10Y	Size F
350	350	800	1000	250	500	630	630	630	900	900	1000 A	ATS48M10Y	Size F	ATS48M12Y	Size F
400	450	1000	1200	355	630	710	800	800	–	–	1200 A	ATS48M12Y	Size F	–	–

(1) Starter connection in the motor delta connection: up to 500 V only, add "S316" at the end of the reference

(2) Starting time greater than 30 seconds (fans, high inertia machines and compressors)



## Ultra-compact drives



Dimensions (in mm)	width x height x depth
<b>1C1:</b> 72 x 143 x 102.2	<b>2F3:</b> 105 x 143 x 131.2
<b>1C2:</b> 72 x 143 x 102.2	<b>3F3:</b> 140 x 184 x 141.2
<b>1C3:</b> 72 x 143 x 121.2	
<b>2C1:</b> 105 x 142 x 156.2	
<b>2C2:</b> 105 x 142 x 156.2	

Type of drive		Single-phase	Single-phase	Three-phase				
Supply voltage		120 V	240 V	240 V				
Degree of protection		IP20						
Drive	Output frequency	0.5... 400 Hz						
	Type of control	Asynchronous motor U/F, sensorless flux vector control, quadratic Kn <sup>2</sup>						
	Transient overtorque	150... 170 of the nominal torque						
Speed range		1 to 20						
Functions	Number of functions	40						
	Number of preset speeds	8						
	Number of I/O	Analog inputs	1 configurable analog input					
		Logic inputs	4 assignable logic inputs					
	Relay outputs	1 protected relay logic output						
Dialogue		Integrated or remote display terminal, SoMove software workshop, or mobile phone via Bluetooth®						
Communication	Integrated	Modbus						
Cards (available as an option)								
Reduction of current harmonics								
EMC filter	Integrated			C1 EMC				
	As an option							
Motor power	kW/HP	0.18/0.25	ATV12H018F1 (1)	1C1	ATV12H018M2 (1) (2)	1C2	ATV12H018M3 (1)	1C3
		0.37/0.5	ATV12H037F1	1C1	ATV12H037M2 (2)	1C1	ATV12H037M3	1C3
		0.55/0.75	–		ATV12H055M2 (2)	1C2	–	
		0.75/1	ATV12H075F1	2C1	ATV12H075M2 (2)	1C2	ATV12H075M3	1C3
		1.5/2	–		ATV12HU15M2 (2)	2C2	ATV12H015M3	2F3
		2.2/3	–		ATV12HU22M2 (2)	2C2	ATV12H022M3	2F3
		3/3	–		–		ATV12H030M3	3F3
		4/5	–		–		ATV12H040M3	3F3

(1) Because of the low heat dissipation, the ATV12H018.. is only supplied on a base plate

(2) Also exists as a multipack

## Drives for HVAC applications

Dimensions (in mm)		width x height x depth	
IP21		IP55	
T1A: 107 x 143 x 150	T1: 215 x 297 x 192		
T2A: 142 x 184 x 150	T2: 230 x 340 x 208		
T3A: 180 x 232 x 170	T3: 290 x 560 x 315		
T4A: 245 x 329.5 x 190	T4: 310 x 665 x 315		
T5A: 240 x 420 x 214	T5: 284 x 720 x 315		
T6A: 320 x 630 x 290	T5: 284 x 880 x 343		
T7A: 240 x 550 x 266	T5: 362 x 1000 x 364		
T8A: 320 x 630 x 290			



Type of drive		IP21		IP55		
Supply voltage	Three-phase	200...240 V	380...480 V	380...480 V		
Degree of protection		IP21 and IP41 on the upper part		IP55 drive available in two manufacturing variants, ATV212W...N4 C1 EMC or ATV212W...N4C C2 EMC		
Output frequency		0.5...200 Hz				
Type of control		Kn <sup>2</sup> quadratic ratio, sensorless flux vector control, voltage/frequency ratio (2 points), energy saving ratio				
Speed range		1 to 10				
I/O	Analog inputs	1 switch-configurable current or voltage analog input and 1 voltage analog input, configurable as a PTC probe input				
	Logic inputs	3 programmable logic inputs				
	Analog outputs	1 switch-configurable current or voltage analog output				
	Relay outputs	2 relay logic outputs				
Dialogue		Integrated display terminal with local controls (1) or remote display terminal or PC software (3)				
Communication (see page 4/11)	Integrated	Modbus, APOGEE FLN P1, Metasys N2, BACnet				
	As an option	LonWorks				
EMC filter	Integrated	–	C2 EMC	C2 EMC	C1 EMC	
	Available as an option	C2 EMC	C1 EMC	–	–	
Motor power	kW/HP	0.75/1	ATV212H075M3X T1A	ATV212H075N4 T1A	ATV212W075N4 T1	ATV212W075N4C T1
		1.5/2	ATV212HU15M3X T1A	ATV212HU15N4 T1A	ATV212WU15N4 T1	ATV212WU15N4C T1
		2.2/3	ATV212HU22M3X T1A	ATV212HU22N4 T1A	ATV212WU22N4 T1	ATV212WU22N4C T1
		3/–	ATV212HU30M3X T2A	ATV212HU30N4 T2A	ATV212WU30N4 T2	ATV212WU30N4C T2
		4/5	ATV212HU40M3X T2A	ATV212HU40N4 T2A	ATV212WU40N4 T2	ATV212WU40N4C T2
		5.5/7.5	ATV212HU55M3X T3A	ATV212HU55N4 T2A	ATV212WU55N4 T2	ATV212WU55N4C T2
		7.5/10	ATV212HU75M3X T3A	ATV212HU75N4 T3A	ATV212WU75N4 T2	ATV212WU75N4C T2
		11/15	ATV212HD11M3X T4A	ATV212HD11N4 T3A	ATV212WD11N4 T3	ATV212WD11N4C T3
		15/20	ATV212HD15M3X T4A	ATV212HD15N4 T4A	ATV212WD15N4 T3	ATV212WD15N4C T3
		18.5/25	ATV212HD18M3X T4A	ATV212HD18N4 T4A	ATV212WD18N4 T4	ATV212WD18N4C T4
		22/30 (4)	–	ATV212HD22N4S T4A	–	–
		22/30	ATV212HD22M3X T5A	ATV212HD22N4(2) T5A	ATV212WD22N4 T5	ATV212WD22N4C T5
		30/40	ATV212HD30M3X T6A	ATV212HD30N4(2) T5A	ATV212WD30N4 T5	ATV212WD30N4C T5
		37/50	–	ATV212HD37N4 T7A	ATV212WD37N4 T6	ATV212WD37N4C T6
		45/60	–	ATV212HD45N4 T7A	ATV212WD45N4 T6	ATV212WD45N4C T6
		55/75	–	ATV212HD55N4 T8A	ATV212WD55N4 T7	ATV212WD55N4C T7
75/100	–	ATV212HD75N4 T8A	ATV212WD75N4 T7	ATV212WD75N4C T7		

(1) Drive with local controls, Run/Stop, Loc/Rem. keys

(2) For references ATV212HD22N4 and ATV212HD30N4, please refer to the Schneider Electric catalogue.

(3) PC Software is available as a free download from [www.schneider-electric.com](http://www.schneider-electric.com)

(4) Optimized size and weight



## Compact drives

Dimensions (in mm)	width x height x depth
<b>T 1:</b> 72 x 145 x 122	<b>T 6:</b> 107 x 143 x 152
<b>T 2:</b> 72 x 145 x 132	<b>T 7:</b> 142 x 184 x 152
<b>T 3:</b> 72 x 145 x 132	<b>T 8:</b> 180 x 232 x 172
<b>T 4:</b> 72 x 145 x 142	<b>T 9:</b> 245 x 330 x 192
<b>T 5:</b> 105 x 143 x 132	



Type of drive		Single-phase 240 V	Three-phase 240 V	Three-phase 500V	Three-phase 600V		
Supply voltage		with integrated EMC filters	without EMC filter	with integrated EMC filters	without EMC filter		
<b>Degree of protection</b>		IP31 & IP41 on upper part and IP21 on terminals					
<b>Drive</b>	Output frequency	0.5...500 Hz					
	Type of control	Asynchronous motor					
	Transient overtorque	Standard (voltage / frequency) - Performance (sensorless flux vector control) Energy saving ratio, pump & Fan ratio (Kn <sup>2</sup> quadratic ratio)					
<b>Speed range</b>		170 ... 200 % of the nominal motor torque					
<b>Functions</b>		1 to 50					
<b>Number of functions</b>	Number of functions	50					
	Number of preset speeds	16					
	Number of I/O	Analog inputs	3				
		Logic inputs	6				
	Analog outputs	1					
	Logic outputs	-					
Relay outputs	2						
<b>Dialogue</b>		Integrated 4-digit display, remote terminals (IP54 or IP65), Altivar 61/71 remote graphic display terminal					
<b>Communication</b>	Integrated	Modbus and CANopen					
	As an option	CANopen Daisy chain, Modbus TCP, DeviceNet, PROFIBUS DP, Fipio					
<b>Reduction of current harmonics</b>							
<b>EMC filter</b>	Integrated	C2 EMC		Integrated C2(1) or C3 EMC			
	As an option	C1 EMC		-			
<b>Motor power</b>	kW/HP	0.18/0.25	ATV312H018M2 T3	ATV312H018M3 T1	-	-	
		0.37/0.5	ATV312H037M2 T3	ATV312H037M3 T1	ATV312H037N4 T5	-	-
		0.55/0.75	ATV312H055M2 T4	ATV312H055M3 T2	ATV312H055N4 T5	-	-
		0.75/1	ATV312H075M2 T4	ATV312H075M3 T2	ATV312H075N4 T6	ATV312H075S6 T6	-
		1.1/1.5	ATV312HU11M2 T6	ATV312HU11M3 T5	ATV312HU11N4 T6	-	-
		1.5/2	ATV312HU15M2 T6	ATV312HU15M3 T5	ATV312HU15N4 T6	ATV312HU15S6 T6	-
		2.2/3	ATV312HU22M2 (2) T7	ATV312HU22M3 T6	ATV312HU22N4 T7	ATV312HU22S6 T7	-
		3/-	-	ATV312HU30M3 T7	ATV312HU30N4 T7	-	-
		4/5	-	ATV312HU40M3 T7	ATV312HU40N4 T7	ATV312HU40S6 T7	-
		5.5/7.5	-	ATV312HU55M3 T8	ATV312HU55N4 T8	ATV312HU55S6 T8	-
		7.5/10	-	ATV312HU75M3 T8	ATV312HU75N4 T8	ATV312HU75S6 T8	-
		11/15	-	ATV312HD11M3 T9	ATV312HD11N4 T9	ATV312HD11S6 T9	-
		15/20	-	ATV312HD15M3 T9	ATV312HD15N4 T9	ATV312HD15S6 T9	-

(1) C2 up to 4 kW (2) Supplied with integrated C3 EMC filter

## Enclosed IP55 drives

Dimensions (in mm) – width x height x depth
<b>Size 1:</b> 210 x 240 x 163
<b>Size 2:</b> 215 x 297 x 192
<b>Size 3:</b> 230 x 340 x 208
<b>Size 4:</b> 320 x 512 x 282
<b>Size 5:</b> 440 x 625 x 282



Supply voltage		Single-phase 200...240 V	Three-phase 380...500 V
<b>Degree of protection</b>		IP55	
<b>Description</b>		Enclosure equipped with an Altivar 31 drive with external heatsink. Removable covers for adding 1 switch-disconnector or 1 circuit-breaker, 3 buttons and/or LEDs, 1 potentiometer	
<b>Motor power</b>	kW/HP	0.18/0.25	ATV31C018M2 Size 1
		0.37/0.5	ATV31C037M2 Size 1
		0.55/0.75	ATV31C055M2 Size 1
		0.75/1	ATV31C075M2 Size 1
		1.1/1.5	ATV31CU11M2 Size 2
		1.5/2	ATV31CU15M2 Size 2
		2.2/3	ATV31CU22M2 Size 3
		3/-	-
		4/5	-
		5.5/7.5	-
		7.5/10	-
		11/15	-
		15/20	-

(1) Standard enclosed drive

# Complex machines - Altivar 32, 0.18...15 kW

## Compact drives

Dimensions (in mm)	width x height x depth
<b>T1:</b>	45 x 317 x 245
<b>T2:</b>	60 x 317 x 245
<b>T4:</b>	150 x 308 x 232 (EMC plate installed)
<b>T4:</b>	150 x 232 x 232 (EMC plate not installed)
<b>T5:</b>	180 x 404 x 232 (EMC plate installed)
<b>T5:</b>	180 x 330 x 232 (EMC plate not installed)



Type of drive		Single-phase 240 V with integrated EMC filter	Three-phase 500 V with integrated EMC filter	
<b>Degree of protection</b>		IP20		
<b>Drive</b>	Output frequency	0.1...599 Hz		
	Type of control	Asynchronous motor		
		Standard (voltage/frequency) Performance (sensorless flux vector control) Pump/fan (Kn <sup>2</sup> quadratic ratio) Energy saving ratio		
		Synchronous motor Profile for open loop synchronous motor		
	Transient overtorque	170...200 % of the nominal motor torque		
<b>Speed range</b>		1 to 50		
<b>Functions</b>	Number of functions		150	
	Number of I/O	Analog inputs	3 - Response time: 3ms, resolution 10 bits	
		Logic inputs	6 - Response time: 8 ms, configurable in PTC and IN pwm	
		Analog outputs	1 - Updating time: 2 ms	
		Logic outputs	1 - Sampling time: 2 ms, configurable as voltage (0-10 V) or current (0-20 mA)	
	Relay outputs	2		
<b>Dialogue</b>		4-digit display, remote display terminal (IP54 or IP55), remote graphic display terminal, SoMove setup software and SoMove Mobile application for mobile phone.		
<b>Communication</b>	Integrated	Modbus and CANopen - Bluetooth® link		
	As an option	DeviceNet, PROFIBUS DP V1, EtherNet/IP, Modbus TCP, EtherCat		
<b>Reduction of current harmonics</b>				
<b>EMC filter</b>	Integrated	C2 EMC		
	As an option	C1 EMC		
<b>Motor power</b>	kW	HP		
	0.18	1/4	ATV32H018M2 T1	-
	0.37	1/2	ATV32H037M2 T1	ATV32H037N4 T1
	0.55	3/4	ATV32H055M2 T1	ATV32H055N4 T1
	0.75	1	ATV32H075M2 T1	ATV32H075N4 T1
	1.1	1 1/2	ATV32HU11M2 T2	ATV32HU11N4 T1
	1.5	2	ATV32HU15M2 T2	ATV32HU15N4 T1
	2.2	3	ATV32HU22M2 T2	ATV32HU22N4 T2
	3	-	-	ATV32HU30N4 T2
	4	5	-	ATV32HU40N4 T2
	5.5	7 1/2	-	ATV32HU55N4 T4
	7.5	10	-	ATV32HU75N4 T4
	11	15	-	ATV32HD11N4 T5
	15	20	-	ATV32HD15N4 T5



## Controllers, drives, motors and linear motion axes






### Lexium

Schneider Electric offers a complete range of motion control products and solutions suitable for even the most specialised applications. Designed with maximum simplicity in mind throughout a machine's entire service life, the Lexium range reduces costs and optimises productivity.

# Drives, motors and linear motion axes - Selection guide

⇒ *Applications:*

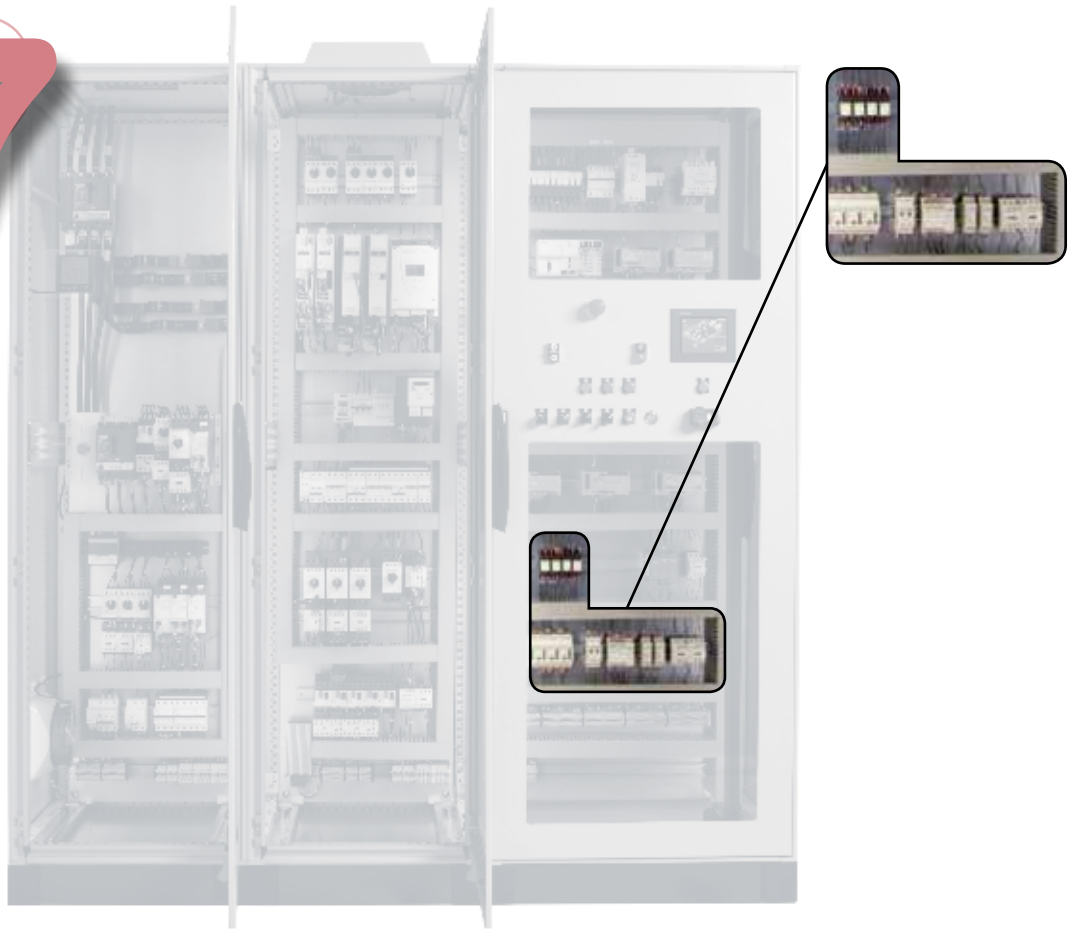
Lexium servo drives are the perfect drive for applications involving high-precision, dynamic positioning.

	Servo Drives & Motors		Integrated Servo Drive		
	Lexium 23 Plus	Lexium BCH	Lexium 32	Lexium BMH	Lexium 32i
			 		
<b>Machines</b>	Textile machines, Electronics machines, Packaging machines, Material working machines, Material handling machines, Printing machines		Packaging machines, Material handling machines, Material working machines, Assembling machines		Packaging machines, Material handling machines, Material working machines, Assembling machines
<b>Description</b>	The Lexium 23 Plus servo range consists of two book-size servo drive models – Lexium 23A with CANopen interface, Lexium 23D with pulse train interface plus the motor family Lexium BCH from ultra low inertia to high inertia.		The Lexium 32 servo range consists of three high-performance book-size servo drive models – Lexium 32 Compact, Lexium 32 Advanced and Lexium 32 Modular – and two motor families – the versatile medium-inertia Lexium BMH and the dynamic low-inertia Lexium BSH.		The Lexium 32i is an integrated servo drive and comprises motor, positioning controller, power electronics, fieldbus and "Safe Torque Off" safety function in an extremely compact single device.
<b>Power range</b>	0.1 kW...7.5 kW		0.15...7 kW		0.6...2.2 kW
<b>Voltage range</b>	1 or 3 phase 170...255 V AC		1 phase 115...240 V AC, 3 phase 400...480 V AC		1 phase 115...240 V AC, 3 phase 400...480 V AC
<b>Speed</b>	1000 rpm to 3000 rpm depending on the motor		up to 8000 rpm		up to 3600 rpm
<b>Torque</b>	up to 47.74 Nm		up to 84 Nm		up to 7.8 Nm
<b>Interfaces</b>	CANopen		CANopen, CANmotion, PROFIBUS DP, DeviceNet, EtherNet/IP, Pulse train, ±10 V Encoder modules for digital and analog encoders and resolvers		CANopen, CANmotion, EtherCAT
<b>Safety functions</b>			<b>Safe Torque Off (STO)</b> on board Enhanced Safety Module: Safe Stop 1 (SS1), Safe Stop 2 (SS2), Safely Limited Speed (SLS), Safe Operation Stop (SOS)		<b>Safe Torque Off (STO)</b> on board



<p>⇒ <i>Applications:</i></p> <p>Lexium Integrated Drives allow for extremely space-saving decentralised motion solutions.</p>	<p>⇒ <i>Applications:</i></p> <p>Lexium SDx stepper drives and motors are used for short-distance positioning applications requiring maximum accuracy and high torque.</p>	<p>⇒ <i>Applications:</i></p> <p>The Lexium Linear Motion products are designed for maximum flexibility, performance and cost-effectiveness. This range offers products for all linear movements in the automation industry from single-axis to multi-axis systems.</p>
<p><b>Integrated Drives</b></p>	<p><b>Stepper Drives &amp; Motors</b></p>	<p><b>Linear Motion</b></p>
<p><b>Lexium ILA</b>      <b>Lexium ILE</b></p>  <p><b>Lexium ILP / ILT</b>      <b>Lexium ILS</b></p> 	<p><b>Lexium SD2</b>      <b>Lexium BRS2</b></p>  <p><b>Lexium SD3</b>      <b>Lexium BRS3</b></p> 	<p><b>Lexium PAS</b>      <b>Lexium CAS</b></p>  <p><b>Lexium TAS</b>      <b>Lexium MAX</b></p> 
<p>Format adjustment, Printing machines, Material handling machines</p>	<p>Printing machines, Labelling machines, Screen printing machines</p>	<p>Material handling machines Material working machines On-the-fly working machines Assembling machines</p>
<p>The Lexium ILx Integrated Drives comprise motor, positioning controller, power electronics, fieldbus and "Safe Torque Off" safety function in an extremely compact single device. Lexium ILx Integrated Drives are available with multiple motor technologies (servo, brushless DC, stepper).</p>	<p>The Lexium SDx stepper motor drive range consists of two high-precision stepper drive lines – the three-phase stepper drives Lexium SD3 and the two-phase stepper drives Lexium SD2. These drive lines are complemented by two perfectly matched stepper motor families – Lexium BRS3 three-phase stepper motors and Lexium BRS2 two-phase stepper motors.</p>	<p>Lexium Linear Motion is a comprehensive linear motion range comprising Lexium PAS portal axes, Lexium TAS linear tables, Lexium CAS cantilever and telescopic axes and Lexium MAX multi-axis systems.</p>
<p>150 - 305 W 12...48 V DC, 1 phase 115...240 V AC up to 9000 rpm up to 12 Nm</p>	<p>up to 750 W 24...48 V DC, 1 phase 115...240 V AC up to 1000 rpm up to 16.5 Nm</p>	<p><b>Single axes:</b> Stroke up to 5.5 m Load up to 150 kg Speed up to 8 m/s</p>
<p>RS485, CANopen, PROFIBUS DP, DeviceNet, EtherNet/IP, EtherCAT, Ethernet POWER-LINK, Modbus TCP, Pulse train</p>	<p>CANopen, CANmotion, PROFIBUS DP or Pulse train</p>	<p><b>Multi axes:</b> Stroke up to 5.5 m Load up to 130 kg Speed up to 4 m/s Available as individual components or completely pre-assembled, customised systems with drives and motors</p>
<p><b>Safe Torque Off (STO)</b> on board (Lexium ILA, Lexium ILE, Lexium ILS)</p>	<p><b>Safe Torque Off (STO)</b> on board (Lexium SD3 28)</p>	

# Relays



## RSL range

- **Space saving:** 6 A lth in 6 mm width
- **Safe:** LED, Protection against reverse polarity and surge in standard.
- **Easy:** One reference for relay and socket with the pre-mounted offer



## SSR range

- The solid state relays reinforce the Zelio Relay offer as an alternative to electro mechanical technology.
- These models can easily and perfectly be interfaced with Zelio Control REG new offer (temperature controllers)







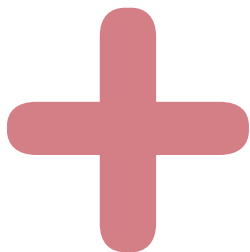
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# Zelio Relay - Panorama

Range	Electromechanical relays			
				
Number of contacts	1 CO	1 or 2 CO	2, 3 or 4 CO	2 or 3 CO
Current	6 A	8-12-16 A	6-10-12 A	10 A
Mounting	Plugs into socket (DIN rail)			
References	RSL	RSB	RXM	RUM



- Wide choice of number of contacts (up to 4).
- Simplicity of installation and maintenance.
- Standardisation of relay pin arrangement on its socket.
- "Test" button for checking the relay functions, even in a remote enclosure.
- Clear indication: contact status mechanical indicator and "Relay On" LED indicator.
- Suitable input/output currents and switching voltages.

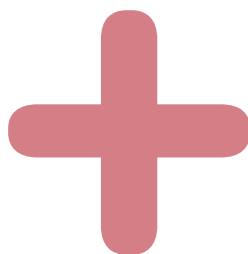


## Solid-state relays

## TeSys control relays



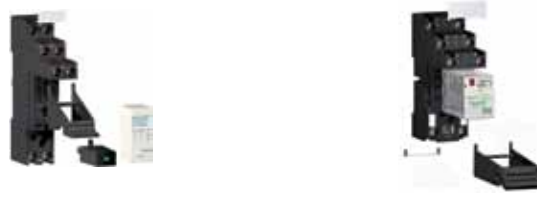
1, 2, 3 or 4 CO	2 CO-2 NO	1 NO	1 NO	5 NO or 3NO + 2NC
15 A	30A	10...45 A	10...125 A	10 A
		DIN rail	Panel mounted	DIN rail
RPM	RPF	SSRD	SSRP	CAD



- Unlimited service life.
- Wide supply voltage range and high breaking current (up to 125 A), suited to packaging and textile machines.
- Completely silent switching, providing suitability for building and hospital applications.
- Insensitive to vibration.
- "Relay On" LED indicator.

# Electromechanical plug-in relays - Zelio Relay

## Interface and miniature relays



Type of relay	Interface relays RSB			Miniature relays RXM				
<b>Contact characteristics</b>								
Thermal current I <sub>th</sub> in A (temperature ≤ 55°C)	8	12	16	12	10	6	3	
Number of contacts	2 "C/O"	1 "C/O"	1 "C/O"	2 "C/O"	3 "C/O"	4 "C/O"	4 "C/O"	
Contact material	AgNi	AgNi	AgNi	AgNi	AgNi	AgNi	AgAu	
Switching voltage, min. / max.	5 / 250 V AC/DC			12 / 250 V AC/DC				
Switching capacity, min. / max. (mA / VA)	5 / 2000	5 / 3000	5 / 4000	10 / 3000	10 / 2500	10 / 1500	2 / 1500	
<b>Coil characteristics</b>								
Average consumption, inrush,	0.75 VA / 0.45 W			1.2 VA / 0.9 W				
Permissible voltage variation	0.8/0.85...1.1 Un (50/ 60 Hz or =)			0.8...1.1 Un (50 / 60 Hz or =)				
References	(1)	(1)	(1)	(2)	(2)	(2)		
Coil supply voltage on DC	6 V DC	RSB2A080RD	RSB1A120RD	RSB1A160RD	–	–	–	–
	12 V DC	RSB2A080JD	RSB1A120JD	RSB1A160JD	RXM2AB2JD	RXM3AB2JD	RXM4AB2JD	RXM4GB2JD
	24 V DC	RSB2A080BD	RSB1A120BD	RSB1A160BD	RXM2AB2BD	RXM3AB2BD	RXM4AB2BD	RXM4GB2BD
	48 V DC	RSB2A080ED	RSB1A120ED	RSB1A160ED	RXM2AB2ED	RXM3AB2ED	RXM4AB2ED	RXM4GB2ED
	60 V DC	RSB2A080ND	RSB1A120ND	RSB1A160ND	–	–	–	–
110 V DC	RSB2A080FD	RSB1A120FD	RSB1A160FD	RXM2AB2FD	RXM3AB2ED	RXM4AB2ED	RXM4GB2ED	
Coil supply voltage on AC	24 V AC	RSB2A080B7	RSB1A120B7	RSB1A160B7	RXM2AB2B7	RXM3AB2B7	RXM4AB2B7	RXM4GB2B7
	48 V AC	RSB2A080E7	RSB1A120E7	RSB1A160E7	RXM2AB2E7	RXM3AB2E7	RXM4AB2E7	RXM4GB2E7
	120 V AC	RSB2A080F7	RSB1A120F7	RSB1A160F7	RXM2AB2F7	RXM3AB2F7	RXM4AB2F7	RXM4GB2F7
	220 V AC	RSB2A080M7	RSB1A120M7	RSB1A160M7	–	–	–	–
	230 V AC	RSB2A080P7	RSB1A120P7	RSB1A160P7	RXM2AB2P7	RXM3AB2P7	RXM4AB2P7	RXM4GB2P7
240 V AC	RSB2A080U7	RSB1A120U7	RSB1A160U7	–	–	–	RXM4GB2U7	

## Sockets for relays

Type of socket	For interface relays RSB			For miniature relays RXM				
<b>Mixed input/output type sockets with location for protection module</b>								
	–	–	–	RXZE2M114(5)	–	RXZE2M114	RXZE2M114	
	–	–	–	RXZE2M114M(5)	–	RXZE2M114M	RXZE2M114M	
<b>Separate input/output type sockets with location for protection module</b>								
	RSZE1S48M	RSZE1S35M	RSZE1S48M(3)	RXZE2S108M	RXZE2S111M	RXZE2S114M	RXZE2S114M	
<b>Protection modules</b>								
Diode	6...230 V DC	RZM040W		RXM040W				
RC circuit	24...60 V AC	RZM041BN7		RXM041BN7				
	110...240 V AC	RZM041FU7		RXM041FU7				
Varistor	6...24 V DC or AC	RZM021RB (6)		RXM021RB				
	24...60 V DC or AC	RZM021BN (6)		RXM021BN				
	110...230 V DC or AC	RZM021FP (6)		RXM021FP				
	24 V DC or AC	–		–				
	240 V DC or AC	–		–				
Multifunction timer module	24...230 V DC or AC	–		–				
<b>Accessories</b>								
Plastic maintaining clamp	RSZR215			RXZR335				
Metal maintaining clamp	–			RXZ400				
Label for socket	RSZL300			RXZL420 (except RXZE2M114)				
Bus jumper	2 poles	–			RXZS2			
DIN rail adapter	–			RXZE2DA				
Panel mounting adapter	–			RXZE2FA				

(1) References for relays without socket, for relays with socket, add the letter **S** to the end of the selected reference. (Example: RSB2A080B7 becomes RSB2A080B7S)

(2) References for relays with LED, for relays without LED, replace the number 1 in the reference by 2. (Example: RXM2AB2JD becomes RXM2AB1JD)

(3) To use RSB 1A160 ●● relay with socket, terminals must be interconnected



## Universal and power relays



Universal relays RUM					Power relays RPM				RPF		
Cylindrics			Faston								
10	10	3	10	10	15	15	15	15	30 (4)	30 (4)	
2 "C/O"	3 "C/O"	3 "C/O"	2 "C/O"	3 "C/O"	1 "C/O"	2 "C/O"	3 "C/O"	4 "C/O"	2 "N/O"	2 "C/O"	
AgNi	AgNi	AgAu	AgNi	AgNi	AgNi	AgNi	AgNi	AgNi	AgSnO <sub>2</sub>	AgSnO <sub>2</sub>	
12 / 250 V AC/DC					12 / 250 V AC/DC				12 / 250 V AC/DC		
10 / 2500	10 / 2500	3 / 750	10 / 2500	10 / 2500	100 / 3750	100 / 3750	100 / 3750	100 / 3750	100 / 7200	100 / 7200	
2...3 VA / 1.4 W					0.9 VA / 0.7 W	1.2 VA / 0.9 W	1.5 VA / 1.7 W	1.5 VA / 2 W	4 VA / 1.7 W		
(2)	(2)	–	(2)	(2)	(2)	(2)	(2)	(2)	–	–	
–	–	–	–	–	–	–	–	–	–	–	
RUMC2AB2JD	RUMC3AB2JD	–	RUMF2AB2JD	RUMF3AB2JD	RPM12JD	RPM22JD	RPM32JD	RPM42JD	RPF2AJD	RPF2BJD	
RUMC2AB2BD	RUMC3AB2BD	RUMC3GB2BD	RUMF2AB2BD	RUMF3AB2BD	RPM12BD	RPM22BD	RPM32BD	RPM42BD	RPF2ABD	RPF2BBD	
RUMC2AB2ED	RUMC3AB2ED	RUMC3GB2ED	RUMF2AB2ED	RUMF3AB2ED	RPM12ED	RPM22ED	RPM32ED	RPM42ED	–	–	
–	–	–	–	–	–	–	–	–	–	–	
RUMC2AB2FD	RUMC3AB2FD	–	RUMF2AB2FD	RUMF3AB2FD	RPM12FD	RPM22FD	RPM32FD	RPM42FD	RPF2AFD	RPF2BFD	
RUMC2AB2B7	RUMC3AB2B7	RUMC3GB2B7	RUMF2AB2B7	RUMF3AB2B7	RPM12B7	RPM22B7	RPM32B7	RPM42B7	RPF2AB7	RPF2BB7	
RUMC2AB2E7	RUMC3AB2E7	RUMC3GB2E7	RUMF2AB2E7	RUMF3AB2E7	RPM12E7	RPM22E7	RPM32E7	RPM42E7	–	–	
RUMC2AB2F7	RUMC3AB2F7	RUMC3GB2F7	RUMF2AB2F7	RUMF3AB2F7	RPM12F7	RPM22F7	RPM32F7	RPM42F7	RPF2AF7	RPF2BF7	
–	–	–	–	–	–	–	–	–	–	–	
RUMC2AB2P7	RUMC3AB2P7	RUMC3GB2P7	RUMF2AB2P7	RUMF3AB2P7	RPM12P7	RPM22P7	RPM32P7	RPM42P7	RPF2AP7	RPF2BP7	
–	–	–	–	–	–	–	–	–	–	–	

For universal relays RUM					For power relays RPM				For power relays RPF	
RUZC2M	RUZC3M	RUZC3M	–	–	RPZF1	RPZF2	RPZF3	RPZF4	–	–
–	–	–	–	–	–	–	–	–	–	–
RUZSC2M	RUZSC3M	RUZSC3M	RUZSF3M	RUZSF3M	–	–	–	–	–	–
					1 and 2 poles		3 and 4 poles			
RUW240BD					RXM040W		RUW240BD			–
–					RXM041BN7		–			–
RUW241P7					RXM041FU7		RUW241P7			–
–					RXM021RB		–			–
–					RXM021BN		–			–
–					RXM021FP		–			–
RUW242B7					RUW242B7		–			–
RUW242P7					–		RUW242P7			–
RUW101MW					–		RUW101MW			–
–					–		–			–
RUZC200					RPZF1 (for 1 pole relays)		–			–
RUZL420					–		–			–
RUZS2					–		–			–
–					RPZ1DA	RXZE2DA	RPZ3DA	RPZ4DA	–	–
–					RPZ1FA	RXZE2FA	RPZ3FA	RPZ4FA	–	–

(4) 30 A with 13 mm space between relays; 25 A when relay mounting side by side

(5) Max 10 A operating

(6) With LED

# Electromechanical plug-in relays - Zelio Relay

## RSL relays mounted on sockets



<b>Type of relay</b>		Pre-assembled equipped with LED and protection circuit Sold in lots of 10	
<b>Contact characteristics</b>			
<b>Thermal current I<sub>th</sub> in A</b>		6	
<b>Number of contacts</b>		1 C/O	
<b>Contact material</b>		AgSnO <sub>2</sub>	
<b>Switching voltage, min/max</b>		12 / 300 V AC/DC	
<b>Switching capacity min/max (mA /VA)</b>		100 / 1500	
<b>Coil characteristics</b>			
<b>Average consumption, inrush</b>		0.17 W	
<b>permissible voltage variation</b>		-10 % / +15 %	
<b>Socket connexion</b>		Screw connector	Spring terminal
	<b>Socket supply voltage</b>	<b>Coil supply voltage</b>	
<b>References</b>	12 V AC/DC	12 V DC	RSL1PVJU
	24 V AC/DC	24 V DC	RSL1PVBU
	48 V AC/DC	48 V DC	RSL1PVEU
	110 V AC/DC	60 V DC	RSL1PVFU
	230 V AC/DC	60 V DC	RSL1PVPU
			RSL1PRJU
			RSL1PRBU
			RSL1PREU
			RSL1PRFU
			RSL1PRPU

## RSL relays



<b>Type of relay</b>		Relay for customer assembly Sold in lots of 10	
<b>Number of contacts</b>		1 C/O	
	<b>Coil supply voltage</b>		
<b>References</b>	12 V DC	RSL1AB4JD	
	24 V DC	RSL1AB4BD	
	48 V DC	RSL1AB4ED	
	60 V DC	RSL1AB4ND	

## Sockets



<b>Type of socket</b>		Sockets for customer assembly with LED and protection circuit Sold in lots of 10	
<b>Socket connection</b>		Screw connector	Spring terminal
	<b>Socket supply voltage</b>		
<b>References</b>	12 and 24 V AC/DC	RSLZVA1	RSLZRA1
	48 and 60 V AC/DC	RSLZVA2	RSLZRA2
	110 V AC/DC	RSLZVA3	RSLZRA3
	230 V AC/DC	RSLZVA4	RSLZRA4





## SSRP relays



Type of relay	Panel mounted without heat sink and thermal interface					
<b>Contact characteristics</b>						
Thermal current I <sub>th</sub> in A	10	25	50	75	90	125
Number of contacts	1 NO					
Type if switching	Zero voltage switching					
Output	SPST contact					
Connection	Screw connector					
Control voltage range	3...32 V DC			4...32 V DC		
Operating voltage	24...280 V AC			48...530 V AC	48...660 V AC	
References	SSRPCDS10A1	SSRPCDS25A1	SSRPCDS50A1	SSRPCDS75A2	SSRPCDS90A3	SSRPCDS125A3
Control voltage range	90...280 V AC					
Operating voltage	24...280 V AC			80...530 V AC	48...660 V AC	
References	SSRPP8S10A1	SSRPP8S25A1	SSRPP8S50A1	SSRPP8S75A2	SSRPP8S90A3	SSRPP8S125A3

## SSRD relays



Type of relay	Rail DIN mounted With integrated heat sink			
<b>Contact characteristics</b>				
Thermal current I <sub>th</sub> in A	10	20	30	45
Number of contacts	1 NO			
Type if switching	Zero voltage switching			
Output	SPST contact			
Connection	Screw connector			
Control voltage range	4...32 V DC			3...32 V DC
Operating voltage	24...280 V AC			
References	SSRDCDS10A1	SSRDCDS20A1	SSRDCDS30A1	SSRDCDS45A1
Control voltage range	90...280 V AC			90...140 V AC
Operating voltage	24...280 V AC			
References	SSRDP8S10A1	SSRDP8S20A1	SSRDP8S30A1	SSRDP8S45A1

## Accessories



Type of accessory	Heat sink	Thermal interface
For relay	SSRP	
References	SSRAH1	SSRAT1

# Control relays - TeSys D



Type of relay	Control relays for connection by screw clamp terminals	
<b>Contact characteristics</b>		
Number of contacts	5 NO	3 NO + 2NC
Current	10 A	10 A
Output voltage	Up to 690 V	Up to 690 V
Minimum switching capacity	17 V/5 mA	17 V/5 mA
Weight (kg)	0.580	0.580
References	<b>CAD 50**</b>	<b>CAD 32**</b>

## Standard control circuit voltages

### AC supply

Volts	24	48	110	230
-------	----	----	-----	-----

50/60 Hz	<b>B7</b>	<b>E7</b>	<b>F7</b>	<b>P7</b>
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### DC supply

Volts	24	48	110
-------	----	----	-----

U 0.75...1.25 Uc	<b>BD</b>	<b>ED</b>	<b>FD</b>
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### Low consumption

Volts	24	48	110
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U 0.7...1.25 Uc	<b>BL</b>	<b>EL</b>	<b>FL</b>
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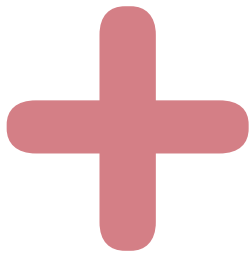


# Zelio Control - Panorama

Range	Control relays		
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Number of contacts	1 or 2 C/O	1 or 2 C/O ; 2 NO	1 or 2 C/O
Logic	Positive		
Mounting	Modular 17.5mm	Modular 35mm	Industrial 22.5mm
Phase control RM**T			
Phase Sequence/Phase Failure/Asymmetry	●		●
Phase Sequence/Phase Failure/Undervoltage	●		●
Ph. Sequence/Ph. Failure/Over and Undervoltage		●	
Ph. Sequence/Ph. Failure/Motor temperature		●	
Voltage control RM**U			
3 Ph.: Over&Undervoltage;Absence of neutral/phase		●	
1 Ph./DC: Over and Undervoltage (selfpowered)	●		
1 Ph./DC: Over and Undervoltage window mode	●		●
Single Ph. / DC: Over and Undervoltage		●	●
Current control RM**J			
Overcurrent (integrated current transformer)	●		
Overcurrent or undercurrent		●	●
Level control RM**L			
Empty or fill (resistive probe)		●	●
Empty or fill (discrete sensor)		●	
Solution RM**BA/HZ/S/A			
Pump / Frequency / Speed / Lift - Control		● ● ●	
References	RM17	RM35	RM4



A range of Control Relays **to prevent costly breakdowns** and alert on **abnormal** operating conditions, **to improve the lifetime of motors**.

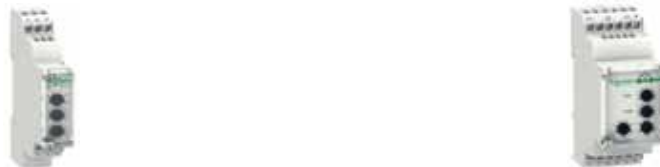
- **Safe:** main function is to avoid any warming-up or burn-out of the motor protected
- **Reliable & Productive:** improve the lifetime of motor, simple to configure and intelligent.
- **Efficient:** accuracy assured with microcontroller technology, true RMS and positive logic.

# Measurement and control relays - Zelio Control

## 3-phase monitoring relays



Function	presence of phase +phase sequence		+phase sequence, +regeneration +phase unbalance, +under/over voltage	
	Monitoring voltage range	208...480 V AC	208...440 V AC	208...480 V AC
Outputs	1 C/O	2 C/O	1 C/O	2 C/O
References	<b>RM17TG00</b>	<b>RM17TG20</b>	<b>RM17TE00</b>	<b>RM35TF30</b>



Function	presence of phase +under/over voltage		+presence of neutral +under/over voltage
	Monitoring voltage range	208...480 V AC	220...480 V AC
Outputs	1 C/O	2 C/O	2 C/O
References	<b>RM17UB310</b>	<b>RM35UB330</b>	<b>RM35UB3N30</b>

## Level / Speed monitoring relays



Function	Conductive liquid level monitoring	Non-conductive material level monitoring	Over/under Speed monitoring
Power supply	24...240 V AC/DC		
Monitoring range	0.25...5 K $\Omega$ 5...100 K $\Omega$ 0.05...1 M $\Omega$	Input of sensor : Contact / PNP / NPN	Interval between pulses: 0.05...0.5 s, 0.1...1 s, 0.5...5 s 1...10 s, 0.1...1 mn, 0.5...5 mn 1...10 mn
Output	2 C/O	1 C/O	1 C/O
Reference	<b>RM35LM33MW</b>	<b>RM35LV14MW</b>	<b>RM35S0MW</b>



## Current / Voltage /Frequency monitoring relays



Function	Voltage Monitoring Under or Over Voltage		
Power Supply	24...240 V AC/DC 50/60 Hz		
Monitoring range	0.05...0.5 V 0.3...3 V 0.5...5 V	1...10 V 5...50 V 10...100 V	15...150 V 30...300 V 60...600 V
Outputs	2 C/O	2 C/O	2 C/O
References	RM35UA11MW	RM35UA12MW	RM35UA13MW



Function	Voltage Monitoring Under or Over Voltage			Under and Over Voltage	
Power Supply	self powered			self powered	
Monitoring range	9...15 V DC	20...80 V AC/DC	65...260 V AC/DC	20...80 V AC/DC	65...260 V AC/DC
Outputs	1 C/O	1 C/O	1 C/O	1 C/O	1 C/O
References	RM17UAS14	RM17UAS16	RM17UAS15	RM17UBE16	RM17UBE15



Function	Current Monitoring over current		Frequency Monitoring Over or under frequency
Power supply	24...240 V AC/DC	24...240 V AC/DC 50/60 Hz	120...277 V AC 50/60 Hz
Monitoring range	2...20 A built-in CT	2...20 mA 10...100 mA 50...500 mA	0.15...1.5 A 0.5...5 A 1.5...15 A
Output	1 C/O	2 C/O	2 C/O
Reference	RM17JC00MW	RM35JA31MW	RM35HZ21FM

# Measurement and control relays - Zelio Control

## Lift / Pump / Motor monitoring relays



Function	Lift motor room temperature monitoring		
			+phase presence +phase sequence
Power supply	24...240 V AC/DC 50/60 Hz		
Monitoring range	input PT100 3 wires Under -1...+11°C Over +34...+46°C		208...480 V AC 50/60 Hz input PT100 3 wires Under -1...+11°C Over +34...+46°C
Output	1 C/O	2 NO	2 C/O
Reference	<b>RM35ATL0MW</b>	<b>RM35ATR5MW</b>	<b>RM35ATW5MW</b>



Function	Pump protection Current monitor +3 phase monitor	Motor Protection Winding Temperature monitor +3 phase monitor	
Power supply	self powered (single phase: 230 V AC 50/60 Hz)	24...240 V AC/DC	
Monitoring range	Current: 0.1...10 A Voltage (three phase): 208...480 V AC 50/60 Hz	Winding Temperature: PTC sensor Three phase voltage: 208...480 V AC 50/60 Hz	
Output	1 C/O	2 NO	2 NO
References	<b>RM35BA10</b>	<b>RM35TM50MW</b>	<b>RM35TM250MW</b>





## Control relays for 3-phase supplies



Function	Rotational direction and presence of phases					
		+ Undervoltage	+ Over and undervoltage	+ Asymmetry		
Adjustable time delay	without	without	0.1...10 s	0.1...10 s	fixed, 0.5 s	0.1...10 s
Supply voltage	220...440 V	380...440 V	400 V	380...440 V	380...440 V	380...440 V
Output	2 C/O	2 C/O	2 C/O	2 C/O	1 C/O	2 C/O
References	RM4TG20	RM4TU02	RM4TR34 (1)	RM4TR32 (2)	RM4TA02	RM4TA32

(1) Relay with fixed voltage thresholds.

(2) Relay with adjustable voltage thresholds.

## Current and voltage measurement relays

(3) Basic reference. To be completed with the letters indicating the required voltage, as shown below:

Voltage	V AC, 50/60 Hz	V DC
24...240 V	MW	MW
110...130 V	F	–
220...240 V	M	–
380...415 V	Q	–



Function	Detection of over and undercurrent					
	over and undercurrent		over and undercurrent			
Measuring range	3...30 mA	0.3...1.5 A	0.05 ...0.5 V	1...10 V	30...300 V	180...270 V
	10...100 mA	1...5 A	0.3 ...3 V	5...50 V	50...500 V	
	0.1...1 A	3...15 A	0.5...5 V	10...100 V		
Adjustable time delay	0.05...30 s	0.05...30 s	0.05...30 s	0.05...30 s	0.05...30 s	0.1...10 s
Output	2 C/O	2 C/O	2 C/O	2 C/O	2 C/O	2 C/O
References	RM4JA31** (3)	RM4JA32** (3)	RM4UA31** (3)	RM4UA32** (3)	RM4UA33** (3)	RM4UB35

## Liquid level control relays

(4) Basic reference. To be completed with the letters indicating the required voltage, as shown below:

Voltage	RM4-LG01	RM4-LA32	
	V AC, 50/60 Hz	V AC, 50/60 Hz	V DC
24 V	B	B	–
24...240 V	–	MW	MW
110...130 V	F	F	–
220...240 V	M	M	–
380...415 V	Q	Q	–



Control relays	Empty or fill	
Sensitivity scale	5 ... 100 kΩ	0.25 ... 5 kΩ 2.5 ... 50 kΩ 25 ... 500 kΩ
Time delay	without	adjustable, 0.1 to 10 s
Output	1 C/O	2 C/O
References	RM4LG01• (4)	RM4LA32**• (4)

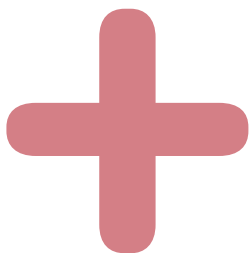
Liquid level control probe type	Measuring electrode and reference electrode	1 simple stainless steel electrode in PVC protective casing
Mounting	suspended	suspended
Maximum operating temperature	100°C	100°C
References	LA9RM201	RM79696043

# Zelio Control Reg - Panorama

## Range Temperature control relays



Inputs	Thermocouple PT 100 probe	Universal	
Sampling time	500ms	200ms	
Modbus Communication	Yes, except for some references		
Display			
7 segment LED, 4 digits	1	2, red and green, configurable	
Operating indicators	4	5	
Functions			
Hysteresis	Yes		
PID	Yes		
Auto-tuning	Yes		
Fuzzy logis	Yes		
Ramps	8 steps	16 steps	
Controlled start-up	No	Yes	
Operating mode	Automatic	Automatic and manual	
Alarm outputs	1 on REG 24PTP1ApHU only	2	5
References	REG24	REG48	REG96



- High quality product.
- Large set of functions to cover majority of the needs.
- Ergonomic design.
- Easy integration in the machine architecture (Modbus communication).



## REG temperature control relays



Type of relay			Size 24 x 48 mm - 1/32 DIN				
<b>Input type</b>			Thermocouple PT100 probe			Voltage/Current 1...5 V / 4...20 mA	
<b>Integrated functions</b>			Hysteresis, PID, auto-tuning, fuzzy logic, rampe 8 steps, automatic operating mode				
<b>Alarm output</b>			-		1	-	
<b>Communication</b>			ModBus		-	ModBus	ModBus
<b>Supply voltage</b>			100...240 V AC		24 V AC/DC	100...240 V AC	24 V AC/DC
<b>References</b>	<b>Number/Output type</b>	1/relay	REG24PTP1RHU	REG24PTP1ARHU	REG24PTP1RLU	REG24PUJ1RHU	REG24PUJ1RLU
		1/solid-state	REG24PTP1LHU	REG24PTP1ALHU	REG24PTP1LLU	REG24PUJ1LHU	REG24PUJ1LLU
		1/4-20 mA	REG24PTP1JHU	-	REG24PTP1JLU	-	-



Type of relay			Format 48 x 48 mm - 1/16 DIN				
<b>Input type</b>			Universal				
<b>Integrated functions</b>			Hysteresis, PID, auto-tuning, fuzzy logic, rampe 16 steps, automatic and manual operating mode				
<b>Alarm output</b>			2				
<b>Communication</b>			ModBus		-	ModBus	
<b>Supply voltage</b>			100...240 V AC		24 V AC/DC		
<b>References</b>	<b>Number/Output type</b>	1/relay	REG48PUN1RHU	REG48PUN1ARHU	REG48PUN1RLU	REG48PUN1RLU	
		2/relay	REG48PUN2RHU	-	REG48PUN2RLU	REG48PUN2RLU	
		1/solid-state	REG48PUN1LHU	REG48PUN1LHU	REG48PUN1LLU	REG48PUN1LLU	
		1 + 1 solid-state	REG48PUN2RLHU	-	REG48PUN2RLLU	REG48PUN2RLLU	
		1/4-20 mA	REG48PUN1JHU	-	REG48PUN1JLU	REG48PUN1JLU	
		1/solid-state + 1/4-20 mA	REG48PUN2LJHU	-	REG48PUN2LJLU	REG48PUN2LJLU	

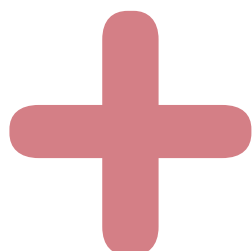


Type of relay			Size 96 x 48 mm - 1/8 DIN				
<b>Input type</b>			Universal				
<b>Integrated functions</b>			Hysteresis, PID, auto-tuning, fuzzy logic, rampe 16 steps, automatic and manual operating mode				
<b>Alarm output</b>			3				
<b>Communication</b>			ModBus		-	ModBus	
<b>Supply voltage</b>			100...240 V AC		24 V AC/DC		
<b>References</b>	<b>Number/Output type</b>	1/relay	REG96PUN1RHU	REG96PUN1ARHU	REG96PUN1RLU	REG96PUN1RLU	
		2/relay	REG96PUN2RHU	-	REG96PUN2RLU	REG96PUN2RLU	
		1/solid-state	REG96PUN1LHU	REG96PUN1LHU	REG96PUN1LLU	REG96PUN1LLU	
		1 + 1 solid-state	REG96PUN2RLHU	-	REG96PUN2RLLU	REG96PUN2RLLU	
		1/4-20 mA	REG96PUN1JHU	-	REG96PUN1JLU	REG96PUN1JLU	
		1/solid-state + 1/4-20 mA	REG96PUN2LJHU	-	REG96PUN2LJLU	REG96PUN2LJLU	

Function	Totalling			Hour	Multifunction	
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Display type	Mechanical			LCD	Mechanical	LCD	LCD or LED
Front panel (mm)	20x30	31x42	50x60	24x48	48x48	24x48	48x48
Number of digits	6	5/6	6	8	7	6/8	6
Max. frequency (Hz)	25	20	25	7500			5000
Supply voltage DC (V)	24	24/48	24	Battery	24	Battery	24
Supply voltage AC (V)		115		Battery	115/230	Battery	115/230
References	XBKT5 / XBKT6 XBKT7 / XBKT8			XBKT8	XBKH7	XBKH8	XBKP6



### Electromechanical counter

- Counting capability with or without reset to zero.
- The security of locking and power-down data saving.
- Clarity of display.
- Ease of maintenance.

### Electronic counter

- LCD or LED display.
- With contact or transistor counting inputs (PNP/NPN).
- With or without reset to zero.
- Choice of frequency from 30 to 7.5 kHz.
- High autonomy and low consumption power supplies.



## Multifunction counters



Display	Mechanical				LCD
Supply voltage	24 V DC				Battery
Number of digits displayed	5	6	6	8	8
Counting frequency	20 Hz	10 Hz	25 Hz	25 Hz	7.5 kHz
Type of zero reset	Manual	Without	Manual	Without	Manual (1)
Front face dimensions, W x H	41.5 x 31 mm	30 x 20 mm	60 x 50 mm	60 x 50 mm	48 x 24 mm
References	<b>XBKT50000U10M</b>	<b>XBKT60000U00M</b>	<b>XBKT60000U10M</b>	<b>XBKT80000U00M</b>	<b>XBKT81030U33E</b>

(1) With electrical interlocking.

## Time counters



Display	Mechanical		LCD
Supply voltage	24 V AC	230 V AC	Battery
Number of digits / display	7 (99,999.99 h)	7 (99,999.99 h)	8 (999,999.99 h)
Supply frequency	50 Hz	50 Hz	Mode: 1/100 hour
Type of zero reset	Without	Without	Manual (1)
Front face dimensions, W x H	48 x 48 mm	48 x 48 mm	48 x 24 mm
References	<b>XBKH70000004M</b>	<b>XBKH70000002M</b>	<b>XBKH81000033E</b>

## Totalisers



Display	LCD		LED			
Number of digits displayed	6					
Counting frequency	5 kHz					
Type of reset	Manual, electric and automation					
Front face dimensions, W x H	48 x 48 mm					
Preselection number	1	2	1	2		
References	Supply voltage	24 V DC	<b>XBKP61130G30E</b>	<b>XBKP61230G30E</b>	<b>XBKP62130G30E</b>	<b>XBKP62230G30E</b>
		115 V AC	<b>XBKP61130G31E</b>	<b>XBKP61230G31E</b>	–	–
		230 V AC	<b>XBKP61130G32E</b>	<b>XBKP61230G32E</b>	<b>XBKP62130G32E</b>	<b>XBKP62230G32E</b>

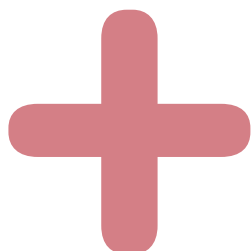
# Zelio Time - Panorama

Range

Back panel mounting



Format	Modular 17.5mm	Industrial 22.5mm	Plug-in 22mm
Timing range	1 s - 100 h	0.6 s - 300 h	0.1 s - 30h
Functions	30 possibilities: 4 functions (A,H,B,C) represent 90 % of use		
Number of functions	26	24	1
Output relay	●	●	●
Output solid state	●		
References	RE11	RE7	REXL



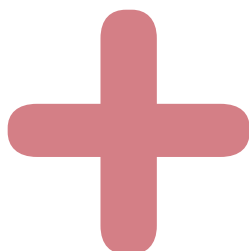
- Modular or Industrial or plug-in offers.
- Single or multifunction ranges.
- Wide power supply range.
- Time range: 0.1 s to 300 h.
- Relay or solid-state output.
- Settings protection by sealable plastic cover.



Range | Front panel mounting



Format	Plug-in 48 mm
Timing range	1.2s-300h
Functions	30 possibilities: 4 functions (A,H,B,C) represent 90 % of use
Number of functions	10
Output relay	●
Output solid state	
References	RE48



- Ergonomics.
- Readability: direct reading.
- Multifunction.
- Multivoltage: 24 to 240 V AC-DC.
- Wide time range: 0.02 to 300 h.

# Timing relays - Zelio Time

## Modular timers



Type of modular timer width 17.5 mm, relay output	On-delay	Multifunction		
External control	no	–	–	–
Supply voltage	24 V DC - 24 ...240 V AC	24 V DC - 24 ...240 V AC		12 ... 240 V AC/DC
Timing range	0.1 s...100 h	0.1 s...100 h	0.1 s...10 h	0.1 s...100 h
Output	1 C/O	1 C/O	1 C/O	1 C/O
References	<b>RE11RAMU</b>	<b>RE11RMMU (1)</b>	<b>RE11RMEMU (2)</b>	<b>RE11RMMW (1)</b>

(1) Multifunction: On-delay, Off-delay, Totaliser, Symmetrical flashing, Chronometer, Pulse on energisation, Pulse output, Timing after closing/opening of control contact.

(2) Multifunction: On-delay, Off-delay, Totaliser, Symmetrical flashing, Chronometer, Pulse on energisation.



Type of modular timer width 17.5 mm, relay output	Asymmetrical flashing	Pulse on energisation	Off delay	Timing on impulse
External control	–	–	–	–
Supply voltage	24 V DC - 24...240 V AC	24 V DC - 24...240 V AC	24 V DC - 24...240 V AC	24 V DC - 24...240 V AC
Timing range	0.1 s...100 h	0.1 s...100 h	0.1 s...100 h	0.1 s...100 h
Output	1 C/O	1 C/O	1 C/O	1 C/O
References	<b>RE11RLMU</b>	<b>RE11RHMU</b>	<b>RE11RCMU</b>	<b>RE11RBMU</b>



Type of modular timer width 17.5 mm, solid-state output	On-delay	Off-delay	Multifunction (3)
Supply voltage	24...240 V AC/DC	24...240 V AC	24...240 V AC
Timing range	0.1 s...100 h	0.1 s...100 h	0.1 s...100 h
Output	solid-state	solid-state	solid-state
References	<b>RE11LAMW</b>	<b>RE11LCBM</b>	<b>RE11LMBM</b>

(3) Multifunction: On-delay, Off-delay, Totaliser, Symmetrical flashing, Chronometer, Pulse on energisation, Pulse output, Timing after closing/opening of control contact.



Panel-mounted relays	Timer on-delay	Asymmetrical flasher	Multifunction (4)	Multifunction (5)
Power supply	24...240 V AC/DC			
Time range	0.02 s...300 h			
Output	2 relay 5 A			
Reference	<b>RE48ATM12MW</b>	<b>RE48ACV12MW</b>	<b>RE48AMH13MW (6)</b>	<b>RE48AML12MW</b>
Back panel mounting socket	<b>RUZC2M</b>	<b>RUZC3M</b>	<b>RUZC2M</b>	<b>RUZC3M</b>
Front panel mounting socket	<b>RE48ASOC8SOLD</b>	<b>RE48ASOC11SOLD</b>	<b>RE48ASOC8SOLD</b>	<b>RE48ASOC11SOLD</b>

(4) Timer on-delay / pulse on energization

(5) Timer on-delay / calibrator / timer off-delay / symmetrical flasher

(6) 1 selectable in instantaneous





## Industrial timers



Type of single function relay width 22.5 mm, relay output	On-delay		Off-delay		
	no	yes	no	yes	yes
<b>External control</b>					
<b>Supply voltage</b>	24 V AC/DC 110...240 V AC	24 V AC/DC 42...48 V AC/DC 110...240 V AC	24...240 V AC/DC	24 V AC/DC 42...48 V AC/DC 110...240 V AC	24 V AC/DC 42...48 V AC/DC 110...240 V AC
<b>Timing range</b>	0.05 s...300 h	0.05 s...300 h	0.05 s...10 mn	0.05 s...300 h	0.05 s...300 h
<b>Output</b>	1 C/O	2 C/O (1)	1 C/O	2 C/O (1)	1 C/O
<b>References</b>	<b>RE7TL11BU</b>	<b>RE7TP13BU</b>	<b>RE7RB11MW</b>	<b>RE7RL13BU</b>	<b>RE7RM11BU</b>

(1) 1 selectable in instantaneous mode.



Type of relay width 22.5 mm, relay output	Single function		Multifunction	
	Asymmetrical flashing	Pulse on energisation	6 functions (2)	8 functions (3)
<b>External control</b>	yes	no	–	–
<b>Supply voltage</b>	24 V AC/DC 42...48 V AC/DC 110...240 V AC	24 V AC/DC 110...240 V AC	24 V AC/DC 42...48 V AC/DC 110...240 V AC	24 V AC/DC 110...240 V AC
<b>Timing range</b>	0.05 s...300 h	0.05 s...300 h	0.05 s...300 h	0.05 s...300 h
<b>Output</b>	1 C/O	1 C/O	1 C/O	2 C/O (4)
<b>References</b>	<b>RE7CV11BU</b>	<b>RE7PE11BU</b>	<b>RE7ML11BU</b>	<b>RE7MY13BU</b>

(2) RE7ML11BU functions: On-delay, Off-delay, Pulse on energisation with start on energisation, Pulse on energisation with start on opening of remote control contact, Flashing with start during the OFF period, Flashing with start during the ON period.

(3) REMY13BU functions: On-delay, Off-delay, Pulse on energisation with start on energisation, Pulse on energisation with start on opening of remote control contact, Flashing with start during the OFF period, Flashing with start during the ON period, Star-delta starting with double On-delay timing, Star-delta starting with contact for switching to star connection.

(4) 1 selectable in instantaneous mode

## Miniature plug-in relays, relay output

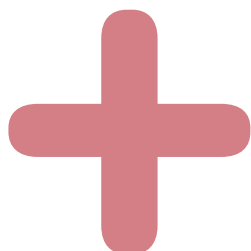


Functions			
<b>Timing ranges</b>	7 switchable ranges	0.1 s...1 s - 1 s...10 s - 0.1 min...1 min - 1 min...10 min - 0.1 h...1 h - 1 h...10 h - 10 h...100 h	
<b>Relay output</b>		4 timed C/O contacts	2 timed C/O contacts
<b>Rated current</b>		3 AC 5 A	AC 5 A
<b>Voltages</b>	24 V DC	<b>RE XL4TMBD</b>	<b>RE XL2TMBD</b>
	24 V AC 50/60 Hz	<b>RE XL4TMB7</b>	<b>RE XL2TMB7</b>
	120 V AC 50/60 Hz	<b>RE XL4TMF7</b>	<b>RE XL2TMF7</b>
	230 V AC 50/60 Hz	<b>RE XL4TMP7</b>	<b>RE XL2TMP7</b>
<b>Socket with mixed contact terminals</b>	With screw clamp	<b>RXZE2M114</b>	<b>RXZE2M114</b>
	With connector	<b>RXZE2M114M</b>	<b>RXZE2M114M</b>

## Range Analog interfaces



Input type	J (Fe-CuNi)	K (Ni-KrNi)	Pt100 – 2...4 wire	Voltage / Current
Input range	0 to 600°C	0 to 1200°C	-100 to 100 / 0 to 500°C	0 to 500V / 0 to 15A
Output signal	0 to 10V / 0 to 20mA		0 to 10V / 4 to 20mA	0 to 10V / ± 10V / 0 to 20mA
Mounting	DIN rail or direct panel mounting			
References	RMTJ	RMTK	RMPT	RMC



- Ease of installation with pre-calibration of input and outputs.
- Reliability of repetition of output signal as a function of input signal.
- Outputs protected against polarity inversion, short circuit and overvoltage.
- Loop breakdown detection.
- Sealable protective cover.



## Universal Thermocouple



Type	Thermocouple				
Temperature range	0...150°C 32...302°F	0...300°C 32...572°F	0...600°C 32...1112°F	0...600°C 32...1112°F	0...1200°C 32...2192°F
Output range	0...10 V / 0...20 mA - 4...20 mA Switchable				
Dimensions H x W x D	80 x 22.5 x 80 mm				
Voltage	24 V DC - Non isolated				
References	<b>RMTJ40BD</b>	<b>RMTJ60BD</b>	<b>RMTJ80BD</b>	<b>RMTK80BD</b>	<b>RMTK90BD</b>

## Universal PT 100



Type	PT 100				
Temperature range	-40...40°C -40...104°F	-100...100°C -148...212°F	0...100°C 32...212°F	0...250°C 32...482°F	0...500°C 32...932°F
Output range	0...10 V / 0...20 mA - 4...20 mA Switchable				
Dimensions H x W x D	80 x 22.5 x 80 mm				
Voltage	24 V DC - Non isolated				
References	<b>RMPT10BD</b>	<b>RMPT20BD</b>	<b>RMPT30BD</b>	<b>RMPT50BD</b>	<b>RMPT70BD</b>

# Analog interfaces - Zelio Analog

## Optimum PT 100



Type	PT 100				
Temperature range	-40...40°C	-100...100°C	0...100°C	0...250°C	0...500°C
	-40...104°F	-148...212°F	32...212°F	32...482°F	32...932°F
Output range	0...10 V				
Dimensions H x W x D	80 x 22.5 x 80 mm				
Voltage	24 V DC - Non isolated				
References	RMPT13BD	RMPT23BD	RMPT33BD	RMPT53BD	RMPT73BD

## Universal Analog Converter

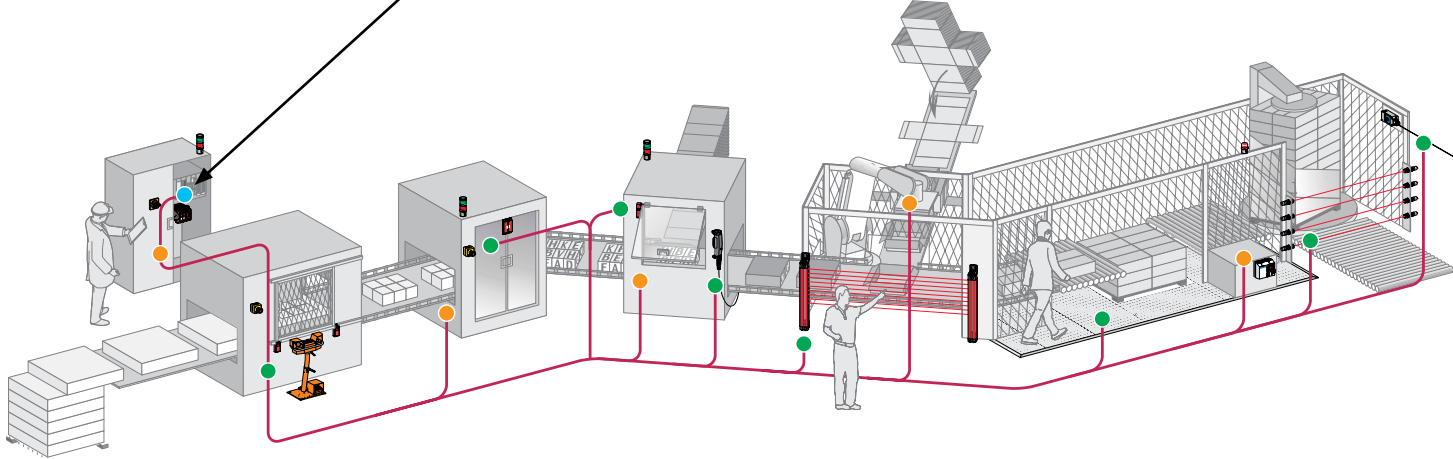
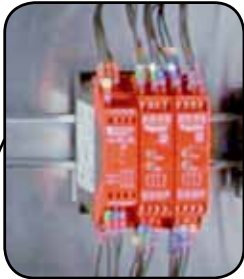
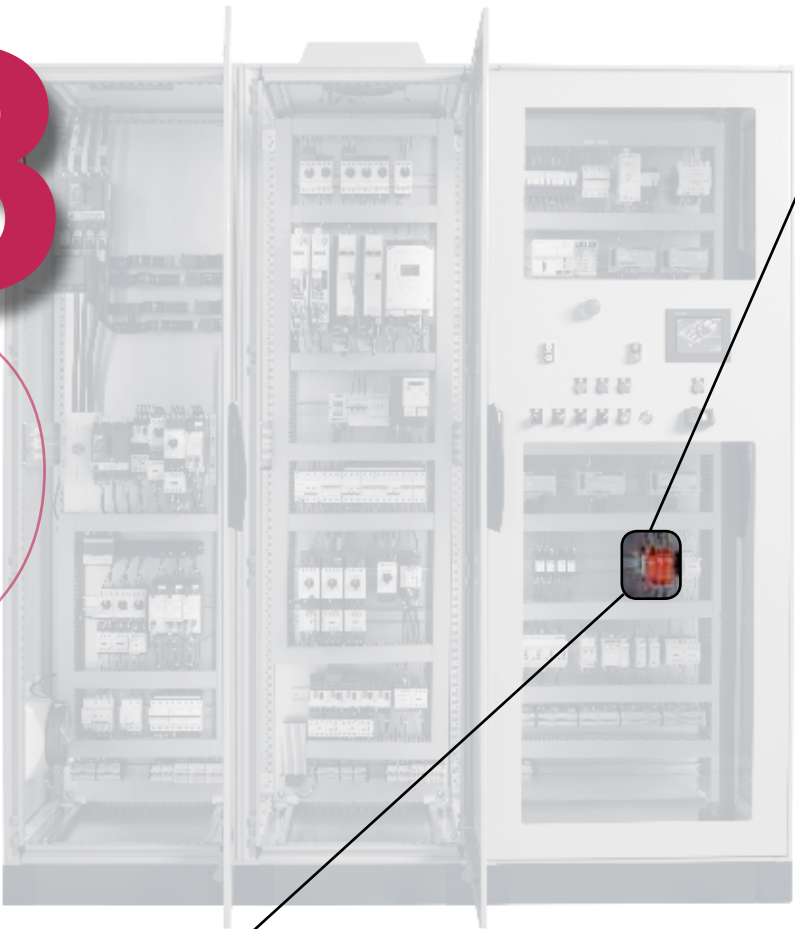


Type	Analog Converter			
Input range	0...10 V or 4...20 mA	0...10 V / -10...+10 V 0...20 mA 4...20 mA	0...50 V / 0...300 V 0...500 V	0...1.5 A / 0...5 A 0...15 A
	Output range	0...10 V or 4...20 mA	0...10 V / -10...+10 V 0...20 mA 4...20 mA Switchable	0...10 V 0...20 mA 4...20 mA Switchable
Dimensions H x W x D	80 x 22.5 x 80 mm			80 x 45 x 80 mm
Voltage	24 V DC - Non isolated	24 V DC - Isolated	24 V DC - Isolated	24 V DC - Isolated
References	RMCN22BD	RMCL55BD	RMCV60BD	RMCA61BD



# Machine safety

8



### Preventa

- Acquire the information.
- Monitor and processing.
- Stop the machine.



Safety relays



Safety Controller



Safety PLCs



As-i safety at work



## Contents

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- Machine safety - Presentation p. 9/2
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In addition to moral obligation and economic consequences, the law requires that machinery is safe in the interests of accident prevention.

Preventa offers an extensive range of safety products, compliant with international standards, designed to provide the most comprehensive protection for personnel and equipment.



#### New machines - the Machinery Directive

The Machinery Directive 98/37/EC is to compel manufacturers to guarantee a minimum safety level for machinery and equipment sold within the European Union.

From 29 December 2009, the new European Machinery Directive 2006/42/EC will be effective. Machines have to comply with the Essential Health and Safety Requirements (EHSRs) listed in Annex I of the Directive, thus setting a common minimum level of protection across the EEA (European Economic Area).





## Emergency stops and limit switches



<b>Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)</b>		<b>PL e / Cat. 4, SILCL 3</b>		
<b>Number of circuits</b>	Safety	2 x 2N/O + 6 solid-state		2 x 3N/O per function
	Additional	-		3 solid-state
<b>Display (number of LEDs)</b>		30		12
<b>Width of housing</b>		74 mm		45 mm
<b>Communication interface</b>		Modbus	Modbus, CANopen	Modbus, Profibus DP

Universal solutions: safety controllers (for monitoring several safety functions simultaneously)

<b>Supply voltage</b>	24 V DC	<b>XPSMC32Z</b> (1) (2)	<b>XPSMC32ZC</b> (1) (2)	<b>XPSMC32ZP</b> (1) (2)	<b>XPSMP11123P</b> (3)
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## Coded magnetic switches / enabling switch



<b>Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)</b>		<b>PL e / Cat. 4, SILCL 3</b>		
<b>For monitoring</b>		magnetic switches and enabling switch		
<b>Number of circuits</b>	Safety	2 x 2N/O + 6 solid-state		2 x 3N/O per function
	Additional	-		3 solid-state
<b>Display (number of LEDs)</b>		30		12
<b>Width of housing</b>		74 mm		45 mm
<b>Communication interface</b>		Modbus	Modbus, CANopen	Modbus, Profibus DP

Universal solutions: safety controllers (for monitoring several safety functions simultaneously)

<b>Supply voltage</b>	24 V DC	<b>XPSMC32Z</b> (1)(2)	<b>XPSMC32ZC</b> (1)(2)	<b>XPSMC32ZP</b> (1)(2)	<b>XPSMP11123P</b> (3)
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## Safety mats and edging



<b>Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)</b>		<b>PL d / Cat. 3, SILCL 2</b>		
<b>Number of circuits</b>	Safety	2 x 2N/O + 6 solid-state		2 x 3N/O per function
	Additional	-		3 solid-state
<b>Display (number of LEDs)</b>		30		12
<b>Width of housing</b>		74 mm		45 mm
<b>Communication interface</b>		Modbus	Modbus, CANopen	Modbus, Profibus DP

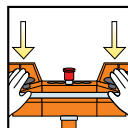
Universal solutions: safety controllers (for monitoring several safety functions simultaneously)

<b>Supply voltage</b>	24 V DC	<b>XPSMC32Z</b> (1)(2)	<b>XPSMC32ZC</b> (1)(2)	<b>XPSMC32ZP</b> (1)(2)	<b>XPSMP11123P</b> (3)
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- (1) Version with 32 inputs. For version with 16 inputs, replace 32 in the reference by 16 (example: XPSMC32Z becomes XPSMC16Z).
- (2) Configuration software XPSMCWIN (complete version) or SSVXPSMCWINUP (update version), connecting cable, adaptor and set of screw terminal plug-in connectors XPSMCTS16 and XPSMCTS32 or set of spring clip terminal plug-in connectors XPSMCTC16 and XPSMCTC32 to be ordered separately.
- (3) For fixed connector version, delete the letter P from the end of the reference (example: XPSMP11123P becomes XPSMP11123).

# Safety controllers for monitoring - Preventa automation

## Two-hand control

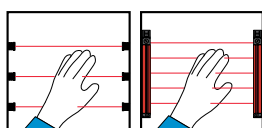


<b>Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)</b>		<b>PL e / Cat. 4, SILCL 3</b>		
<b>Number of circuits</b>	Safety	2 x 2N/O + 6 solid-state		
	Additional	-		
<b>Display (number of LEDs)</b>		30		
<b>Width of housing</b>		74 mm		
<b>Communication interface</b>		Modbus	Modbus, CANopen	Modbus, Profibus DP

Universal solutions: safety controllers (for monitoring several safety functions simultaneously)

<b>Supply voltage</b>	24 V DC	<b>XPSMC32Z (1)(2)</b>	<b>XPSMC32ZC (1)(2)</b>	<b>XPSMC32ZP (1)(2)</b>
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## Light curtains



<b>Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)</b>		<b>PL e / Cat. 4, SILCL 3</b>			<b>2 light curtains monitoring max.</b>
<b>Number of circuits</b>	Safety	2 x 2N/O + 6 solid-state	2x3N/O per function	6 PNP solid-state	
	Additional	-	3 solid-state	1 PNP + 1 NPN	
<b>Display (number of LEDs)</b>		30	12	14 + double display units	
<b>Width of housing</b>		74 mm	45 mm	100 mm	
<b>Integral Muting function</b>		Yes	No	Yes	
<b>Communication interface</b>		Modbus	Modbus, CANopen	Modbus, Profibus DP	-

Universal solutions: safety controllers (for monitoring several safety functions simultaneously)

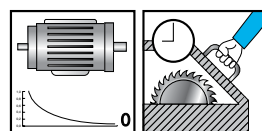
<b>Supply voltage</b>	24 V DC	<b>XPSMC32Z(1)(2)</b>	<b>XPSMC32ZC(1)(2)</b>	<b>XPSMC32ZP(1)(2)</b>	<b>XPSMP11123P (3)</b>	<b>XPSLCM1150 (4)</b>
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(1) Version with 32 inputs, for version with 16 inputs, replace 32 in the reference by 16 (example: XPSMC32Z becomes XPSMC16Z).

(3) For version with non removable terminal block, delete the letter P from the end of the reference (example: XPSMP11123P becomes XPSMP11123).

(4) Removable terminal blocks

## Zero speed, time delay



<b>Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)</b>		<b>PL e / Cat. 4, SILCL 3</b>		
<b>For monitoring</b>		Motor zero speed condition		
<b>Number of circuits</b>	Safety	2 x 2N/O + 6 solid-state		
	Additional	-		
<b>Display (number of LEDs)</b>		30		
<b>Width of housing</b>		74 mm		
<b>Communication interface</b>		Modbus	Modbus, CANopen	Modbus, Profibus DP

Universal solutions: safety controllers (for monitoring several safety functions simultaneously)

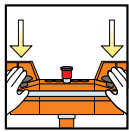
<b>Supply voltage</b>	24 V DC	<b>XPSMC32Z (5) (2)</b>	<b>XPSMC32ZC (5) (2)</b>	<b>XPSMC32ZP (5) (2)</b>
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(2) Configuration software XPSMCWIN (complete version) or SSVXPSMCWINUP (update version), connecting cable, adaptor and set of screw terminal plug-in connectors XPSMCTS16 and XPSMCTS32 or set of spring clip terminal plug-in connectors XPSMCTC16 and XPSMCTC32 to be ordered separately.

(5) Plug-in connector version only.



## Two-hand control



New



Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)		PL c / Cat. 1 (type IIIA to EN 574/ISO 13851)	PL e / Cat. 4, SILCL 3 (type IIIC to EN 574/ISO 13851)	
Number of circuits	Safety	1N/O	2N/O	2N/O
	Additional	1N/C	1N/C	2 solid-state
Display (number of LEDs)		2	3	3
Width of housing		22.5 mm	22.5 mm	22.5 mm

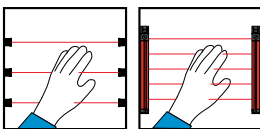
### Optimum solutions: safety modules (for monitoring 1 safety function)

Supply voltage	24 V DC	–	–	XPSBF1132P (1)
	24 V AC/DC	XPSBA5120	XPSBCE3110P (2)	–

(1) For version with non removable terminal block, delete the letter P from the end of the reference (example: XPSBF1132P becomes XPSBF1132).

(2) For version with cage clamps removable terminal block, change the letter P for C from the end of the reference (example: XPSBCE3110P becomes XPSBCE3110C)

## Light curtains



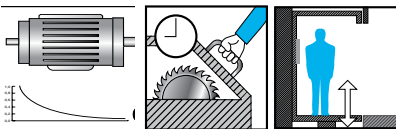
Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)		PL c / Cat. 2, SILCL 1	PL e / Cat. 4, SILCL 3		
Number of circuits	Safety	2N/O	3N/O	3N/O	7N/O
	Additional	4 solid-state	–	1N/C + 4 solid-state	1N/C + 4 solid-state
Display (number of LEDs)		4	3	4	4
Width of housing		45 mm	22.5 mm	45 mm	90 mm
Integral Muting function		Yes	No	No	No

### Optimum solutions: safety modules (for monitoring 1 safety function)

Supply voltage	24 V DC	XPSCM1144P (1)	–	–	–
	24 V AC/DC	–	XPSAFL5130P (1)	XPSAK311144P (1)	XPSAR311144P (1)

(1) For version with non removable terminal block, delete the letter P from the end of the reference (example: XPSCM1144P becomes XPSCM1144).

## Zero speed, time delay and lifts



New



Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)		PL d / Cat. 3, SILCL 2			PL e / Cat. 4, SILCL 3
For monitoring		Motor zero speed condition	Safety time delay		Lifts
Number of circuits	Safety	1N/O + 1N/C	1N/O time delay	1N/O pulse	2N/O
	Additional	2 solid-state	2N/C + 2 solid-state	2N/C + 2 solid-state	2 solid-state
Display (number of LEDs)		4	4	4	4
Width of housing		45 mm	45 mm	45 mm	22.5 mm

### Optimum solutions: safety modules (for monitoring 1 safety function)

Supply voltage	24 V DC	XPSVNE1142P (1)	–	–	–
	24 V AC/DC	–	XPSTSA5142P (2)	XPSTSW5142P (2)	XPSEDA5142

(1) Motor frequency ≤ 60 Hz. For frequencies ≥ 60 Hz, please refer to the "Safety solution" catalogue.

(2) Removable terminal block version only.

# Programmable controllers



## Modicon

From the simplest machine to the smartest industrial process, Modicon automation platforms improve performance, quality and profitability for your installations. Conforming to international standards and simple to set up, the Modicon range integrates seamlessly into any control system.





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# Smart relays - Zelio Logic

## Compact SR2



Compact smart relays	With display, AC power supply						
	24 V AC		48 V AC	100...240 V AC			
Supply voltage	24 V AC		48 V AC	100...240 V AC			
Number of inputs/outputs	12	20	20	10	12	20	20
Number of inputs	Discrete inputs						
	8	12	12	6	8	12	12
Number of outputs	including 0-10 V analogue inputs						
	4 relay	8 relay	8 relay	4 relay	4 relay	8 relay	8 relay
Dimensions, W x D x H (mm)	71.2x59.5x107.6		124.6x59.5x107.6	71.2x59.5x107.6		124.6x59.5x107.6	
Clock	yes	yes	no	no	yes	no	yes
References	SR2B121B	SR2B201B	SR2A201E	SR2A101FU (1)	SR2B121FU	SR2A201FU (1)	SR2B201FU

(1) Programming on smart relay in LADDER language only



Compact smart relays	With display, DC power supply						
	12 V DC		24 V DC				
Supply voltage	12 V DC		24 V DC				
Number of inputs/outputs	12	20	10	12	20	20	
Number of inputs	Discrete inputs						
	8	12	6	8	12	12	
Number of outputs	including 0-10 V analogue inputs						
	4	6	-	4	2	6	
Number of outputs	4 relay		8 relay	4 relay	4	8 relay	8
Dimensions, W x D x H (mm)	71.2x59.5x107.6		124.6x59.5x107.6	71.2x59.5x107.6		124.6x59.5x107.6	
Clock	yes	yes	no	yes	no	yes	
References	SR2B121JD	SR2B201JD	SR2A101BD (1)	SR2B12●BD (2)	SR2A201BD (1)	SR2B20●BD (2)	

(1) Programming on smart relay in LADDER language only

(2) Replace the ● by number 1 to order a smart relay with **relay output** or by 2 for a smart relay with **transistor output** (Example: SR2B121BD)



Compact smart relays	Without display and without buttons						
	100...240 V AC			24 V DC			
Supply voltage	100...240 V AC			24 V DC			
Number of discrete inputs/outputs	10	12	20	10	12	20	
Number of inputs	Discrete inputs						
	6	8	12	6	8	12	
Number of outputs	including 0-10 V analogue inputs						
	-	-	-	-	4	6	
Number of outputs	4 relay		4 relay	8 relay	4 relay	4 relay	8 relay
Dimensions, W x D x H (mm)	71.2x59.5x107.6		124.6x59.5x107.6	71.2x59.5x107.6		124.6x59.5x107.6	
Clock	no	yes	yes	no	yes	yes	
References	SR2D101FU (1)	SR2E121FU	SR2E201FU	SR2D101BD (1)	SR2E121BD (3)	SR2E201BD (3)	

(1) Programming on smart relay in LADDER language only

(3) To order a smart relay for a **24 V AC supply** (no analogue inputs), delete the letter **D** from the end of the reference (**SR2E121B** and **SR2E201B**)



## Modular, SR3



Modular smart relays*	With display						
	24 V AC		100...240 V AC		12 V DC	24 V DC	
<b>Supply voltage</b>	24 V AC		100...240 V AC		12 V DC	24 V DC	
<b>Number of inputs/outputs</b>	10	26	10	26	26	10	26
<b>Number of inputs</b>	Discrete inputs		Discrete inputs		Discrete inputs	Discrete inputs	
	6	16	6	16	6	6	16
	including 0-10 V analogue inputs		including 0-10 V analogue inputs		including 0-10 V analogue inputs	including 0-10 V analogue inputs	
	–	–	–	–	6	4	6
<b>Number of outputs</b>	4 relay	10 relay	4 relay	10 relay	10 relay	4	10
<b>Dimensions, W x D x H (mm)</b>	71.2x59.5x107.6	124.6x59.5x107.6	71.2x59.5x107.6	124.6x59.5x107.6	124.6x59.5x107.6	71.2x59.5x107.6	124.6x59.5x107.6
<b>Clock</b>	yes	yes	yes	yes	yes	yes	yes
<b>References</b>	SR3B101B	SR3B261B	SR3B101FU	SR3B261FU	SR3B261JD	SR3B10●BD (1)	SR3B26●BD(1)

\*The modular base can be fitted with one I/O extension module. The 24 V DC modular base can be fitted with one communication module and/or one I/O extension module  
 (1) Replace the ● by number 1 to order a smart relay with **relay output** (SR3B101BD) or by 2 for a smart relay with **transistor output** (SR3B102BD)



Extension modules for Zelio Logic SR3B●●●●● (2)	Communication		Discrete Inputs/Outputs			Analogue Inputs/Outputs	
	Modbus	Ethernet					
<b>Network</b>	–	–	–	–	–	–	
<b>Number of inputs/outputs</b>	–	–	6	10	14	4	
<b>Number of inputs</b>	Discrete		4	6	8	–	
	Analogue (0...10 V, 0...20 mA, PT100)		–	–	–	2 (1 PT100 max.)	
<b>Number of outputs</b>	Relay		2 relay	4 relay	6 relay	–	
	Analogue (0...10 V)		–	–	–	2	
<b>Dimensions, W x D x H (mm)</b>	35.5x59.5x107.6		35.5x59.5x107.6	72x59.5x107.6	–	35.5x59.5x107.6	
<b>References</b>	24 V AC		SR3XT61B	SR3XT101B	SR3XT141B	–	
	100...240 V AC		SR3XT61FU	SR3XT101FU	SR3XT141FU	–	
	12 V DC		SR3XT61JD	SR3XT101JD	SR3XT141JD	–	
	24 V DC		SR3MBU01BD	SR3NET01BD	SR3XT61BD	SR3XT101BD	SR3XT141BD
						SR3XT43BD	

(2) The power supply of the extension modules is provided via the Zelio Logic modular relays

## Zelio Soft 2 software and programming tools



Zelio Soft 2 software, connecting cables, wireless connecting, memory	Multilingual programming software	Connecting cables			Wireless connection	Back-up memory
		Serial PC/Smart relay	USB PC/Smart relay	XBT N/R Interface	Bluetooth interface	EEPROM
<b>Description</b>	CD ROM PC (Windows 98, NT, 2000, XP, Vista available 1 <sup>st</sup> quarter 2010) (3)	Serial PC/Smart relay	USB PC/Smart relay	XBT N/R Interface	Bluetooth interface	EEPROM
<b>References</b>	SR2SFT01	SR2CBL01	SR2USB01	SR2CBL08	SR2BTC01	SR2MEM02

(3) CD-ROM including Zelio Soft 2 programming software, an application library, a self-training manual, installation instructions and a user's manual

## Communication interface for SR2/SR3

Interface, modems, Zelio Logic Alarm software	Communication interface	Modems (4)		Alarm management software
		12...24 V DC	12...24 V DC	
<b>Supply voltage</b>	12...24 V DC	12...24 V DC	12...24 V DC	–
<b>Description</b>	–	Analogue modem	GSM modem	PC CD-ROM (Windows 98, NT, 2000, XP)
<b>Dimensions, W x D x H (mm)</b>	72x59.5x107.6	120.7x35x80.5	111x 25.5x54.5	–
<b>References</b>	SR2COM01	SR2MOD01	SR2MOD02	SR2SFT02

(4) Must be used in conjunction with communication interface SR2COM01

# Programmable controllers - Twido

## Bases



Type de base	Compact Non expandable bases		Expandable bases		
Number of digital i/O	10	16	24	40	
Number of digital inputs (24 V DC)	6 sink/source	9 sink/source	14 sink/source	24 sink/source	
Number of digital outputs	4 relay (2 A)	7 relay (2 A)	10 relay (2 A)	14 relay (2 A), 2 solid-state (1 A)	
Type of connection	Screw terminals (non removable)				
Possible I/O expansion modules	–	–	4	7	
Counting	3 x 5 kHz, 1 x 20 kHz				
PWM positioning	–	–	–	2 x 7 kHz	
Serial ports	1 x RS 485	1 x RS 485; option: 1 x RS 232C or RS 485			
Protocol	Modbus master/slave, ASCII, I/O relocation				
Ethernet port	–	–	–	RJ45 Ethernet	
Dimensions, W x D x H	80 x 70 x 90 mm	80 x 70 x 90 mm	95 x 70 x 90 mm	157 x 70 x 90 mm	
References	Supply voltage 100...240 V AC	<b>TWDLCAA10DRF</b>	<b>TWDLCAA16DRF</b>	<b>TWDLCAA24DRF</b>	<b>TWDLCAE40DRF</b> (1)
	Supply voltage 19.2...30 V DC	<b>TWDLCAA10DRF</b>	<b>TWDLCAA16DRF</b>	<b>TWDLCAA24DRF</b>	<b>TWDLCAE40DRF</b> (1)
	Real-time clock (option)	<b>TWDXCPRTC</b>			
	Display unit (option)	<b>TWDXCPODC</b>			
	Memory cartridge (option)	<b>TWDXCPMFK32</b> (3)			<b>TWDXCPMFK64</b> (4)

(1) 40 I/O version without Ethernet also available: TWDLCAA40DRF and TWDLCAE40DRF

## Modular bases



Type of base	Modular		
Number of digital i/O	20		40
Number of digital inputs (24 V DC)	12 sink/source	12 sink/source	24 sink/source
Number of digital outputs	8 transistor, source (0.3 A)	6 relay (2 A) & 2 trans., source (0.3 A)	16 transistor, source (0.3 A)
Type of connection	HE10 connector	Removable screw terminals	HE10 connector
Possible I/O expansion modules	4	7	7
Supply voltage	24 V DC		
Counting	2 x 5 kHz, 2 x 20 kHz		
PLS/PWM positioning	2 x 7 kHz		
Serial ports	1 x RS 485; option: 1 x RS 232C or RS 485		
Protocol	Modbus master/slave, ASCII, I/O relocation		
Dimensions, W x D x H	35.4 x 70 x 90 mm	47.5 x 70 x 90 mm	47.5 x 70 x 90 mm
References	<b>TWDLMDA20DTK</b> (2)	<b>TWDLMDA20DRT</b>	<b>TWDLMDA40DTK</b> (2)
	Real-time clock (option)	<b>TWDXCPRTC</b>	
	Display unit (option)	<b>TWDXCPODM</b>	
	Memory cartridge (option)	<b>TWDXCPMFK32</b> (3)	<b>TWDXCPMFK64</b> (4)

(2) Sink version transistor outputs also available: TWDLMDA20DUK and TWDLMDA40DUK

(3) Application backup, program transfer

(4) Memory expansion, application backup, program transfer

## I/O expansion modules

For I/O expansion modules, please consult Modicon TM2 page 2/21



## Communication modules



Type of module	Serial interface			Serial interface adaptor		
	Physical layer (non isolated)	RS 232C	RS 485		RS 232C	RS 485
Connection	Mini-DIN connector		Screw terminals	Mini-DIN connector		Screw terminals
Protocol	Modbus master/slave, ASCII, I/O relocation					
Twido base compatibility	Modular base TWDLMDA			Compact base TWDLCAA16/24DRF Modular base via integrated display module TDXCPODM		
References	TWNOZ232D	TWNOZ485D	TWNOZ485T	TWLNAC232D	TWLNAC485D	TWLNAC485T



Type of module	Modem for Twido	CANopen expansion	Ethernet interface	Modbus isolation module	Modbus junction module
Number of modules	–	1	1	–	–
Connection	–	SUB-D9	RJ45	RJ45	RJ45
Twido base compatibility	–	20, 24 or 40 I/O base	All models	All models	All models
References	SR2MOD03	TWDCO1M	499TWD01100	TWDXCAISO	TWDXCAT3RJ

(1) 2 modules max., 62 digital slaves max., 7 analogue slaves max., AS-Interface/M3, V 2.11 (profile S.7.4 not supported)

## Programming software



Software, connecting cables, interfaces	TwidoSuite software EN/FR	Connecting cables		Bluetooth® USB adaptor	Bluetooth® gateway
Application	PC with Windows XP or Vista	Twido/PC USB port	Twido/PC serial port	For PC not fitted with Bluetooth®	For Twido controller
References	TWDBTFU10M	TSXCUSB485 TSXCRJMD25	TSXPCX1031	VW3A8115	VW3A8114

## Bases



SoMachine



Type of base	Compact			
Number of digital I/O	24 (removable battery to be ordered separately)			
Supply voltage	24 V DC	100-240 V AC	24 V DC	100-240 V AC
Number of digital inputs (24 V DC)	14, 8 of which can be assigned as fast inputs			
Number of digital outputs	10 transistor, 4 of which can be configured as fast outputs	4 transistor + 6 relays	10 transistor, 4 of which can be configured as fast outputs	4 transistor + 6 relays
Type of connection	Removable screw terminal blocks (as standard) Removable spring terminal blocks (as option)			
Possible I/O expansion modules	7 modules: digital, analog, high-speed counter (3 max.), master AS-Interface (2 max.)			
High-speed counting (32 bits capacity)	8 x 100 kHz simple channels, 4 x 100 kHz simple channels + 1 x 100 kHz advanced channels, or 2 x 100 kHz advanced channels			
Motion or reflex functions	2 advanced channels, PWM: 20 kHz, PTO: 100 kHz		4 advanced channels HSC reflex functions: 100 kHz	
PID Regulation	Yes			
Serial Ports	1 RS 232/485 (SL1) serial link		1 RS232/485 (SL1) serial link, 1 RS485 (SL2) serial link	
CANopen	-		1 master for 16 slaves max.	
Dimensions, W x D x H	157 x 86 x 118 mm			
References	TM238LDD24DT	TM238LDA24DR	TM238LFDC24DT	TM238LFAC24DR

## High-speed counting modules



Type of module	High-speed counting	
Modularity	2 channels	
Maximum number of modules per base	3	
Number of sensor inputs	6 per channel	
Number of actuator outputs	2 per channel	
Capacity	31 bits + sign	
Frequency on inputs	60 kHz	
Connection	1 screw terminal per channel	1 spring terminal per channel
References	TM200HSC206DT	TM200HSC206DF

## Communication module and accessory



Designation	Ethernet interface	Program loader
Description	Ethernet Modbus/TCP	Kit: program loader, cable (USB/mini-B USB), 2 batteries (type AA/LR6)
Maximum number of modules per base	1	-
References	499TWD01100	TM2USBABDEV1

(1) Requires the use of a USB memory stick (not supplied)

## For Modicon M238, Magelis XBTGC and Twido



Type of module		Analog inputs						
<b>Number of inputs</b>		2 I	2 I	4 I	8 I	8 I	8 I	8 I
<b>Connection</b>		Removable screw terminals						
<b>Inputs</b>	Range	Thermocouples type K, J, T	0...10 V (1) 4...20 mA (2)	0...10 V (1) 0...20 mA (2) θ°C	0...10 V (1) 0...20 mA (2)	PTC/NTC	Thermo probe Pt100 / Pt1000 -200...+ 600°C	
	Resolution	12 bits (4096 points)			10 bits (1024 points)		12 bits (4096 points)	
<b>Supply voltage</b>		24 V DC						
<b>Dimensions, W x D x H</b>		23.5 x 70 x 90 mm					39.1x70x90 mm	
<b>References</b>		<b>TM2AMI2LT</b>	<b>TM2AMI2HT</b>	<b>TM2AMI4LT</b>	<b>TM2AMI8HT</b>	<b>TM2ARI8HT</b>	<b>TM2ARI8LT</b>	<b>TM2ARI8LRJ</b>

(1) Non differential  
(2) Differential



Type of module		Analog Outputs, Inputs/Outputs (mixed)				
<b>Number of inputs and/or outputs</b>		1 O	2 O	2 I / 1 O	2 I / 1 O	4 I / 2 O
<b>Connection</b>		Removable screw terminals				
<b>Inputs</b>	Range	–	–	0...10 V (1) 4...20 mA (2)	Thermocouple type K, J & T 3-wire Pt 100 thermal probe	0...10 V (1) 4...20 mA (2)
	Resolution	–	–	12 bits (4096 points)	12 bits (4096 points)	12 bits (4096 points)
<b>Outputs</b>	Range	0...10 V (1) 4...20 mA (2)	± 10 V	0...10 V (1) 4...20 mA (2)	0...10 V (1) 4...20 mA (2)	0...10 V (1) 4...20 mA (2)
	Resolution	12 bits	11 bits + sign	12 bits	12 bits	12 bits
<b>Supply voltage</b>		24 V DC				
<b>Dimensions, W X D x H</b>		23.5 x 70 x 90 mm				
<b>References</b>		<b>TM2AMO1HT</b>	<b>TM2AVO2HT</b>	<b>TM2AMM3HT</b>	<b>TM2ALM3LT</b>	<b>TM2AMM6HT</b>

(1) Non differential  
(2) Differential



Type of module		Digital Inputs/Outputs						
<b>Number of inputs and/or outputs</b>		8	16	16	32	4 I / 4 O	16 I / 8 O	
<b>Connection</b>		Removable screw terminals		HE10 connectors		Removable screw terminals	Spring terminals (non removable)	
<b>References</b>	Inputs	24 V DC sink	<b>TM2DDI8DT</b>	–	–	–	–	
		24 V DC sink/source	–	<b>TM2DDI16DT</b>	<b>TM2DDI16DK</b>	<b>TM2DDI32DK</b>	–	
		120 V sink	<b>TM2DAI8DT</b>	–	–	–	–	
	Outputs	Relay (2 A)	<b>TM2DRA8RT</b>	<b>TM2DRA16RT</b>	–	–	–	–
		Transistor, source 0.5 A	<b>TM2DDO8TT</b>	–	–	–	–	–
		Transistor, source 0.4 A	–	–	<b>TM2DDO16TK</b>	<b>TM2DDO32TK</b>	–	–
		Transistor, sink 0.1 A	<b>TM2DDO8UT</b>	–	<b>TM2DDO16UK</b>	<b>TM2DDO32UK</b>	–	–
	Inputs, 24 V DC + Outputs, Relais 2 A		–	–	–	–	<b>TM2DMM8DRT</b>	<b>TM2DMM24DRF</b>

# Logic controllers - Modicon M258

## Bases



SoMachine



Controller type		42 digital I/O	42 digital I/O & CANopen
Internal memory	RAM	64 MB	
	Flash Eeprom	128 MB	
Typical Boolean instruction time		22 ns	
User program size		128 program K instructions	
Power supply		24 V DC	
Inputs	Digital	26 inputs 24 V DC including 8 counter inputs (200 kHz)	
	Analog	-	
Outputs	Transistor	16 outputs (0.5A) including 4 reflex outputs (100 kHz)	
	Relay	-	
Optional communication ports		-	
Communication	USB-B mini-port	Programming port for SoMachine software	
	USB-A port	Connection of a USB memory stick for transferring programs, data files, firmware updates	
	RJ45 port (MBS)	RS232 serial link RS485 serial link (supplies 250 mA, 5 V for HMI power supply) Protocols: Modbus ASCII/RTU Master/Slave, ASCII (character string)	
	SUB-D connector (CAN0)	-	CANopen bus master (63 slaves)
	RJ45 port (Ethernet)	Ethernet TCP, Ethernet IP, FTP server, Web server, Ethernet Modbus TCP	
Max. number of expansions		250 modules (local or remote) for digital IO, analog IO or Expert functions	
References		<b>TM258LD42DT4L*</b>	<b>TM258LF42DT4L*</b>

\* 4 analog inputs & 2 PCI slots only for TM258L.42DT4L



Controller type		42 digital I/O relays & CANopen	66 digital I/O & CANopen & 4 analog inputs
Internal memory	RAM	64 MB	
	Flash Eeprom	128 MB	
Typical Boolean instruction time		22 ns	
User program size		128 program K instructions	
Power supply		24 V DC	
Inputs	Digital	26 inputs 24 V DC including 8 counter inputs (200 kHz)	38 inputs 24 V DC including 8 counter inputs (200 kHz)
	Analog	-	4 analog inputs +10 V/-10 V, 4-20 mA/0-20 mA 12 bits resolution
Outputs	Transistor	4 reflex outputs (100 kHz)	28 outputs (0,5A) including 4 reflex outputs (100 kHz)
	Relay	12 relays	-
Optional communication ports		2 PCI slots for optional communication modules	
Communication	USB-B mini-port	Programming port for SoMachine software	
	USB-A port	Connection of a USB memory stick for transferring programs, data files, firmware updates	
	RJ45 port (MBS)	RS232 serial link RS485 serial link (supplies 250 mA, 5 V for HMI power supply) Protocols: Modbus ASCII/RTU Master/Slave, ASCII (character string)	
	SUB-D connector (CAN0)	CANopen bus master (63 slaves)	
	RJ45 port (Ethernet)	Ethernet TCP, Ethernet IP, FTP server, Web server, Ethernet Modbus TCP	
Max. number of expansions		250 modules (local or remote) for digital IO, analog IO or Expert functions	
References		<b>TM258LF42DR</b>	<b>TM258LF66DT4L</b>

for Modicon M258 and Modicon LMC058 <sup>(1)</sup>



Type of module	Input		Output			Input Output Digital	
	Digital	Analog	Digital		Analog		
Number of inputs	12 sink	–	–	–	–	24	
Number of outputs	–	–	–	12 source	4 relay	18	
Number of inputs	–	4	4	–	–	–	
Number of outputs	–	–	–	–	4	–	
Nominal input current	24 V DC	–	–	–	–	24 V DC	
Nominal output current	–	–	–	24 V DC	30 V DC/ 230 V AC	24 V DC	
Type	–	Thermal probe	Voltage / Current	–	–	Voltage / Current	
Associated bus sub-bases (2)							–
	TM5ACBM11	TM5ACBM11	TM5ACBM11	TM5ACBM11	TM5ACBM12	TM5ACBM11	
Associated terminal block (2)							–
	TM5ACTB12	TM5ACTB12	TM5ACTB12	TM5ACTB12	TM5ACTB32	TM5ACTB12	
References	TM5SDI12D	TM5SAI4PH	TM5SAI4L	TM5SDO12T	TM5SDO4R	TM5SAO4L	TM5C24D18T

(1) Modicon M258 and Modicon LMC058 controllers offer the possibility of creating IP20 or IP67 islands of remote I/O via the TM5 expansion bus. For Modicon TM7 (IP67) and Modicon TM5 (IP20) modular I/O systems, refer to the essential guide DIA3ED2070413EN or consult [www.schneider-electric.com](http://www.schneider-electric.com)

(2) To be ordered separately

# Motion controllers - Modicon LMC058

## Bases



SoMachine



Controller type		42 digital I/O	42 digital I/O + 4 analog inputs	
<b>CANmotion Drive synchronisation</b>	Up to 4 axes	2 ms		
	Up to 8 axes	4 ms		
<b>Internal memory</b>	RAM	64 MB		
	Flash Eeprom	128 MB		
<b>Typical Boolean instruction time</b>		22 ns		
<b>Expert application</b>	Relative and Absolute positioning	Yes		
	Velocity control	Yes		
	Homing	Yes		
	CNC visual editor	Yes		
	CAM profiles	Yes		
	Electronic gear	Yes		
	Interpolation	Yes		
	Shift Compensation	Yes		
<b>Embedded number of digital inputs</b>		26 including 8 high speed counter		
<b>Embedded number of digital outputs</b>		16 outputs transistor (0.5 A) including 4 reflex outputs		
<b>Embedded number of analog inputs</b>		–	4	
<b>Optional communication ports</b>		–	2 PCI slots for optional communication modules	
<b>Communication</b>	USB-B mini-port	Programming port for SoMachine software		
	USB-A port	Connection of a USB memory stick for transferring programs, data files, firmware updates		
	RJ45 port (MBS)	RS232 serial link		
		RS485 serial link (supplies 250 mA, 5 V for HMI power supply)		
		Protocols: Modbus ASCII/RTU Master/Slave, ASCII (character string)		
	SUB-D connector (CAN0)	CANopen bus master (63 slaves)		
	SUB-D connector (CAN1)	CANmotion bus master (63 slaves)		
	SUB-D connector (Encoder)	Encoder input (incremental or SSI)		
RJ45 port (Ethernet)	Ethernet IP device			
	Ethernet TCP Modbus			
	SoMachine protocol			
	FTP server embedded			
	Web server embedded			
<b>Max. number of expansions</b>		250		
<b>References</b>		<b>LMC058LF42</b>	<b>LMC058LF424</b>	

## I/O expansion modules

For I/O expansion modules, please consult Modicon TM5 page 2/23



## Compact HMI Controller



SoMachine



Type		Characteristics		
Display	LCD screen size / Resolution	3,8" / QVGA	5,7" / QVGA	
	Type	STN monochrome, amber or red	STN monochrome, gray	STN 4096 colours
Functions	Representation of variables	Alphanumeric, bitmap, bargraph, gauge, button, light, clock, flashing light, keypad		
	Curves / Alarm logs	Yes, with log / Yes, incorporated		
	Control	5 languages IEC		
Communication	Serial link	-	1 Sub9 (RS 232/RS 422 - RS 485)	
	Networks	-	-	Ethernet, IEEE 802.3 10/100 BASE-T, RJ45
Downloadable protocols		Mitsubishi (Melsec), Omron (Sysmac), Rockwell Automation (Allen Bradley), Siemens (Simatic) Uni-TE, Modbus, Modbus TCP		
Development software		SoMachine (on Windows XP and Vista)		
Dimensions W x D x H (mm)		130 x 76 x 104	207 x 76 x 157	
Compatibility with PLCs		Twido, Modicon TSX Micro, Modicon Premium, Modicon Quantum, Modicon M340		
«Compact Flash» card slot		No		
USB port Host type A		1	1	1
Built-in Ethernet TCP/IP		No	No	Yes
Integrated I/O		12I/6O 24 V DC	16I/16O 24 V DC	
Extensions		2 modules TM2 or CANopen module	3 modules TM2 or CANopen module	
Supply voltage		24 V DC		
References	Source Output	XBTGC1100T	XBTGC2120T	XBTGC2230T
	Sink Output	XBTGC1100U	XBTGC2120U	XBTGC2230U

## Extensions

Type of module	CANopen Master
Characteristics	Class M10 limited 16 slaves, Standard DS301 V4.O2
References	XBTZGCCAN

Type of module	Digitals Inputs / Outputs						
Characteristics	8I 24 V DC Screw terminal	16I 24 V DC Screw terminal	16I 24 V DC HE10	32I 24 V DC HE10	8I 120 V AC Screw terminal	4I 24 V DC 40 Relays Screw terminal	16I 24 V DC 80 Relays Screw terminal
	References	TM2DDI8DT	TM2DDI16DT	TM2DDI16DK	TM2DDI32DK	TM2DAI8DT	TM2DMM8DRT

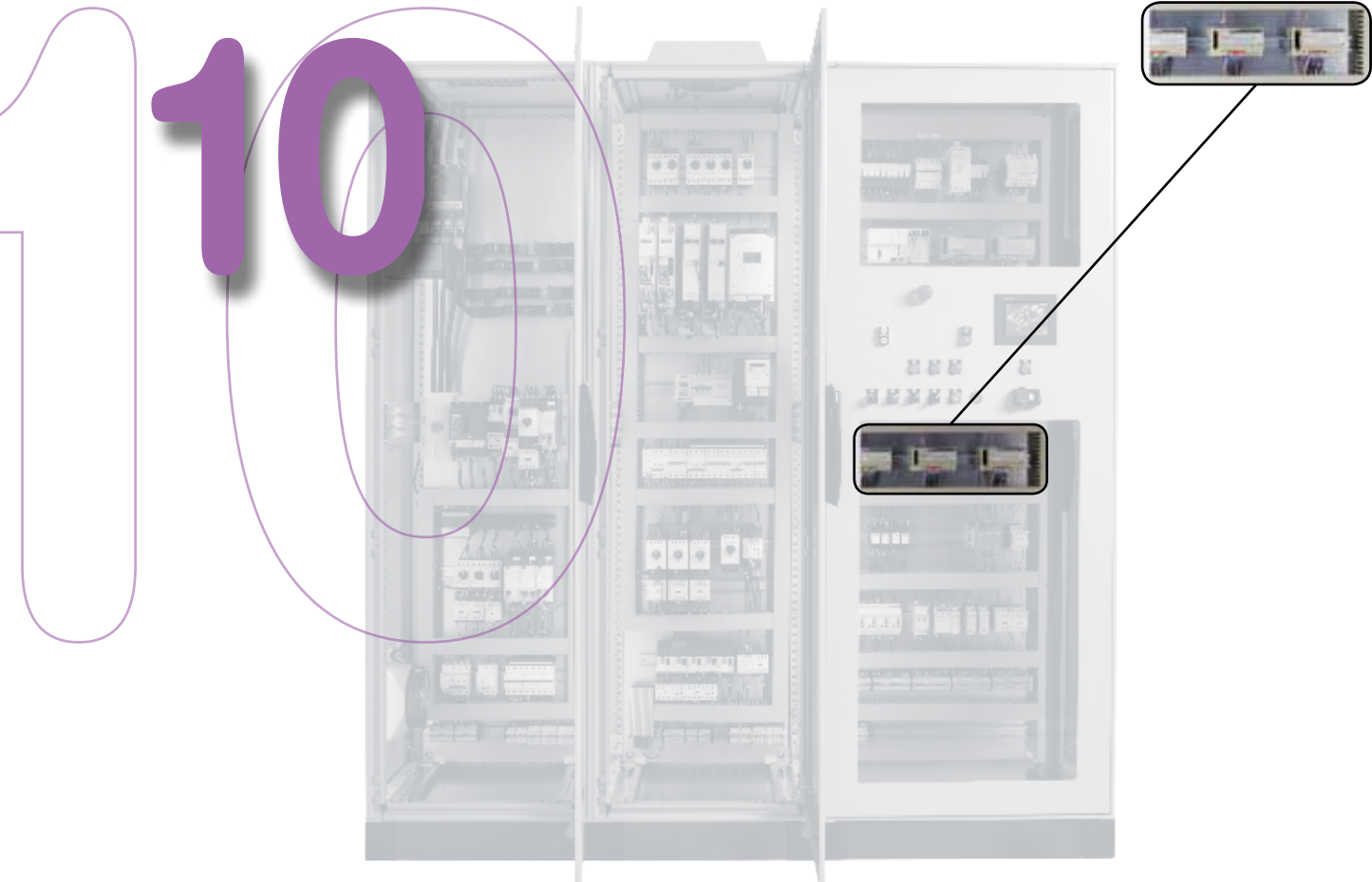
Type of module	Digitals Inputs / Outputs					
Characteristics	8O Transistor 24 V DC Screw terminal	16O Transistor 24 V DC HE10	32O Transistor 24 V DC HE10	8O Relays 230 V AC 30 V DC Screw terminal	16O Relays 230 V AC 30 V DC Screw terminal	
	References	Source Output TM2DD08TT	TM2DD016TK	TM2DD032TK	TM2DRA8RT	TM2DRA16RT
	Sink Output	TM2DD08UT	TM2DD016UK	TM2DD032UK	-	-

Type of module	Analog Inputs / Outputs					
Characteristics	2I Current/Voltage	2I Thermocouple	4I Current/Voltage Temperature	8I Current/Voltage	8I Temperature	8I PTC
	References	TM2AMI2HT	TM2AMI2LT	TM2AMI4LT	TM2AMI8HT	TM2ARI8LRJ TM2ARI8LT

Type of module	Analog Inputs / Outputs				
Characteristics	1O Current/Voltage	2O Voltage	2I Current/Voltage 1O Current/Voltage	2I Temperature 1O Current/Voltage	4I Current/Voltage 2O Current/Voltage
	References	TM2AMO1HT	TM2AVO2HT	TM2AMM3HT	TM2ALM3LT

For HMI Controllers **Magelis XBTGT/GK** with control function, refer to the Essential guide DIA1ED2040506EN or consult [www.schneider-electric.com](http://www.schneider-electric.com)

# Interface and Inputs/Outputs







From simple connectors to integrated I/O platforms, monobloc products to modular solutions, Modicon I/O presents an extensive range of interfaces and I/O for any application.

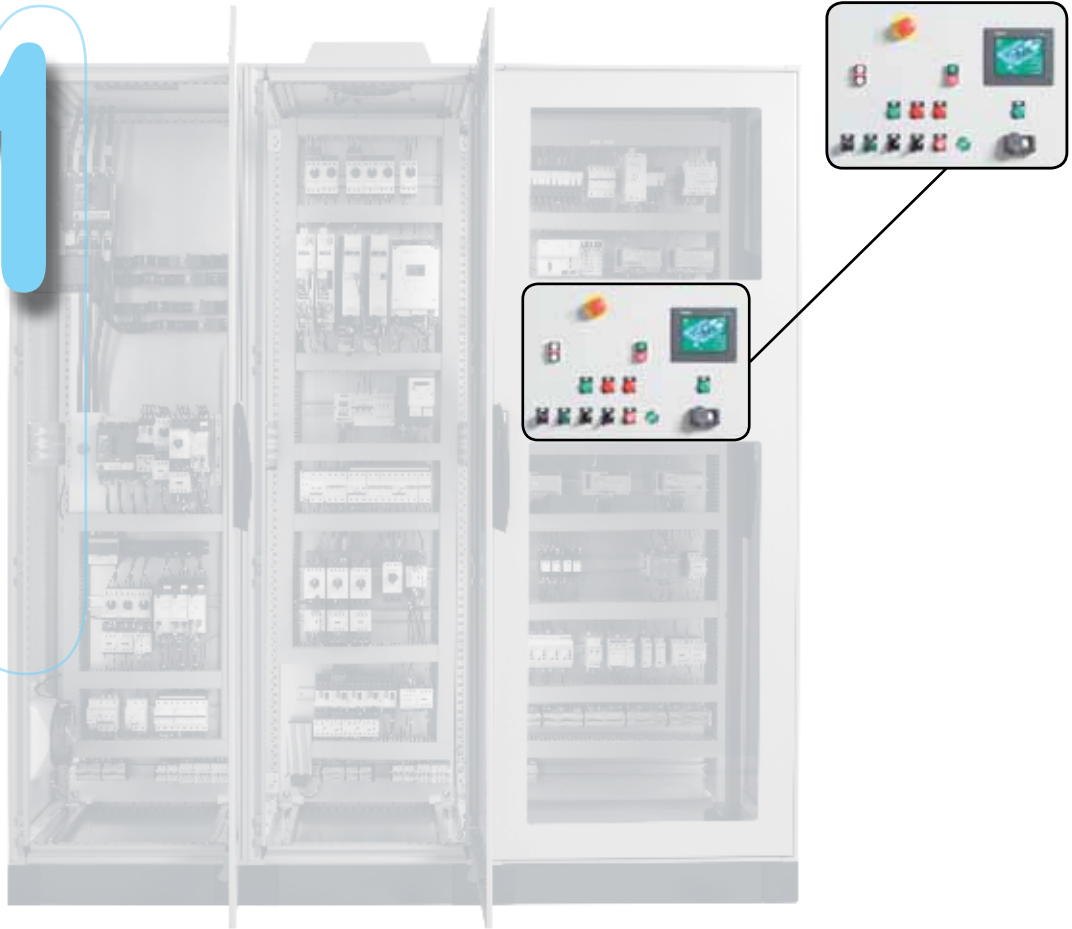
## Modicon I/O

The compact dimensions and pre-wired system characteristic of the Modicon I/O range allow you to optimise installation time, minimise costs and the risk of error, as well as simplify maintenance.



# Operator dialog

11



**NEW**

Save installation time with the wireless and batteryless pushbutton Harmony XB5R

This new offer provides savings in installation time and costs by totally eliminating cabling and associated accessories between the pushbutton and the electrical cabinet.





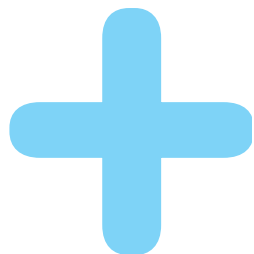
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## Range Pushbuttons & Switches



Mounting hole (mm)	16	22		16/22	
Material	Plastic			Metallic	Plastic or metallic
Head shape	● ■ ■■	●	● ■	●	■
Composition type	Modular	Unibody	Modular		
Panel fixing with	Plastic nut			3 points metal	Plastic nut or 4 screws
References	ZB6/XB6	XB7	ZB5/XB5	ZB4/XB4	K10-K1/K2 K30 to K150



- Ease to select and to install.
- A wide choice of functions.
- Robustness & Mechanical durability.
- High protection degree.
- Excellent aesthetics and ergonomics.



See also  
Spacial HMI  
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## Illuminated Pushbuttons, Pilot lights & Switches

## Wireless and batteryless pushbutton



8/10/12

16

22

22

Plastic

Metallic

Plastic or metallic



Unibody

Modular

Unibody

Modular

Unibody

Plastic nut

3 points metal

Plastic nut

XVL

ZB6/XB6

XB7

ZB5/XB5

ZB4/XB4

XB4R/XB5R



- Long life resistance (LED technology).
- True colours & Excellent brightness.
- A wide choice of voltages.
- High protection degree.
- Easy mounting.

## Contact functions and light functions with integral LED

(1):

Voltage	Letter (●)
12...24 V AC/DC (15 mA)	B
48...120 V AC (25 mA)	G
230...240 V AC (25 mA)	M



Illuminated pushbuttons						
Type of head	Shape of head		Flush push			
Degree of protection	IP65 / Nema 4, 4X, 13 / Class II		rectangular (2)			
Mounting (mm)	panel cut-out mounting centres		Ø 16.2			
Dimensions (mm)	W x H x D (below head)		24 x 18 with rectangular head, 18 x 18 with square or circular head			
Connection (3)			Tags for 2.8 x 0.5 Faston connectors or for soldering			
Type of push			Spring return			
			Complete products	Products for user assembly		
			12 ... 24 V AC/DC $^{+0.2}_{0}$			
References	Color	Contact function	XB6	ZB6	ZB6	ZB6
References	white ●	N/O	XB6 DW1B1B	ZB6 E•1B (1)	ZB6 Z1B	ZB6 DW1
		N/C + N/O	XB6 DW1B5B	ZB6 E•1B (1)	ZB6 Z5B	ZB6 DW1
	green ●	N/O	XB6 DW3B1B	ZB6 E•3B (1)	ZB6 Z1B	ZB6 DW3
		N/C + N/O	XB6 DW3B5B	ZB6 E•3B (1)	ZB6 Z5B	ZB6 DW3
	red ●	N/C	XB6 DW4B2B	ZB6 E•4B (1)	ZB6 Z2B	ZB6 DW4
		N/C + N/O	XB6 DW4B5B	ZB6 E•4B (1)	ZB6 Z5B	ZB6 DW4
yellow ●	N/O	–	ZB6 E•5B (1)	ZB6 Z1B	ZB6 DW5	
	N/C + N/O	XB6 DW5B5B	ZB6 E•5B (1)	ZB6 Z5B	ZB6 DW5	
Type of push			Latching			
References	Color	Contact function	XB6	ZB6	ZB6	ZB6
References	white ●	N/O	–	ZB6 E•1B (1)	ZB6 Z1B	ZB6 DF1
		N/C + N/O	XB6 DF1B5B	ZB6 E•1B (1)	ZB6 Z5B	ZB6 DF1
	green ●	N/O	XB6 DF3B1B	ZB6 E•3B (1)	ZB6 Z1B	ZB6 DF3
		N/C + N/O	XB6 DF3B5B	ZB6 E•3B (1)	ZB6 Z5B	ZB6 DF3
	red ●	N/C	XB6 DF4B2B	ZB6 E•4B (1)	ZB6 Z2B	ZB6 DF4
		N/C + N/O	XB6 DF4B5B	ZB6 E•4B (1)	ZB6 Z5B	ZB6 DF4
yellow ●	N/O	–	ZB6 E•5B (1)	ZB6 Z1B	ZB6 DF5	
	N/C + N/O	–	ZB6 E•5B (1)	ZB6 Z5B	ZB6 DF5	



Pilot lights						
Type of head	Shape of head		Smooth lens cap			
Degree of protection	IP65 / Nema 4, 4X, 13 / Class II		rectangular (2)			
Mounting (mm)	panel cut-out mounting centres		Ø 16.2			
Dimensions (mm)	W x H x D (below head)		24 x 18 with rectangular head, 18 x 18 with square or circular head			
Connection (3)			Tags for 2.8 x 0.5 Faston connectors or for soldering			
Type of push			Spring return			
			Complete products	Products for user assembly		
			12 ... 24 V AC/DC			
References	Color	Contact function	XB6	ZB6	ZB6	ZB6
References	white ●	N/O	XB6 DV1BB	ZB6 E•1B (1)	ZB6 DV1	
	green ●	N/O	XB6 DV3BB	ZB6 E•3B (1)	ZB6 DV3	
	red ●	N/O	XB6 DV4BB	ZB6 E•4B (1)	ZB6 DV4	
	yellow ●	N/O	XB6 DV5BB	ZB6 E•5B (1)	ZB6 DV5	
	blue ●	N/O	–	ZB6 E•6B (1)	ZB6 DV6	

(1) Basic reference, to be completed by the letter B, G or M indicating the required voltage. See voltage table above.

(2) For products with a square head, replace the letter D in the reference by the letter C (XB6 DW1B1B becomes XB6 CW1B1B).

For products with a circular head, replace the letter D in the reference by the letter A (XB6 DW1B1B becomes XB6 AW1B1B).

(3) Alternative connection: 1 x 0.5 pins for printed circuit boards.



## Contact functions



Pushbuttons					
Type of head			<b>Flush push</b>		
Shape of head			rectangular (1)		
Degree of protection			IP65 / Nema 4, 4X, 13 / Class II		
Mounting (mm)	panel cut-out		$\varnothing 16.2^{+0.2}_0$		
	mounting centres		24 x 18 with rectangular head, 18 x 18 with square or circular head		
Dimensions (mm)	W x H x D (below head)		24 x 18 x 50 with rectangular head, 18 x 18 x 50 with square or circular head		
Connection (2)			Tags for 2.8 x 0.5 Faston connectors or for soldering		
Type of push			<b>Spring return</b>		
			<b>Complete products</b>	<b>Products for user assembly</b>	
References	white	N/O	<b>XB6 DA11B</b>	<b>ZB6 Z1B</b>	<b>ZB6 DA1</b>
		N/C + N/O	<b>XB6 DA15B</b>	<b>ZB6 Z5B</b>	<b>ZB6 DA1</b>
	black	N/O	–	<b>ZB6 Z1B</b>	<b>ZB6 DA2</b>
		N/C + N/O	<b>XB6 DA25B</b>	<b>ZB6 Z5B</b>	<b>ZB6 DA2</b>
	green	N/O	<b>XB6 DA31B</b>	<b>ZB6 Z2B</b>	<b>ZB6 DA3</b>
		N/C + N/O	<b>XB6 DA35B</b>	<b>ZB6 Z5B</b>	<b>ZB6 DA3</b>
	red	N/O	–	<b>ZB6 Z1B</b>	<b>ZB6 DA4</b>
		N/C + N/O	<b>XB6 DA45B</b>	<b>ZB6 Z5B</b>	<b>ZB6 DA4</b>

(1) For products with a square head, replace the letter **D** in the reference by the letter **C** (XB6 DA11B becomes XB6 CA11B).

For products with a circular head, replace the letter **D** in the reference by the letter **A** (XB6 DA11B becomes XB6 AA11B).

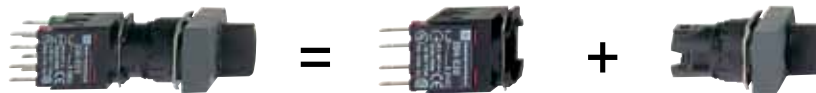
(2) Alternative connection: 1 x 0.5 pins for printed circuit boards.


















Ø 30 mushroom head Emergency stop pushbuttons (3)					
Type of head			<b>Trigger action (EN/ISO 13850: 2006)</b>		
Shape of head			cylindrical		
Type of push			<b>Turn to release</b>		
			<b>Complete products</b>	<b>Products for user assembly</b>	
References	red	2 N/C + 1 N/O	<b>XB6 AS8349B</b>	<b>ZB6 E2B</b>	<b>ZB6 Z5B</b>
Type of push			Key release, Ronis 200		
References	red	2 N/C + 1 N/O	<b>XB6 AS9349B</b>	<b>ZB6 E2B</b>	<b>ZB6 Z5B</b>
					<b>ZB6 AS834</b>
					<b>ZB6 AS934</b>













(3) Emergency stop trigger action and mechanical latching pushbuttons conform to standards EN/IEC 60204-1 and EN/ISO 13850: 2006, to Machinery Directive 98/37/EC and to standard EN/IEC 60947-5-5. Please consult your Regional Sales Office for a full explanation of these standards and directives.

## Contact functions and light functions with integral LED



Selector switches and key switches							
Type of head	  						
Shape of head	Black handle rectangular (2)						
Degree of protection	IP66 / Nema 4, 4X, 13 / Class II						
Mounting (mm)	panel cut-out mounting centres						
Dimensions (mm)	W x H x D (below head)						
Connection (3)	Tags for 2.8 x 0.5 Faston connectors or for soldering						
Type of operator	Black handle						
	<table border="1"> <thead> <tr> <th>Complete products</th> <th colspan="2">Products for user assembly</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Complete products	Products for user assembly				
Complete products	Products for user assembly						
							
Number and type of positions	2 positions stay put 	2 positions stay put 	2 positions spring return to centre 				
References	N/O N/C + N/O	XB6 DD221B XB6 DD225B	ZB6 Z1B ZB6 Z5B ZB6 DD22 ZB6 DD22 ZB6 Z1B ZB6 Z5B ZB6 DD24 ZB6 DD24				
Number and type of positions	3 positions stay put 	3 positions stay put 	3 positions spring return to centre 				
References	N/O	XB6 DD235B	ZB6 Z5B ZB6 DD23 ZB6 Z5B ZB6 DD25				

















Type of operator							
Type of operator	Ronis key, n° 200						
	<table border="1"> <thead> <tr> <th>Complete products</th> <th colspan="2">Products for user assembly</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Complete products	Products for user assembly				
Complete products	Products for user assembly						
							
Number and type of positions	2 positions stay put 	2 positions stay put 	2 positions spring return to centre 				
References	N/C + N/O	XB6 DGC5B	ZB6 Z5B ZB6 DGC ZB6 Z5B ZB6 DGB				
Number and type of positions	3 positions stay put 	3 positions stay put 	3 positions spring return to centre 				
References	N/C + N/O	XB6 DGH5B	ZB6 Z5B ZB6 DGH ZB6 Z5B ZB6 DGS				

(1):

Voltage	Letter (●)
12...24 V AC/DC (15 mA)	B
48...120 V AC (25 mA)	G
230...240 V AC (25 mA)	M



Illuminated selector switches							
Type of operator	Coloured handle						
	<table border="1"> <thead> <tr> <th>Products for user assembly</th> <th colspan="2"></th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Products for user assembly					
Products for user assembly							
							
Number and type of positions	2 positions stay put 	3 positions stay put 					
References	white  N/C + N/O green  N/C + N/O red  N/C + N/O	ZB6 E●1B (1) ZB6 Z5B ZB6 E●3B (1) ZB6 Z5B ZB6 E●4B (1) ZB6 Z5B	ZB6 DD02 ZB6 DD02 ZB6 DD02 ZB6 DD03 ZB6 DD03 ZB6 DD03 ZB6 YK1 ZB6 YK3 ZB6 YK4				

(1) Basic reference, to be completed by the letter B, G or M indicating the required voltage. See voltage table above.

(2) For products with a square head, replace the letter D in the reference by the letter C (XB6 DD221B becomes XB6 CD221B).

For products with a circular head, replace the letter D in the reference by the letter A (XB6 DD221B becomes XB6 AD221B).

(3) Alternative connection: 1 x 0.5 pins for printed circuit boards.





(1):

Voltage	Number (●)
5 V (25 mA)	1
12 V (18 mA)	2
24 V (18 mA)	3
48 V (10 mA)	4



LED pilot lights		With black bezel		With integral lens cap	
<b>Type of head</b>		Protruding LED, Ø 8 mm		Covered LED, Ø 8 mm	Covered LED, Ø 12 mm
<b>Degree of protection</b>		IP40. IP65 with seal (2)			
<b>Mounting (mm)</b>	panel cut-out	Ø 8.2 mm		Ø 8.2 mm	Ø 12.2 mm
	mounting centres	12.5 x 12.5 mm		10.5 x 10.5 mm	16.5 x 16.5 mm
<b>Dimensions (mm)</b>	Ø x Depth (below head)	Ø 12 x 32		Ø 10 x 34	Ø 16 x 45
<b>Connection</b>		Tags (3)		Tags (3)	Threaded connectors
<b>References (1)</b>	green ●	<b>XVL A1●3</b>		<b>XVL A2●3</b>	<b>XVL A3●3</b>
	red ●	<b>XVL A1●4</b>		<b>XVL A2●4</b>	<b>XVL A3●4</b>
	yellow ●	<b>XVL A1●5</b>		<b>XVL A2●5</b>	<b>XVL A3●5</b>
<b>Tightening key</b>		For Ø 8 mm pilot lights			For Ø 12 mm pilot lights
<b>References</b>		<b>XVL X08</b>			<b>XVL X12</b>

(1) Basic reference, to be completed by the number 1, 2, 3 or 4 indicating the required voltage. See voltage table above.

(2) For an IP65 degree of protection, include the seals: XVL Z911 for pilot lights XVL A1●● and XVL A2●●; XVL Z912 for pilot lights XVL A3●●.

(3) Tags for 2.8 x 0.5 Faston connectors or for soldering.

## Sub-assemblies & accessories for Ø 16 plastic bezel control and signalling units



Sub-assemblies	Bodies for pushbuttons and selector switches			Bodies for pilot lights			
Rated operational characteristics, AC-15: Ue = 240 V and Ie = 1.5 A or Ue = 120 V and Ie = 3 A Positive operation of contacts conforming to IEC/EN 60947-5-1: N/C contacts with positive opening operation, positive opening force 20 N				Consumption			
				15 mA	12...24 V AC/DC		
				25 mA	48...120 V AC		
				25 mA	230...240 V AC		
	Type of contact	Fixing collar + contacts	Contacts	Pilot light bodies	12 ... 24 V	48 ... 120 V	230 ... 240 V
<b>References</b>	N/O	<b>ZB6 Z1B</b>	<b>ZB6 E1B</b>	White ●	<b>ZB6 EB1B</b>	<b>ZB6 EG1B</b>	<b>ZB6 EM1B</b>
	N/C	<b>ZB6 Z2B</b>	<b>ZB6 E2B</b>	Green ●	<b>ZB6 EB3B</b>	<b>ZB6 EG3B</b>	<b>ZB6 EM3B</b>
	2 N/O	<b>ZB6 Z3B</b>	–	Red ●	<b>ZB6 EB4B</b>	<b>ZB6 EG4B</b>	<b>ZB6 EM4B</b>
	2 N/C	<b>ZB6 Z4B</b>	–	Yellow ●	<b>ZB6 EB5B</b>	<b>ZB6 EG5B</b>	<b>ZB6 EM5B</b>
	N/O + N/C	<b>ZB6 Z5B</b>	–	Blue ●	<b>ZB6 EB6B</b>	<b>ZB6 EG6B</b>	<b>ZB6 EM6B</b>

## Accessories

Legend holders		24 x 28 mm (8 x 21 mm legend)			24 x 36 mm (16 x 21 mm legend)		
Blank legend	Background colour	without legend	yellow or white	black or red	without legend	yellow or white	black or red
<b>References (10)*</b>		<b>ZB6 YD20</b>	<b>ZB6 YD21</b>	<b>ZB6 YD22</b>	<b>ZB6 YD30</b>	<b>ZB6 YD31</b>	<b>ZB6 YD32</b>
<b>Blank legends for legend holders</b>		8 x 21 mm (24 x 28 mm legend holder)			16 x 21 mm (24 x 36 mm legend holder)		
	Background colour	–	yellow or white	black or red	–	yellow or white	black or red
<b>References (20)*</b>		–	<b>ZB6 Y1001</b>	<b>ZB6 Y2001</b>	–	<b>ZB6 Y4001</b>	<b>ZB6 Y3001</b>
<b>Ø 45 mm yellow legend for mushroom head Emergency stop pushbutton</b>							
	Marking	Blank, for engraving		EMERGENCY STOP	ARRET D'URGENCE		
<b>References</b>		<b>ZB6 Y7001</b>		<b>ZB6 Y7330</b>	<b>ZB6 Y7130</b>		
	<b>Body/fixing collar</b>	<b>Plate</b>		<b>Tightening tool</b>	<b>Dismantling tool</b>		
		anti-rotation		and slackening, for fixing nut	for removal of contact blocks		
<b>References</b>	ZB6 Y009 (10)*	<b>ZB6 Y003 (10)*</b>		<b>ZB6 Y905 (2)*</b>	<b>ZB6 Y018 (5)*</b>		
<b>Protective shutter for pushbuttons and switches</b>				<b>Connector</b>		<b>Blanking plug</b>	
	for rectangular heads	for circular and square heads		Faston, female		IP65	
<b>References</b>	ZB6 YD001	<b>ZB6 YA001</b>		<b>ZB6 Y004 (100)*</b>		<b>ZB6 Y005 (10)*</b>	

\* sold in lots of

## Contact functions



Pushbuttons, spring return							
<b>Type of head</b>		<b>Chromium plated circular bezel</b>					
Degree of protection		IP66 / Nema 4X, 13 / Class I					
Mounting (mm)	panel cut-out	Ø 22.5 (22.4 <sup>+0.4</sup> <sub>0</sub> recommended)					
	mounting centres	30 (horizontal) x 40 (vertical)					
Depth (mm)	below head	43					
Connection (1)		Screw clamp terminals					
<b>Type of push</b>		Flush			Flush, booted		
Unmarked	<b>Products</b>	<b>Complete</b>	<b>For user assembly</b>		<b>Complete</b>	<b>For user assembly</b>	
References	black ● N/O	<b>XB4 BA21</b>	<b>ZB4 BZ101</b>	<b>ZB4 BA2</b>	<b>XB4 BP21</b>	<b>ZB4 BZ101</b>	<b>ZB4 BP2</b>
	green ● N/O	<b>XB4 BA31</b>	<b>ZB4 BZ101</b>	<b>ZB4 BA3</b>	<b>XB4 BP31</b>	<b>ZB4 BZ101</b>	<b>ZB4 BP3</b>
	red ● N/C	<b>XB4 BA42</b>	<b>ZB4 BZ102</b>	<b>ZB4 BA4</b>	<b>XB4 BP42</b>	<b>ZB4 BZ102</b>	<b>ZB4 BP4</b>
	yellow ● N/O	<b>XB4 BA51</b>	<b>ZB4 BZ101</b>	<b>ZB4 BA5</b>	<b>XB4 BP51</b>	<b>ZB4 BZ101</b>	<b>ZB4 BP5</b>
	blue ● N/O	<b>XB4 BA61</b>	<b>ZB4 BZ101</b>	<b>ZB4 BA6</b>	<b>XB4 BP61</b>	<b>ZB4 BZ101</b>	<b>ZB4 BP6</b>
<b>Type of push</b>		Flush			Mushroom head, Ø 40 mm		
With international marking	<b>Products</b>	<b>Complete</b>	<b>For user assembly</b>				
References	green Ⓢ N/O	<b>XB4 BA3311</b>	<b>ZB4 BZ101</b>	<b>ZB4 BA331</b>	–	–	–
	red Ⓢ N/C	<b>XB4 BA4322</b>	<b>ZB4 BZ102</b>	<b>ZB4 BA432</b>	–	–	–
	white Ⓢ N/O	<b>XB4 BA3341</b>	<b>ZB4 BZ101</b>	<b>ZB4 BA334</b>	–	–	–
	black Ⓢ N/O	<b>XB4 BA3351</b>	<b>ZB4 BZ101</b>	<b>ZB4 BA335</b>	–	–	–
<b>Type of push</b>		Projecting			Mushroom head, Ø 40 mm		
Unmarked	<b>Products</b>	<b>Complete</b>	<b>For user assembly</b>		<b>Complete</b>	<b>For user assembly</b>	
References	black ● N/O	–	–	–	<b>XB4 BC21</b>	<b>ZB4 BZ101</b>	<b>ZB4 BC2</b>
	red ● N/C	<b>XB4 BL42</b>	<b>ZB4 BZ102</b>	<b>ZB4 BL4</b>	–	–	–
<b>Type of push</b>		Double-headed pushbuttons			Triple-headed pushbuttons		
Degree of protection		IP66 - IP69K			IP66 - IP69K		
With international marking	<b>Products</b>	<b>Complete</b>	<b>For user assembly</b>		<b>Complete</b>	<b>For user assembly</b>	
References	(A) "N/C" + "N/O"	<b>XB4 BL73415</b>	<b>ZB4 BZ105</b>	<b>ZB4 BL7341</b>	–	–	–
	(B) "N/O" + "N/C" + "N/O"	–	–	–	<b>XB4 BA711237</b>	<b>ZB4 BZ103 + ZBE 102</b>	<b>ZB4 BA71123</b>

(1) Alternative connections: plug-in connector, Faston connectors (6.35 and 2 x 2.8).



Ø 40 mm mushroom head Emergency stop pushbuttons (2)							
<b>Trigger action (EN/ISO 13850: 2006)</b>							
<b>Push-pull (N/C + N/O)</b>							
Unmarked	<b>Products</b>	<b>Complete</b>	<b>For user assembly</b>				
References	red ● N/C or N/C + N/O	<b>XB4 BT845</b>	<b>ZB4 BZ105</b>	<b>ZB4 BT84</b>			
<b>Type of push</b>	<b>Turn to release (N/C + N/O)</b>						
References	red ● N/C or N/C + N/O	<b>XB4 BS8445</b>	<b>ZB4 BZ105</b>	<b>ZB4 BS844</b>			
<b>Type of push</b>	<b>Key release (N/C + N/O)</b>						
References	red ● N/C or N/C + N/O	<b>XB4 BS9445</b>	<b>ZB4 BZ105</b>	<b>ZB4 BS944</b>			

(2) Emergency stop trigger action and mechanical latching pushbuttons conform to standards EN/IEC 60204-1 and EN/ISO 13850: 2006, to Machinery Directive 98/37/EC and to standard EN/IEC 60947-5-5. Please consult your Regional Sales Office for a full explanation of these standards and directives.



## Contact functions



### Selector switches and key switches

<b>Type of head</b>		<b>Chromium plated circular bezel</b>				
Degree of protection		IP66 / Nema 4X, 13 / Class I				
Mounting (mm)		panel cut-out Ø 22.5 (22.4 <sup>+0.4</sup> recommended)				
		mounting centres 30 (horizontal) x 40 (vertical)				
Depth (mm)		below head 43				
Connection (1)		Screw clamp terminals				
<b>Type of operator</b>		<b>Handle</b>				
<b>Products</b>		<b>Complete</b>	<b>For user assembly</b>		<b>Complete</b>	<b>For user assembly</b>
Number and type of positions		<b>2 positions</b> stay put		<b>2 positions</b> stay put		<b>2 positions</b> spring return to left
References		black ● N/O <b>XB4 BD21</b>	<b>ZB4 BZ101</b>	<b>ZB4 BD2</b>	<b>XB4 BD41</b>	<b>ZB4 BZ101 ZB4 BD4</b>
Number and type of positions		<b>3 positions</b> stay put		<b>3 positions</b> stay put		<b>3 positions</b> spring return to centre
References		black ● N/O + N/O <b>XB4 BD33</b>	<b>ZB4 BZ103</b>	<b>ZB4 BD3</b>	<b>XB4 BD53</b>	<b>ZB4 BZ103 ZB4 BD5</b>



<b>Type of operator</b>		<b>Key, n° 455</b>				
<b>Products</b>		<b>Complete</b>	<b>For user assembly</b>		<b>Complete</b>	<b>For user assembly</b>
Number and type of positions (2)		<b>2 positions</b> stay put		<b>2 positions</b> stay put		<b>2 positions</b> stay put
References		black ● N/O <b>XB4 BG21</b>	<b>ZB4 BZ101</b>	<b>ZB4 BG2</b>	<b>XB4 BG41</b>	<b>ZB4 BZ101 ZB4 BG4</b>
Number and type of positions		<b>2 positions</b> spring return to left		<b>2 positions</b> spring return to left		<b>3 positions</b> stay put
References		black ● N/O black ● N/O + N/O	<b>XB4 BG61</b>	<b>ZB4 BZ101 ZB4 BG6</b>	-	-
		-	-	-	<b>XB4 BG33</b>	<b>ZB4 BZ103 ZB4 BG3</b>

## Light functions



Pilot lights							
Type of head		Circular bezel Smooth lens cap					
Degree of protection		IP66 / Nema 4X, 13 / Class I					
Mounting (mm)	panel cut-out	Ø 22.5 (22.4 <sup>+0.4</sup> <sub>0</sub> recommended)					
	mounting centres	30 (horizontal) x 40 (vertical)					
Depth	below head	43					
Connection (1)		Screw clamp terminals					
Light source		Integral LED			Direct supply for BA 9s bulb (not included)		
	<b>Products</b>	<b>Complete</b>			<b>Complete</b>	<b>For user assembly</b>	
Supply voltage		24 V AC/DC	48...120 V AC	230...240 V AC	250 V max., 2.4 W max.		
References	white	<b>XB4 BVB1</b>	<b>XB4 BVG1</b>	<b>XB4 BVM1</b>	<b>XB4 BV61</b>	<b>ZB4 BV6</b>	<b>ZB4 BV01</b>
	green	<b>XB4 BVB3</b>	<b>XB4 BVG3</b>	<b>XB4 BVM3</b>	<b>XB4 BV63</b>	<b>ZB4 BV6</b>	<b>ZB4 BV03</b>
	red	<b>XB4 BVB4</b>	<b>XB4 BVG4</b>	<b>XB4 BVM4</b>	<b>XB4 BV64</b>	<b>ZB4 BV6</b>	<b>ZB4 BV04</b>
	yellow	<b>XB4 BVB5</b>	<b>XB4 BVG5</b>	<b>XB4 BVM5</b>	<b>XB4 BV65</b>	<b>ZB4 BV6</b>	<b>ZB4 BV05</b>
	blue	<b>XB4 BVB6</b>	<b>XB4 BVG6</b>	<b>XB4 BVM6</b>	-	-	-



Illuminated pushbuttons and selector switches							
Type	Flush push, spring return, illuminated pushbuttons						
Light source		Integral LED			Direct supply for BA 9s bulb (not included)		
	<b>Products</b>	<b>Complete</b>			<b>Complete</b>	<b>For user assembly</b>	
Supply voltage		24 V AC/DC	48...120 V AC	230...240 V AC	250 V max., 2.4 W max.		
References	white  N/C + N/O	<b>XB4 BW31B5</b>	<b>XB4 BW31G5</b>	<b>XB4 BW31M5</b>	<b>XB4 BW3165</b>	<b>ZB4 BW065</b>	<b>ZB4 BW31</b>
	green  N/C + N/O	<b>XB4 BW33B5</b>	<b>XB4 BW33G5</b>	<b>XB4 BW33M5</b>	<b>XB4 BW3365</b>	<b>ZB4 BW065</b>	<b>ZB4 BW33</b>
	red  N/C + N/O	<b>XB4 BW34B5</b>	<b>XB4 BW34G5</b>	<b>XB4 BW34M5</b>	<b>XB4 BW3465</b>	<b>ZB4 BW065</b>	<b>ZB4 BW34</b>
	orange  N/C + N/O	<b>XB4 BW35B5</b>	<b>XB4 BW35G5</b>	<b>XB4 BW35M5</b>	<b>XB4 BW3565</b>	<b>ZB4 BW065</b>	<b>ZB4 BW35</b>
	blue  N/C + N/O	<b>XB4 BW36B5</b>	<b>XB4 BW36G5</b>	<b>XB4 BW36M5</b>	-	-	-



Type	Double-headed pushbuttons with LED pilot light (1 flush green push, 1 projecting red push)			Illuminated selector switches (2 position stay put)			
Degree of protection	IP66 - IP69K			IP66			
Light source		Integral LED			Integral LED		
	<b>Products</b>	<b>Complete</b>			<b>Complete</b>		
Supply voltage		24 V AC/DC	48...120 V AC	230...240 V AC	24 V AC/DC	48...120 V AC	230...240 V AC
References	green  N/C + N/O	-	-	-	<b>XB4 BK123B5</b>	<b>XB4 BK123G5</b>	<b>XB4 BK123M5</b>
	red  N/C + N/O	-	-	-	<b>XB4 BK124B5</b>	<b>XB4 BK124G5</b>	<b>XB4 BK124M5</b>
	orange  N/C + N/O	-	-	-	<b>XB4 BK125B5</b>	<b>XB4 BK125G5</b>	<b>XB4 BK125M5</b>
	White  N/C + N/O	<b>XB4 BW73731B5</b>	<b>XB4 BW73731G5</b>	<b>XB4 BW73731M5</b>	-	-	-

(1) Alternative connections: plug-in connector, Faston connectors (6.35 and 2 x 2.8), spring clamp terminal.



## Separate components and accessories



Electrical blocks (1)									
	Single contact blocks			Light blocks with integral LED				Light block, direct supply	
Rated operational characteristics	AC-15, 240 V - 3 A			Consumption					
Positive operation of contacts conforming to IEC/EN 60947-5-1	N/C contacts with positive opening operation			18 mA		24 V AC/DC			
				14 mA		120 V AC			
References (5)*	Screw clamp terminal	N/O	ZBE 101	Spring clamp terminal	ZBE1015	To combine with heads for integral LED			For BA 9s bulb (not included) 250 V max., 2.4 W max. ZBV 6 Colour provided by lens
						white	ZBV B1	ZBV G1	
	N/C	ZBE 102	ZBE1025	green	ZBV B3	ZBV G3	ZBV M3		
	red	ZBV B4	ZBV G4	ZBV M4					
	orange	ZBV B5	ZBV G5	ZBV M5					
	blue	ZBV B6	ZBV G6	ZBV M6					
	24 V AC/DC	48...120 V AC	230...240 V AC						



Diecast metal enclosures (Zinc alloy, usable depth 49 mm)		1 vertical row				2 vertical rows		
Number of cut-outs	Front face dimensions	1	2	3	4	2	4	6
References	80 x 80 mm	XAP M1201	-	-	-	XAP M1202	-	-
	80 x 130 mm	-	XAP M2202	XAP M2203	-	-	XAP M2204	-
	80 x 175 mm	-	-	XAP M3203	XAP M3204	-	-	XAP M3206



Accessories									
<b>Legend holders, 30 x 40 mm, for 8 x 27 mm legends</b>									
Marking	Background colour: black or red							white or yellow	
References (10)*	Blank	ZBY 2101						ZBY 4101	
	International	0 (red background)	ZBY 2931	I	ZBY 2147	AUTO	ZBY 2115	STOP ZBY 2304	-
	English	OFF	ZBY 2312	ON	ZBY 2311	START	ZBY 2303	-	-
	French	ARRET (red b/grnd)	ZBY 2104	ARRET-MARCHE	ZBY 2166	MARCHE	ZBY 2103	-	-
	German	AUS	ZBY 2204	AUS-EIN	ZBY 2266	EIN	ZBY 2203	-	-
	Spanish	PARADA (red b/grnd)	ZBY 2404	PARADA-MARCHA	ZBY 2466	MARCHA	ZBY 2403	-	-
<b>Legend holders, 30 x 50 mm, for 18 x 27 mm legends</b>									
Background colour	black or red							white or yellow	
References (10)*	Blank	ZBY 6101						ZBY 6102	
<b>Ø 60 mm legend for mushroom head Emergency stop pushbutton</b>									
Background colour	yellow								
Marking	Blank	EMERGENCY STOP		ARRET D'URGENCE		NOT HALT		PARADA DE EMERGENCIA	
References	ZBY 9140	ZBY 9330		ZBY 9130		ZBY 9230		ZBY 9430	

(1) Alternative connections: plug-in connector, Faston connectors (6.35 and 2 x 2.8), spring clamp terminal.

\* sold in lots of

## Contact functions



Pushbuttons, spring return								
<b>Type of head</b>		<b>Circular bezel</b>						
Degree of protection		IP66 / Nema 4X, 13 / Class II						
Mounting (mm)	panel cut-out	Ø 22.5 (22.4 <sup>+0.4</sup> <sub>0</sub> recommended)						
	mounting centres	30 (horizontal) x 40 (vertical)						
Depth (mm)	below head	43						
Connection (1)		Screw clamp terminals						
<b>Type of push</b>		<b>Flush</b>			<b>Flush, booted</b>			
Unmarked	<b>Products</b>	<b>Complete</b>	<b>For user assembly</b>		<b>Complete</b>	<b>For user assembly</b>		
References	black	N/O	<b>XB5 AA21</b>	<b>ZB5 AZ101</b>	<b>ZB5 AA2</b>	<b>XB5 AP21</b>	<b>ZB5 AZ101</b>	<b>ZB5 AP2</b>
	green	N/O	<b>XB5 AA31</b>	<b>ZB5 AZ101</b>	<b>ZB5 AA3</b>	<b>XB5 AP31</b>	<b>ZB5 AZ101</b>	<b>ZB5 AP3</b>
	red	N/C	<b>XB5 AA42</b>	<b>ZB5 AZ102</b>	<b>ZB5 AA4</b>	<b>XB5 AP42</b>	<b>ZB5 AZ102</b>	<b>ZB5 AP4</b>
	yellow	N/O	<b>XB5 AA51</b>	<b>ZB5 AZ101</b>	<b>ZB5 AA5</b>	<b>XB5 AP51</b>	<b>ZB5 AZ101</b>	<b>ZB5 AP5</b>
	blue	N/O	<b>XB5 AA61</b>	<b>ZB5 AZ101</b>	<b>ZB5 AA6</b>	<b>XB5 AP61</b>	<b>ZB5 AZ101</b>	<b>ZB5 AP6</b>
<b>Type of push</b>		<b>Flush</b>						
With international marking	<b>Products</b>	<b>Complete</b>	<b>For user assembly</b>		<b>Complete</b>	<b>For user assembly</b>		
References	green	N/O	<b>XB5 AA3311</b>	<b>ZB5 AZ101</b>	<b>ZB5 AA3311</b>	-	-	-
	red	N/C	<b>XB5 AA4322</b>	<b>ZB5 AZ102</b>	<b>ZB5 AA4322</b>	-	-	-
	white	N/O	<b>XB5 AA3341</b>	<b>ZB5 AZ101</b>	<b>ZB5 AA334</b>	-	-	-
	black	N/O	<b>XB5 AA3351</b>	<b>ZB5 AZ101</b>	<b>ZB5 AA335</b>	-	-	-
<b>Type of push</b>		<b>Projecting</b>			<b>Mushroom head, Ø 40 mm</b>			
Unmarked	<b>Products</b>	<b>Complete</b>	<b>For user assembly</b>		<b>Complete</b>	<b>For user assembly</b>		
References	black	N/O	-	-	-	<b>XB5 AC21</b>	<b>ZB5 AZ101</b>	<b>ZB5 AC2</b>
	red	N/C	<b>XB5 AL42</b>	<b>ZB5 AZ102</b>	<b>ZB5 AL4</b>	-	-	-
<b>Type of push</b>		<b>Double-headed pushbuttons</b>			<b>Triple-headed pushbuttons</b>			
Degree of protection		IP66 - IP69K			IP66 - IP69K			
With international marking	<b>Products</b>	<b>Complete</b>	<b>For user assembly</b>		<b>Complete</b>	<b>For user assembly</b>		
References	(A)	N/C + N/O	<b>XB5 AL73415</b>	<b>ZB5 AZ105</b>	<b>ZB5 AL7341</b>	-	-	-
	(B)	N/O + N/C + N/O	-	-	-	<b>XB5 AA711237</b>	<b>ZB5 AZ103 + ZBE 102</b>	<b>ZB5 AA71123</b>

(1) Alternative connections: plug-in connector, Faston connectors (6.35 and 2 x 2.8).




















Ø 40 mm mushroom head Emergency stop pushbuttons (2)							
Trigger action (EN/ISO 13850: 2006)							
<b>Type of push</b>			<b>Push-pull (N/C + N/O)</b>				
Unmarked	<b>Products</b>		<b>Complete</b>	<b>For user assembly</b>			
References	red	N/C or N/C + N/O	<b>XB5 AT845</b>	<b>ZB5 AZ105</b>	<b>ZB5 AT84</b>		
<b>Type of push</b>			<b>Turn to release (N/C + N/O)</b>				
References	red	N/C or N/C + N/O	<b>XB5 AS8445</b>	<b>ZB5 AZ105</b>	<b>ZB5 AS844</b>		
<b>Type of push</b>			<b>Key release (N/C + N/O)</b>				
References	red	N/C or N/C + N/O	<b>XB5 AS9445</b>	<b>ZB5 AZ105</b>	<b>ZB5 AS944</b>		

(2) Emergency stop trigger action and mechanical latching pushbuttons conform to standards EN/IEC 60204-1 and EN/ISO 13850: 2006/42EC, to Machinery Directive 98/37/EC and to standard EN/IEC 60947-5-5. Please consult your Regional Sales Office for a full explanation of these standards and directives.



## Contact functions



Selector switches and key switches									
<b>Type of head</b>			<b>Circular bezel</b>						
Degree of protection			IP66 / Nema 4X, 13 / Class II						
Mounting (mm)		panel cut-out	Ø 22.5 (22.4 <sup>+0.4</sup> <sub>0</sub> recommended)						
		mounting centres	30 (horizontal) x 40 (vertical)						
Depth (mm)		below head	43						
Connection (1)			Screw clamp terminals						
<b>Type of operator</b>			<b>Handle</b>						
<b>Products</b>			<b>Complete</b>	<b>For user assembly</b>		<b>Complete</b>	<b>For user assembly</b>		
									
Number and type of positions			<b>2 positions</b> stay put 	<b>2 positions</b> stay put 		<b>2 positions</b> spring return to left 	<b>2 positions</b> spring return to left 		
References			black ● N/O <b>XB5 AD21</b>	ZB5 AZ101	ZB5 AD2	<b>XB5 AD41</b>	ZB5 AZ101	ZB5 AD4	
Number and type of positions			<b>3 positions</b> stay put 	<b>3 positions</b> stay put 		<b>3 positions</b> spring return to centre 	<b>3 positions</b> spring return to centre 		
References			black ● N/O + N/O <b>XB5 AD33</b>	ZB5 AZ103	ZB5 AD3	<b>XB5 AD53</b>	ZB5 AZ103	ZB5 AD5	
<b>Type of operator</b>			<b>Key, n° 455</b>						
Number and type of positions (2)			<b>2 positions</b> stay put 	<b>2 positions</b> stay put 		<b>2 positions</b> stay put 	<b>2 positions</b> stay put 		
References			black ● N/O <b>XB5 AG21</b>	ZB5 AZ101	ZB5 AG2	<b>XB5 AG41</b>	ZB5 AZ101	ZB5 AG4	

(1) Alternative connections: plug-in connector, Faston connectors (6.35 and 2 x 2.8), spring clamp terminal.

(2) The symbol  indicates key withdrawal position.

# Wireless and batteryless pushbuttons - XB5

## Packages and components



Ready to use packs	Panel mounting				Mobile application	
	Plastic head	Metal head	Plastic head	Metal head	Plastic head in handy box	
<b>Wireless and batteryless 22 mm pushbutton assembled on fixing collar</b>						
<b>Caps</b>	1 black cap		1 set of 10 different coloured caps		1 black cap	1 set of 10 different coloured caps
<b>Receiver</b>	Non programmable receiver		Programmable receiver		Non programmable receiver	Programmable receiver
<b>Relay output</b>	1 relay output type RT 3 A		2 relays output type RT 3 A		1 relay output type RT 3 A	2 relays output type RT 3 A
<b>Voltage receiver</b>	24 V DC		24....240 V AC/DC		24 V DC	24....240 V AC/DC
<b>References</b>	<b>XB5RFB01</b>	<b>XB4RFB01</b>	<b>XB5RFA02</b>	<b>XB4RFA02</b>	<b>XB5RMB03</b>	<b>XB5RMA04</b>

The pushbutton and receiver are factory paired



Transmitter components for wireless and batteryless pushbuttons		Transmitter for wireless and batteryless pushbuttons		Plastic head	Metal head
Wireless and batteryless pushbuttons including		- a transmitter fitted with fixing collar - a spring return pushbutton head with clipped-in cap			
<b>References</b>		<b>ZBRT1</b>	-	-	-
Cap colour	white	-	<b>ZB5RTA1</b>	<b>ZB4RTA1</b>	
	black	-	<b>ZB5RTA2</b>	<b>ZB4RTA2</b>	
	green	-	<b>ZB5RTA3</b>	<b>ZB4RTA3</b>	
	white I on green background	-	<b>ZB5RTA331</b>	<b>ZB4RTA331</b>	
	red	-	<b>ZB5RTA4</b>	<b>ZB4RTA4</b>	
	white O on red background	-	<b>ZB5RTA432</b>	<b>ZB4RTA432</b>	
	yellow	-	<b>ZB5RTA5</b>	<b>ZB4RTA5</b>	
	blue	-	<b>ZB5RTA6</b>	<b>ZB4RTA6</b>	





Programmable receivers			
Programmable receivers equipped with	<ul style="list-style-type: none"> <li>- 2 buttons (learn, parameter setting)</li> <li>- 6 indicating LEDs (power ON, outputs, signal strenght)</li> </ul>		
Output type	4 PNP outputs 200 mA / 24 V	2 relay outputs type RT 3 A	
Receiver voltage	24 V DC	24....240 V AC/DC	
References	ZBRRC	ZBRRA	











Relay antenna	
The relay antenna is placed between transmitter and receiver	<ul style="list-style-type: none"> <li>Used to increase the distance and/or get round obstacles</li> <li>- 5 m cable</li> <li>- 1 power-ON LED</li> <li>- 2 LEDs reception / transmission</li> <li>- Relay antenna voltage: 24....240 V AC/DC</li> </ul>
Reference	ZBRA1










Empty boxes	Handy box, plastic, empty	Empty plastic boxes	
	1 cut-out	1 cut-out	2 cut-outs
References	ZBRM01	XALD01	XALD02

## Light functions







Pilot lights							
Type of head		<b>Circular bezel</b> <b>Smooth lens cap</b>					
Degree of protection		IP66 / Nema 4X, 13 / Class II					
Mounting (mm)	panel cut-out	Ø 22.5 (22.4 <sup>+0.4</sup> recommended)					
	mounting centres	30 (horizontal) x 40 (vertical)					
Depth	below head	43					
Connection (1)		Screw clamp terminals					
Light source		Integral LED			Direct supply for BA 9 s bulb (not included)		
	<b>Products</b>	<b>Complete</b>			<b>Complete</b>	<b>For user assembly</b>	
							
Supply voltage		24 V AC/DC	48...120 V AC	230...240 V AC	250 V max., 2.4 W max.		
References	white 	<b>XB5 AVB1</b>	<b>XB5 AVG1</b>	<b>XB5 AVM1</b>	<b>XB5 AV61</b>	<b>ZB5 AV6</b>	<b>ZB5 AV01</b>
	green 	<b>XB5 AVB3</b>	<b>XB5 AVG3</b>	<b>XB5 AVM3</b>	<b>XB5 AV63</b>	<b>ZB5 AV6</b>	<b>ZB5 AV03</b>
	red 	<b>XB5 AVB4</b>	<b>XB5 AVG4</b>	<b>XB5 AVM4</b>	<b>XB5 AV64</b>	<b>ZB5 AV6</b>	<b>ZB5 AV04</b>
	orange 	<b>XB5 AVB5</b>	<b>XB5 AVG5</b>	<b>XB5 AVM5</b>	<b>XB5 AV65</b>	<b>ZB5 AV6</b>	<b>ZB5 AV05</b>
	blue 	<b>XB5 AVB6</b>	<b>XB5 AVG6</b>	<b>XB5 AVM6</b>	-	-	-



Illuminated pushbuttons and selector switches							
Type	Flush push, spring return, illuminated pushbuttons						
Light source	Integral LED			Direct supply for BA 9s bulb (not included)			
Products	Complete			Complete	For user assembly		
							
Supply voltage	24 V AC/DC		48...120 V AC	230...240 V AC	250 V max., 2.4 W max.		
References	white  N/C + N/O	<b>XB5 AW31B5</b>	<b>XB5 AW31G5</b>	<b>XB5 AW31M5</b>	<b>XB5 AW3165</b>	<b>ZB5 AW065</b>	<b>ZB5 AW31</b>
	green  N/C + N/O	<b>XB5 AW33B5</b>	<b>XB5 AW33G5</b>	<b>XB5 AW33M5</b>	<b>XB5 AW3365</b>	<b>ZB5 AW065</b>	<b>ZB5 AW33</b>
	red  N/C + N/O	<b>XB5 AW34B5</b>	<b>XB5 AW34G5</b>	<b>XB5 AW34M5</b>	<b>XB5 AW3465</b>	<b>ZB5 AW065</b>	<b>ZB5 AW34</b>
	orange  N/C + N/O	<b>XB5 AW35B5</b>	<b>XB5 AW35G5</b>	<b>XB5 AW35M5</b>	<b>XB5 AW3565</b>	<b>ZB5 AW065</b>	<b>ZB5 AW35</b>
	blue  N/C + N/O	<b>XB5 AW36B5</b>	<b>XB5 AW36G5</b>	<b>XB5 AW36M5</b>	-	-	-












Type	Double-headed pushbuttons with LED pilot light (1 flush green push, 1 projecting red push)			Illuminated selector switches (2 position stay put)			
Degree of protection	IP66 - IP69K			IP66			
Light source	Integral LED			Integral LED			
Products	Complete			Complete			
Supply voltage	24 V AC/DC		48...120 V AC	230...240 V AC	24 V AC/DC	48...120 V AC	230...240 V AC
References	green  N/C + N/O	-	-	-	<b>XB5 AK123B5</b>	<b>XB5 AK123G5</b>	<b>XB5 AK123M5</b>
	red  N/C + N/O	-	-	-	<b>XB5 AK124B5</b>	<b>XB5 AK124G5</b>	<b>XB5 AK124M5</b>
	orange  N/C + N/O	-	-	-	<b>XB5 AK125B5</b>	<b>XB5 AK125G5</b>	<b>XB5 AK125M5</b>
	white  N/C + N/O	<b>XB5 AW73731B5</b>	<b>XB5 AW73731G5</b>	<b>XB5 AW73731M5</b>	-	-	-

(1) Alternative connections: plug-in connector, Faston connectors (6.35 and 2 x 2.8), spring clamp terminal.

Separate components and accessories: see previous page.





## Contact functions






Pushbuttons				
Type of head		Flush or projecting push circular		
Degree of protection		IP54, class II		
Mounting (mm)	panel cut-out	Ø 22.4 (0 +0.1)		
	mounting centres	30 (horizontal) x 40 (vertical)		
Dimensions (mm)	Ø x Depth (below head)	Ø 29 x 41.5 (Ø 40 x 41.5 for Emergency stop)		
Connection (1)		Screw clamp terminals, 1 x 0.34 mm <sup>2</sup> to 1 x 1.5 mm <sup>2</sup>		
Type of push		Flush, spring return		Flush, push and push-to-release
References (10)*	black 	N/O	<b>XB7 EA21P</b>	<b>XB7 EH21P</b>
		C/O	<b>XB7 EA25P</b>	<b>XB7 EH25P</b>
	green 	N/O	<b>XB7 EA31P</b>	<b>XB7 EH31P</b>
		C/O	<b>XB7 EA35P</b>	<b>XB7 EH35P</b>
	red 	N/C	<b>XB7 EA42P</b>	-
		C/O	<b>XB7 EA45P</b>	-
	yellow 	N/O	<b>XB7 EA51P</b>	-
	Type of push		Flush, spring return	
References	green 	N/O	<b>XB7 EA3131P</b>	-
	red 	N/C	-	<b>XB7 EL4232P</b>
	white 	N/O + C/O	<b>XB7 EA11341P</b>	-
	black 	N/O + C/O	<b>XB7 EA21341</b>	-

(1) Alternative connection: 1 x 6.35 and 2 x 2.8 mm Faston connectors.



Selector switches and key switches					
Type of operator		Black handle		Ronis key, n° 455	
Number and type of positions		2 positions stay put 	3 positions stay put 	2 positions stay put 	3 positions stay put 
References (10*)	N/O	<b>XB7 ED21P</b>	-	<b>XB7 EG21P</b>	-
	N/C + N/O	<b>XB7 ED25P</b>	-	-	-
	2 N/O	-	<b>XB7 ED33P</b>	-	<b>XB7 EG33P</b>



Ø 40 mm Emergency Stop trigger action and mechanical latching pushbuttons					
Type of push		Turn to release	Push, Pull	Key release n° 455	
References*	red 	NC	<b>XB7 NS8442</b>	<b>XB7 NT842</b>	-
	red 	NO + NC	<b>XB7 NS8445</b>	<b>XB7 NT845</b>	<b>XB7 NS9445</b>
	red 	2NC	<b>XB7 NS8444</b>	<b>XB7 NT844</b>	<b>XB7 NS9444</b>

\* sold in lots of 10













## Contact functions and light functions







(1):

Supply voltage for integral LED light source only	Letter (●)
24 V AC/DC	B
120 V AC	G
230 V AC	M



Illuminated pushbuttons				
Type of head		Projecting push circular		
Degree of protection		IP65, class II		
Mounting (mm)	panel cut-out	Ø 22.4 (0 +0.1)		
	mounting centres	30 (horizontal) x 40 (vertical)		
Dimensions (mm)	Ø x Depth (below head)	Ø 29 x 41.5, (Ø 40 x 41.5 for Emergency stop)		
Connection		Screw clamp terminals, 1 x 0.34 mm <sup>2</sup> to 1 x 1.5 mm <sup>2</sup>		
Light source		Integral LED	BA 9s base fitting Incandescent bulb direct supply (bulb not included)	
<b>Type of push</b>		<b>Spring return</b>		
References (10)*	green 	NO	<b>XB7NW33●1 (1)</b>	<b>XB7NW3361</b>
	red 	NO	<b>XB7NW34●1 (1)</b>	<b>XB7NW3461</b>
		NC	<b>XB7NW34●2 (1)</b>	–
	orange 	NO	<b>XB7NW35●1 (1)</b>	–
	blue 	NO	<b>XB7NW36●1 (1)</b>	–
	clear 	NO	<b>XB7NW37●1 (1)</b>	–
	yellow 	NO	<b>XB7NW38●1 (1)</b>	<b>XB7NW3561</b>
<b>Type of push</b>		<b>Push and latching</b>		
References (10)*	green 	NO	<b>XB7NH03●1 (1)</b>	<b>XB7NH0361</b>
	red 	NO	<b>XB7NH04●1 (1)</b>	<b>XB7NH0461</b>
		NC	<b>XB7NH04●2 (1)</b>	–
	yellow 	NO	<b>XB7NH08●1 (1)</b>	<b>XB7NH0861</b>



Pilot lights				
Light source		Integral LED	Incandescent bulb direct supply (bulb not included)	Incandescent bulb direct through resistor (bulb included)
Supply voltage		24 V AC/DC or 120 V AC or 230...240 V AC	6 or 24 V DC, or 130 V AC	230 V AC
References (10)*	white 	<b>XB7 EV07●P (1)</b>	<b>XB7 EV67P</b>	<b>XB7 EV77P</b>
	green 	<b>XB7 EV03●P (1)</b>	<b>XB7 EV63P</b>	<b>XB7 EV73P</b>
	red 	<b>XB7 EV04●P (1)</b>	<b>XB7 EV64P</b>	<b>XB7 EV74P</b>
	yellow 	<b>XB7 EV05●P (1)</b>	<b>XB7 EV65P</b>	<b>XB7 EV75P</b>
	blue 	<b>XB7 EV06●P (1)</b>	<b>XB7 EV66P</b>	<b>XB7 EV76P</b>
	orange 	<b>XB7 EV08●P (1)</b>	<b>XB7 EV68P</b>	<b>XB7 EV78P</b>

Incandescent bulbs, long life			
BA 9s base fitting, Ø 11 mm max., length 28 mm max.			
References	6 V (1.2 W)	24 V (2 W)	130 V (2.4 W)
	<b>DL1 CB006</b>	<b>DL1 CE024</b>	<b>DL1 CE130</b>

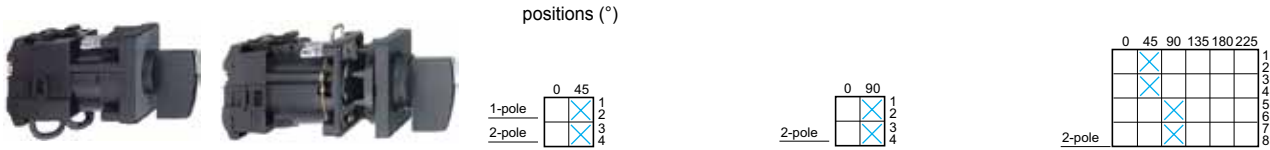
(1) Basic reference, to be completed by the letter B, G or M indicating the required voltage. See voltage table above.

(2) Alternative connection: 1 x 6.35 and 2 x 2.8 mm Faston connectors.

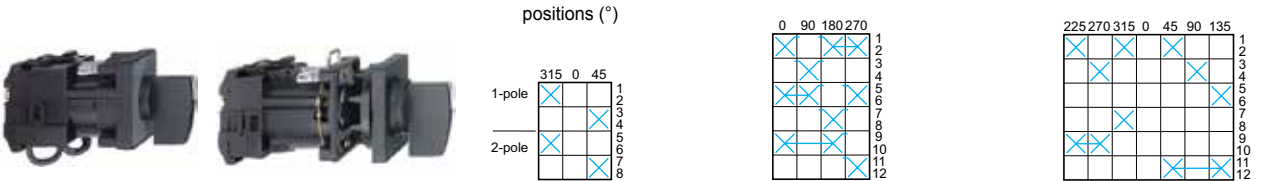
\* sold in lots of 10

# Cam switches Harmony - K series

## 12 and 20 A ratings



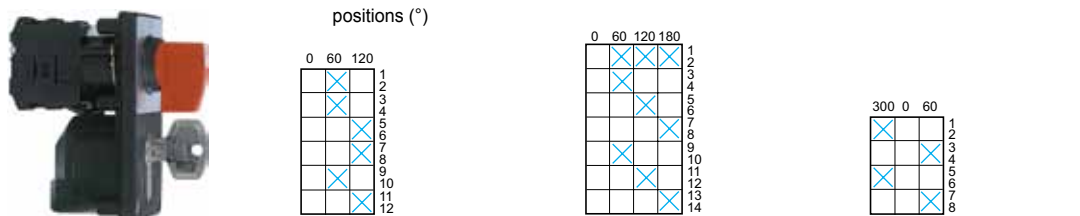
Cam switches, K1 / K2 series						
Function	Switches		ON-OFF switches		Stepping switches	
	45° switching angle		90° switching angle		with "0" position	
Degree of protection front face	IP65 (1)		IP65 (1)		IP65 (1)	
Conventional thermal current (Ith)	12 A	20 A	12 A	20 A	12 A	20 A
Rated insulation voltage (Ui) conforming to IEC60947-1	690 V		690 V		690 V	
Number of positions	2		2		2 + "0" position	
Number of poles	2		2		2	
Dimensions of front plate (mm)	45 x 45		45 x 45		45 x 45	
Front mounting method	Multifixing plate, 45 x 45 mm	<b>K1B 002ALH</b>	<b>K2B 002ALH</b>	<b>K1B 1002HLH</b>	<b>K2B 1002HLH</b>	<b>K1D 012QLH</b>   <b>K2D 012QLH</b>
	Plastic mounting plate for Ø 22 mm hole	<b>K1B 002ACH</b>	<b>K2B 002ACH</b>	<b>K1B 1002HCH</b>	<b>K2B 1002HCH</b>	<b>K1D 012QCH</b>   <b>K2D 012QCH</b>



Cam switches, K1 / K2 series						
Function	Changeover switches		Ammeter switches		Voltmeter switches	
Degree of protection front face	IP65 (1)		IP65 (1)		IP65 (1)	
Conventional thermal current (Ith)	12 A	20 A	12 A	20 A	12 A	20 A
Rated insulation voltage (Ui) conforming to IEC60947-1	690 V		690 V		690 V	
Number of positions	2 + "0" position		3 + "0" position (3 circuits + "0" position)		6 + "0" position (measurements between 3 phases & N + "0" pos.)	
Number of poles	2		4		7	
Dimensions of front plate (mm)	45 x 45		45 x 45		45 x 45	
Front mounting method	Multifixing plate, 45 x 45 mm	<b>K1D 002ULH</b>	<b>K2D 002ULH</b>	<b>K1F 003MLH</b>	to be compiled *	<b>K1F 027MLH</b>   to be compiled *
	Plastic mounting plate for Ø 22 mm hole	<b>K1D 002UCH</b>	<b>K2D 002UCH</b>	<b>K1F 003MCH</b>	to be compiled *	<b>K1F 027MCH</b>   to be compiled *

(1) With seal KZ73 for switch with Multifixing plate, with seal KZ65 for Ø 22 mm hole mounting switches. Seal to be ordered separately.

(\*) Please consult your Schneider Electric agency.



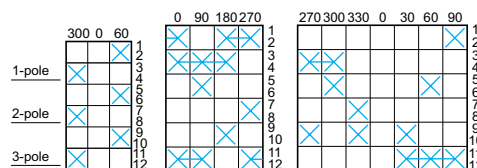
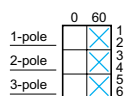
Cam switches with key operated lock, K1 series						
Function	Stepping switches		Run switches		Changeover switches + "0" pos.	
Degree of protection front face	IP65		IP65		IP65	
Conventional thermal current (Ith)	12 A		12 A		12 A	
Rated insulation voltage (Ui) conforming to IEC60947-1	690 V		690 V		690 V	
Number of positions	2 + "0" position		3 + "0" position		2 + "0" position	
Number of poles	3		2		2	
Dimensions of front plate (mm)	55 x 100		55 x 100		55 x 100	
Colour of handle	red	black	red	black	red	black
Front mounting method	Ø 22 mm hole + Ø 43.5 mm hole		<b>K1G 043RZ2</b>	<b>K1G 043RZ4</b>	<b>K1D 002UZ2</b>	<b>K1D 002UZ4</b>



## 10 to 150 A ratings



positions (°)



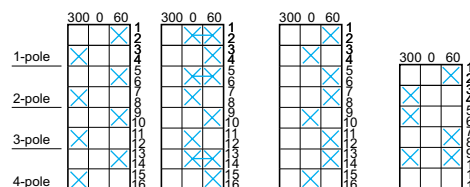
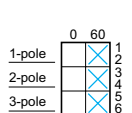
Cam switches, K10 series										
Function	Switches			Changeover switches with "0" position		Ammeter switches	Voltmeter switches			
Degree of protection	front face			IP65		IP65	IP65			
Conventional thermal current (Ith)	10 A			10 A		10 A	10 A			
Rated insulation voltage (Ui) conforming to IEC60947-1	440 V			440 V		440 V	440 V			
Number of positions	2			2 + "0" position		3 + "0" pos. (1)	6 + "0" pos. (2)			
Number of poles	1	2	3	2	3	3	3			
Dimensions of front plate (mm)	30 x 30			30 x 30		30 x 30	30 x 30			
Front mounting method	By Ø 16 mm or 22 mm hole			K10 A001ACH	K10 B002ACH	K10 C003ACH	K10 D002UCH	K10 F003UCH	K10 F003MCH	K10 F027MCH

(1) 3 circuits + "0" position.

(2) Measurements between 3 phases and N + "0" position.



positions (°)



Cam switches, K30 series									
Function	Switches	Switches ON-OFF	Changeover with "0" position	Starting star-delta	Starting 2-speed	Reversing			
Degree of protection	front face		IP40	IP40	IP40	IP40			
Conventional thermal current (Ith)	32 A		32 A	32 A	32 A	32 A			
Rated insulation voltage (Ui) conforming to IEC60947-1	690 V		690 V	690 V	690 V	690 V			
Number of positions	2		3	3	3	3			
Number of poles	3	3	4	3	3	3			
Dimensions of front plate (mm)	64 x 64		64 x 64	64 x 64	64 x 64	64 x 64			
Front mounting method	Multifixing		K30 C003AP (3)	K30 C003HP (3)	K30 D004HP (3)	K30 H004UP (3)	K30 H001YP (3)	K30 H004PP (3)	K30 E003WP (3)

(3) To order switches with other thermal current ratings (50, 63, 115, 150 A): replace the number 30 in the reference by 50, 63, 115 or 150 respectively.

Example: a switch with a 32 A current rating, for example K30 C003AP, becomes K50 C003AP for a current rating of 50 A.

## Accessories for cam switches K1/K2

Rubber seals			
for IP65 degree of protection			
For use with heads	with 45 x 45 mm front plate Ø 22 mm hole or 4 hole front mtg.	with 60 x 60 mm front plate Ø 22 mm hole or 4 hole front mtg.	with 45 x 45 mm front plate multifixing
References (5)*	KZ 65	KZ 66	KZ 73

\* sold in lots of 5

# Human-Machine Interface Magelis

## HMI Magelis



A comprehensive, rugged, open-ended interface and industrial PC offer to meet your requirements in a wide variety of applications. With its extensive capabilities, Magelis ensures the dependability of your installations.





## Magelis GTW



Type		Characteristics		
		Standard 10" IP65	Standard 15" IP65	Stainless steel 15" IP65
<b>Display</b>	16 million-colour TFT touchscreen	10.4", 800x600 pixels	15" (1024 x 768 pixels)	
	Type	16 million-color TFT		16 million-color TFT, Stainless Steel
<b>Ambient temperature</b>		0...50 °C		
<b>CPU</b>		Atom Z510 1,1 Ghz Fanless		
<b>Operating System</b>		Windows Embedded 2009 on 2 GB CF (SLC) storage (1)		
<b>Pre-installed software</b>		Vijeo Designer Run Time unlimited licence, Office & PDF readers, Internet browser, .Net 3.5, Vijeo Citect web client		
<b>Memory</b>	RAM/SRAM (Backup)	1GB/512KB		
	Extension	SD card		
<b>Functions</b>	Real time clock	Yes, built-in		
	Variables max.	12000		
<b>Third-party protocols supported</b>		Siemens, Omron, Mitsubishi, Allen-Bradley (Rockwell Automation), ABB		
<b>Communication</b>	Ethernet port	x2 RJ45		
	Serial line	RS-232C (COM1)		
	USB	USB Type-A (2.0) x 3 (2 bottom side and 1 front side)		USB Type-A (2.0) x 2
<b>Replaceable Battery</b>		Yes		
<b>Dimensions</b>	External W x H x D (mm)	323 x 260 x 72	402 x 301 x 72	
	Cut-out W x H (mm)	303 x 243	383.5 x 282.5	
<b>Conformity to standards</b>		EN, IEC, UL 508, ISA12.12 ,CSA		
<b>Reference</b>	24 V DC	<b>HMIGTW5354</b>	<b>HMIGTW7354</b>	<b>HMIGTW7354S</b>

(1) Please, upgrade to 4GB CF to run Intelligent Data Service add on

### Accessories

	MPC YK2 0SPS KIT	MPC YK5 0SPS KIT	MPC YK5 0SPS KIT
Set of 5 Screen Protective Sheets			
Power line filter for marine certification	-	HMIYLFIMAR11	-

## Control extension for XBT GT/GK

Type of module	CANopen Master
<b>Characteristics</b>	Class M10 limited 16 slaves, Standard DS301 V4.02
<b>Reference</b>	<b>XBTZGCANM</b>



# Human-Machine Interface Magelis - Small Panels

## Magelis STO with graphic screen



Type		Characteristics				
<b>Display</b>	Touchscreen	3.4" (200 x 80 pixels) Monochrome LCD				
	Backlight	Green, orange, red	White, pink, red	Green, orange, red		
<b>Ambient temperature</b>		0...50 °C				
<b>Memory</b>	Application/Backup	16MB/128KB				
	Extension	No, via USB stick only				
<b>Functions</b>	Real time clock	Access to the PLC real-time clock				
	Variables max.	8000				
<b>Third-party protocols supported</b>		Siemens, Omron, Mitsubishi, Allen-Bradley (Rockwell Automation), ABB				
<b>Communication</b>	Ethernet port	No	No	x1 RJ45	x1 RJ45	No
	Serial line	RS 232C/RS 485 (COM1)			No	Zelio Logic
	USB	USB Type-A (2.0) x 1, USB mini-B (2.0) x 1				
<b>Replaceable Battery</b>		No				
<b>Dimensions</b>	External W x H x D (mm)	117 x 78 x 28				
	Cut-out W x H (mm)	105 x 66				
<b>Supply voltage</b>		24 V DC				
<b>Conformity to standards</b>		EN, IEC, UL 508, ISA 12, 12, CSA, Marine Bridge & Deck (1), GOST				
<b>References</b>		<b>HMISTO511</b>	<b>HMISTO512</b>	<b>HMISTO531</b>	<b>HMISTO532</b>	<b>HMISTO501</b>

(1) Except HMISTO53.

## Magelis STU with graphic screen



Type		Characteristics			
<b>Display</b>	Touchscreen	3.5": 320 x 240 pixels		5.7", 320 x 240 pixels	
	Type	65,536-color TFT			
<b>Front Face</b>		Standard	Without logotype	Standard	Without logotype
<b>Ambient temperature</b>		0...50 °C			
<b>Memory</b>	Application/Backup	32MB/64KB			
	Extension	No, via USB stick only			
<b>Functions</b>	Real time clock	Access to the PLC real-time clock			
	Variables max.	8000			
<b>Third-party protocols supported</b>		Siemens, Omron, Mitsubishi, Allen-Bradley (Rockwell Automation), ABB			
<b>Communication</b>	Ethernet port	x1 RJ45			
	Serial line	RS 232C/RS 485 (COM1)			
	USB	USB Type-A (2.0) x 1, USB mini-B (2.0) x 1			
<b>Replaceable Battery</b>		No			
<b>Dimensions</b>	External W x H x D (mm)	Front: 98 x 16 x 81		Front: 163 x 17.5 x 129.5	
		Rear: 118 x 30 x 98			
	Cut-out	Ø22 mm			
<b>Supply voltage</b>		24 V DC			
<b>Conformity to standards</b>		EN, IEC, UL 508, ISA 12,12,CSA , Marine Bridge & Deck, GOST			
<b>References</b>		<b>HMISTU655</b>	<b>HMISTU655W</b>	<b>HMISTU855</b>	<b>HMISTU855W</b>



## Magelis STO/STU accessories and spare parts

### Common accessories for Magelis STO/STU

Serial connection to PLC/Drives (1)	HMI STO/STU	Connector/Physical link	Length	References
Twido, Premium, Micro	RJ45 (COM1)	Mini-DIN/RS485	2.5 m	<b>XBT Z9780</b>
M238/M258/M340, ATS, ATV	RJ45 (COM1)	RJ45/RS485	2.5 m	<b>XBT Z9980</b>
ATV, ATS	RJ45 (COM1)	RJ45/RS485	1 m	<b>VW3A8306R10</b>
M340	USB	USB mini-B	1.8 m	<b>BMX XCAUSBH018</b>
Siemens S7, PPI, MPI	RJ4 5 (COM1)	SUBD9/RS485	2.5 m	<b>XBT ZG9721</b>
Rockwell Micro-Logix, DF1-Full Duplex	RJ45 (COM1)	8-way mini-DIN /RS232	2.5 m	<b>XBT Z9733</b>
Rockwell SLC5,	RJ45 (COM1)	SUBD9/RS232	2.5 m	<b>XBT Z9734</b>
Omron, Sysmac FINS (SIO)	RJ45 (COM1)	SUBD9/RS232	2.5 m	<b>XBT Z9743</b>
Mitsubishi FX CPU	RJ45 (COM1)	Mini-DIN 8/RS232	2.5 m	<b>HMIZ950</b>

(1) For the full list of connection accessories, please consult our site <http://www.schneider-electric.com>.

### Accessories and spare parts for Magelis STO

Accessories	
Protective sheets	<b>HMIZS60</b>
Communication cable between Zelio Logic SR2/SR3 and HMISTO501	<b>SR2CBL09</b>
Spare parts	
Spring Clips	<b>XBT Z3002</b>
Installation Gasket	<b>HMI ZS50</b>
Set of 5 Power Connectors	<b>HMI ZSPWO</b>

### Accessories and spare parts for Magelis STU

Accessories		
Touchscreen size	3.5"	5.7"
Set of 5 Screen Protective Sheets	<b>HMIZS61</b>	<b>HMIZS62</b>
Accessory Kit for HMI STU 655/855, contains: USB standard Type A cable holder; USB mini B cable holder; Anti-rotation Tee; 2 Panel adaptors	<b>HMI ZSU KIT</b>	
Spare parts		
Touchscreen size	3.5"	5.7"
Front face module (without logotype)	<b>HMIS65 (HMIS65W)</b>	<b>HMIS85 (HMIS85W)</b>
Rear CPU module	<b>HMIS5T</b>	
Set of 5 Power Connectors	<b>XBT ZGPWS1</b>	
Kit of 10 display module fixing nuts	<b>ZB5AZ901</b>	
Tightening Wrench	<b>ZB5AZ905</b>	

# Human-Machine Interface Magelis - Advanced Panel

## Magelis GTO with 3,5” to 12” touchscreen



Type		Characteristics (65 536-colour TFT touchscreen)			
		3.5": 320 x 240 pixels		5.7": 320 x 240 pixels	
Degree of protection	Front Face	Standard, IP65			
Conformal coating		No (1)			
Ambient temperature		0...50 °C		0...55 °C	
Memory	Application/Backup	64MB/128KB	96MB/512KB	64MB/128KB	96MB/512KB
	Extension	No, via USB stick only			SD card
Functions	Real time clock	Yes, built-in			
	Variables max.	8000			
Third-party protocols supported		Siemens, Omron, Mitsubishi, Allen-Bradley (Rockwell Automation), ABB			
Communication	Ethernet port	No	x1 RJ45	No	x1 RJ45
	Serial line	RS 232C (COM1) and RS 485 (COM2) (2)			
	USB	USB Type-A (2.0) x 1, USB mini-B (2.0) x 1			
Dimensions	External / Cut-out W x H x D (mm)	132 x 106 x 42 / 118.5 x 92.5		169.5 x 137 x 59.5 / 156 x 123.5	
	Conformity to standards	EN, IEC, UL 508, ISA12,12, CSA, ATEX Zone2/22, Marine Bridge & Deck (3), GOST			
References	24 V DC	<b>HMI GTO1300</b>	<b>HMI GTO1310</b>	<b>HMI GTO2300</b>	<b>HMI GTO2310</b>

(1) Available on request; (2) COM1 only (RS232C/RS485) in HMI GTO1310; (3) Except GTO●●●5

Accessories		
Set of 5 Screen Protective Sheets	<b>HMI ZG60</b>	<b>HMI ZG62</b>
Plastic covers for Harsh Environment (IP67)	<b>HMI ZECOV1</b>	<b>HMI ZECOV2</b>

## Magelis XBT GT with 5,7” to 12” touchscreen



Type		Characteristics			
		5.7": 320 x 240 pixels		5.7": 640 x 480 pixels	7.5": 640 x 480 pixels
Display	Type	4096-color STN   65,536-color TFT		4096-color STN	
Ambient temperature		0...50 °C			
Memory	Application/Backup	16MB/512KB		32MB/512KB	
	Extension	Compact Flash card			
Functions	Real time clock	Yes, built-in			
	Variables max.	8000			
	Multimedia	No	Audio out		
	HMI Controller function	Yes, with CANopen Master extension (programming in SoMachine software)			
Third-party protocols supported		Siemens, Omron, Mitsubishi, Allen-Bradley (Rockwell Automation), ABB			
Communication	Ethernet port	No	x1 RJ45		
	Serial line	RS232/RS422/RS485 (COM1) + RS485 (COM2)			
	Fieldbus extensions	Profibus DP, DeviceNet, Modbus Plus, FIPWAY, FIPIO			
	USB	USB Type-A (1.1) x 1		USB Type-A (1.1) x 2	USB Type-A (1.1) x 1
Dimensions	External / Cut-out W x H x D (mm)	167.5 x 60 x 135 / 156 x 123.5		215 x 60 x 170 / 204.5 x 159.5	
	Conformity to standards	EN, IEC, UL 508, ISA 12,12 (2), CSA, ATEX Zone 2/22 (3), Marine (4), GOST			
Reference	24VDC	<b>XBTGT2220</b>	<b>XBTGT2330</b>	<b>XBTGT2930 (1)</b>	<b>XBTGT2430</b>   <b>XBTGT4230</b>

(1) High-brightness backlight, 1000 cd/m2, (2) Except XBTGT2930, (3) Zone 22 only XBTGT6●●● / 7●●●, (4) Except XBTGT2220/2430 / 2930 / 4230 / 5430

Accessories					
Set of 5 Screen Protective Sheets	<b>XBT ZG62</b>				<b>XBT ZG64</b>
Plastic covers for Harsh Environment (IP67)	<b>XBT ZG70</b>	<b>XBT ZG70</b>	<b>XBT ZG70</b>	<b>XBT ZG70</b>	-



7.0": 800 x 480 pixels	7.5": 640 x 480 pixels	10.4": 640 x 480 pixels	12.1": 800 x 600 pixels	5.7": 320 x 240 pixels	10.4": 640 x 480 pixels	12.1": 800 x 600 pixels
Standard, IP65				Stainless steel, IP66K		
No (1)				Yes		
0...50 °C		0...55 °C				
96MB/512KB						
SD card						
Yes, built-in						
8000						
Siemens, Omron, Mitsubishi, Allen-Bradley (Rockwell Automation), ABB						
x1 RJ45						
RS 232C (COM1) and RS 485 (COM2) (2)						
USB Type-A (2.0) x 1, USB mini-B (2.0) x 1						
218 x 173 x 60 / 204.5 x 159.5		272.5 x 214.5 x 57 / 259 x 201	315 x 241 x 56 / 301.5 x 227.5	213.5 x 181 x 59.5 / 195 x 162.5	316.5 x 258.5 x 57 / 298 x 240	359 x 285 x 56 / 340.5 x 266.5
EN, IEC, UL 508, ISA12,12, CSA, ATEX Zone2/22, Marine Bridge & Deck (3), GOST						
<b>HMI GTO3510</b>	<b>HMI GTO4310</b>	<b>HMI GTO5310</b>	<b>HMI GTO6310</b>	<b>HMI GTO2315</b>	<b>HMI GTO5315</b>	<b>HMI GTO6315</b>

<b>HMI ZG63</b>	<b>HMI ZG64</b>	<b>HMI ZG65</b>	<b>HMI ZG66</b>	<b>HMI ZG62</b>	<b>HMI ZG65</b>	<b>HMI ZG66</b>
<b>HMI ZECOV4</b>	<b>HMI ZECOV4</b>	<b>HMI ZECOV5</b>	<b>HMI ZECOV6</b>	–	–	–



7.5": 640 x 480 pixels		10.4": 640 x 480 pixels		10.4": 800 x 600 pixels	12.1": 800 x 600 pixels	15": 1024 x 768 pixels
65,536-color TFT						
0...50 °C						
32MB/512KB						
Compact Flash card						
Yes, built-in						
8000						
Audio out	Video in, Audio in/out	Audio out	Video in, Audio in/out	Audio out	Audio out	Video in, Audio in/out
Yes, with CANopen Master extension (programming in SoMachine software)						
Siemens, Omron, Mitsubishi, Allen-Bradley (Rockwell Automation), ABB						
x1 RJ45						
RS232/RS422/RS485 (COM1) + RS485 (COM2)						
Profibus DP, DeviceNet, Modbus Plus, FIPWAY, FIPIO						
USB Type-A (1.1) x 2						
215 x 60 x 170 / 204.5 x 159.5		271 x 57 x 213 / 259 x 201		313 x 56 x 239 / 301.5 x 227.5	395 x 60 x 294 / 383.5 x 282.5	
EN, IEC, UL 508, ISA 12,12 (2), CSA, ATEX Zone 2/22 (3), Marine(4), GOST						
<b>XBTGT4330</b>	<b>XBTGT4340</b>	<b>XBTGT5330</b>	<b>XBTGT5340</b>	<b>XBTGT5430</b>	<b>XBTGT6330</b>	<b>XBTGT6340</b>
<b>XBTGT7340</b>						

<b>XBT ZG64</b>	<b>XBT ZG65</b>		<b>XBT ZG66</b>		<b>MPC YK5 0SPS KIT</b>	
–	–	<b>XBT ZG71</b>	<b>XBT ZG71</b>	<b>XBT ZG71</b>	–	–

# Human-Machine Interface Magelis - Advanced Panel

## Magelis XBT GK with touchscreen and keypad



Type		Characteristics (65,536-color TFT touchscreen)	
		5.7", 320 x 240 pixels	10.4": 640 x 480 pixels
<b>Data entry</b>	Soft function keys with LED	14	18
	Static function keys with LED	10 + legends	12 + legends
	Service keys / Alphanumeric keys	8 / 12	
	Industrial pointer	Yes	
<b>Ambient temperature</b>		0...50 °C	
<b>Memory</b>	Application/Backup	16MB/512KB	32MB/512KB
	Extension	Compact Flash card	
<b>Functions</b>	Real time clock	Yes, built-in	
	Variables max.	8000	
	HMI Controller function	Yes, with CANopen Master extension (programming in SoMachine software)	
<b>Third-party protocols supported</b>		Siemens, Omron, Mitsubishi, Allen-Bradley (Rockwell Automation), ABB	
<b>Communication</b>	Ethernet port	x1 RJ45	
	Serial line	RS232/RS422/RS485 (COM1) + RS485 (COM2)	
	Fieldbus extensions	Profibus DP, DeviceNet, Modbus Plus, FIPWAY, FIPIO	
	USB	USB Type-A (1.1) x 1	USB Type-A (1.1) x 2
<b>Dimensions</b>	External / Cut-out W x H x D (mm)	220.3 x 265 x 60.3 / 209 x 243	296 x 332 x 72.7 / 285 x 309
<b>Conformity to standards</b>		EN, IEC, UL 508, ISA 12,12 , CSA, GOST	
<b>Reference</b>	24 V DC	<b>XBTGK2330</b>	<b>XBTGK5330</b>
<b>Accessories</b>			
Set of 5 Screen Protective Sheets		<b>XBT ZG68</b>	<b>XBT ZG69</b>



## Magelis XBT GH with handheld 5.7" touchscreen



Type		Characteristics (65,536-colour TFT touchscreen)	
		5.7", 320 x 240 pixels	
<b>Data entry</b>	Function keys / Operation key	11 / 1 with LED (validation touchscreen)	
<b>Safety components</b>	Key Switch	Yes for ON/OFF	Yes
	3 positions Enable switch	Yes, OK signal in intermediate position only	Yes
	Emergency stop	Yes, red with 2 safe contacts and one auxiliary contact	No
<b>Ambient temperature</b>		0...50 °C	
<b>Memory</b>	Application/Backup	32MB/512KB	
	Extension	Compact Flash card	
<b>Functions</b>	Real time clock	Yes, built-in	
	Variables max.	8000	
<b>Third-party protocols supported</b>		Siemens, Omron, Mitsubishi, Allen-Bradley (Rockwell Automation), ABB	
<b>Communication</b>	USB	USB Type-A (1.1) x 1	
<b>Dimensions</b>	External W x H x D (mm)	224 x 174 x 87.1	
<b>Conformity to standards</b>		EN, IEC, UL 508	
<b>Reference</b>	24 V DC	<b>XBT GH2460</b>	<b>XBT GH2460B</b>
Cable interface		connection with junction box	
<b>Length</b>		3 m	5 m
<b>Reference</b>		<b>XBTZGHL3</b>	<b>XBTZGHL5</b>
			<b>XBTZGHL10</b>
Junction box		connection with PLCs	
<b>Communication</b>		1 SubD9 (RS232 / RS422 - RS 425) serial link, 1 Ethernet RJ45 IEEE 802.3 10/100 T-BASE	
<b>Connection</b>	32 pins connector	Interface cable 3 or 10 m	
	24 pins screw terminals blocks	For 24 V DC supply, state of I/O safety components	
<b>Reference</b>		<b>XBTZGJBOX</b>	

A large number of accessories (cables, memory cards, protective sheets, etc.) is available for the Advanced panels range.

# Enclosures

# 12



**NEW**

## Telequick system

The Telequick system was created to save time and money in the installation process of an enclosure. All the components were designed to simplify the mounting and cabling of components inside the enclosure. The Telequick system presents many advantages in comparison with the traditional plain mounting plate.



## Flexicable

Flexicable is an innovative cable-gland plate for simple and fast cable entrance. There is no need to drill holes: the creation of the cable entrances takes a few seconds.



 Time saving

 Simple layout modifications

 Improved thermal dissipation

 Less weight

 Professional look





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# Steel enclosures - Panorama

	<b>Spacial SF</b>	<b>Spacial SM</b>
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Installation mode	Floor standing suitable	Floor standing compact
Sizes	From 1200 x 600 mm to 2200 x 1200 mm	From 1200 x 800 mm to 2200 x 1600 mm
Degree of protection	IP55 IK10 (IK08 for glazed door)	
Max. load	1000kg	600kg



- **Spacial SF:** modular enclosures adapted to your needs.
  - Maximum versatility to fit in all projects.
  - The most robust enclosures in the market.
  - Large dimensional range.
- **Spacial SM:** the fastest and safest compact solution.
- **Spacial S3D:** wide range of highly robust enclosures to fit any kind of needs.
- **Fast and easy installation of devices.**

*For very harsh environments (corrosive, chemical...) please consult our stainless steel or glass-fibre reinforced polyester enclosures.*

### Spacial S3D

### Spacial HMI

### Mounting & Cabling accessories



Wall-mounting

From 300 x 200 mm  
to 1200 x 1200 mm

IP66 (IP55 for double door)  
IK10 (IK08 for glazed door)

350kg

The control and Human-machine Dialogue enclosures offer: ideal for all the interfaces.

Designed to make the operator workplace more efficient and comfortable.

Large range of accessories that facilitate: device installation and maintenance.  
Cable fixing and distribution.

Designed for time saving & easy of use.

# Enclosures Spacial S3D - Wall-mounting steel enclosures



Specifications						Spacial S3D				
Dimensions (1)			N° of doors	IP	Weight (kg)*	Plain door		Glazed door	Plain mounting plate	Silkscreened mounting plate (2)
						With mounting plate	Without mounting plate	Without mounting plate		
H	W	D								
300	200	150	1	66	3.02	NSYS3D3215P	NSYS3D3215		NSYMM32	
300	250	150	1	66	3.48	NSYS3D32515P	NSYS3D32515	NSYS3D32515T	NSYMM3025	
300	300	150	1	66	3.90	NSYS3D3315P	NSYS3D3315	NSYS3D3315T	NSYMM33	
300	300	200	1	66	4.50	NSYS3D3320P	NSYS3D3320	NSYS3D3320T	NSYMM33	
300	400	150	1	66	4.82	NSYS3D3415P	NSYS3D3415	NSYS3D3415T	NSYMM43	NSYMS43
300	400	200	1	66	5.60	NSYS3D3420P	NSYS3D3420	NSYS3D3420T	NSYMM43	NSYMS43
400	300	150	1	66	4.90	NSYS3D4315P	NSYS3D4315	NSYS3D4315T	NSYMM43	NSYMS43
400	300	200	1	66	5.00	NSYS3D4320P	NSYS3D4320	NSYS3D4320T	NSYMM43	NSYMS43
400	400	200	1	66	6.50	NSYS3D4420P	NSYS3D4420	NSYS3D4420T	NSYMM44	NSYMS44
400	600	200	1	66	10.50	NSYS3D4620P	NSYS3D4620	NSYS3D4620T	NSYMM64	NSYMS64
400	600	250	1	66	12.00	NSYS3D4625P	NSYS3D4625	NSYS3D4625T	NSYMM64	NSYMS64
500	300	200	1	66	7.50	NSYS3D5320P	NSYS3D5320	NSYS3D5320T	NSYMM53	NSYMS53
500	400	200	1	66	9.30	NSYS3D5420P	NSYS3D5420	NSYS3D5420T	NSYMM54	NSYMS54
500	400	250	1	66	10.20	NSYS3D5425P	NSYS3D5425	NSYS3D5425T	NSYMM54	NSYMS54
500	500	200	1	66	11.18	NSYS3D5520P	NSYS3D5520	NSYS3D5520T	NSYMM55	NSYMS55
500	500	250	1	66	12.06	NSYS3D5525P	NSYS3D5525	NSYS3D5525T	NSYMM55	NSYMS55
600	400	200	1	66	11.00	NSYS3D6420P	NSYS3D6420	NSYS3D6420T	NSYMM64	NSYMS64
600	400	250	1	66	12.00	NSYS3D6425P	NSYS3D6425	NSYS3D6425T	NSYMM64	NSYMS64
600	500	250	1	66	16.20	NSYS3D6525P	NSYS3D6525	NSYS3D6525T	NSYMM65	
600	600	200	1	66	14.00	NSYS3D6620P	NSYS3D6620	NSYS3D6620T	NSYMM66	NSYMS66
600	600	250	1	66	15.00	NSYS3D6625P	NSYS3D6625	NSYS3D6625T	NSYMM66	NSYMS66
600	600	300	1	66	17.00	NSYS3D6630P	NSYS3D6630	NSYS3D6630T	NSYMM66	NSYMS66
600	600	400	1	66	19.00	NSYS3D6640P	NSYS3D6640	NSYS3D6640T	NSYMM66	NSYMS66
600	800	300	1	66	25.50	NSYS3D6830P	NSYS3D6830	NSYS3D6830T	NSYMM86	NSYMS86
700	500	250	1	66	15.00	NSYS3D7525P	NSYS3D7525	NSYS3D7525T	NSYMM75	NSYMS75
800	600	200	1	66	21.00	NSYS3D8620P	NSYS3D8620	NSYS3D8620T	NSYMM86	NSYMS86
800	600	250	1	66	23.00	NSYS3D8625P	NSYS3D8625	NSYS3D8625T	NSYMM86	NSYMS86
800	600	300	1	66	25.00	NSYS3D8630P	NSYS3D8630	NSYS3D8630T	NSYMM86	NSYMS86
800	600	400	1	66	29.00	NSYS3D8640P	NSYS3D8640	NSYS3D8640T	NSYMM86	NSYMS86
800	800	250	1	66	30.00	NSYS3D8825P	NSYS3D8825	NSYS3D8825T	NSYMM88	
800	800	300	1	66	32.00	NSYS3D8830P	NSYS3D8830	NSYS3D8830T	NSYMM88	
800	1000	300	1	66	38.00	NSYS3D81030P	NSYS3D81030		NSYMM108	
800	1000	300	2	55	43.50	NSYS3D81030DP	NSYS3D81030D		NSYMM108	
800	1200	300	2	55	46.00	NSYS3D81230DP	NSYS3D81230D		NSYMM128	
1000	600	250	1	66	28.00	NSYS3D10625P	NSYS3D10625	NSYS3D10625T	NSYMM106	
1000	600	300	1	66	30.60	NSYS3D10630P	NSYS3D10630	NSYS3D10630T	NSYMM106	
1000	600	400	1	66	33.00	NSYS3D10640P	NSYS3D10640	NSYS3D10640T	NSYMM106	
1000	800	250	1	66	35.00	NSYS3D10825P	NSYS3D10825	NSYS3D10825T	NSYMM108	
1000	800	300	1	66	38.00	NSYS3D10830P	NSYS3D10830	NSYS3D10830T	NSYMM108	
1000	800	400	1	66	42.00	NSYS3D10840P	NSYS3D10840	NSYS3D10840T	NSYMM108	
1000	1000	300	1	66	46.00	NSYS3D101030P	NSYS3D101030	NSYS3D101030T	NSYMM1010	
1000	1000	300	2	55	46.00	NSYS3D101030DP	NSYS3D101030D	NSYS3D101030DT	NSYMM1010	
1000	1200	300	2	55	53.00	NSYS3D101230DP	NSYS3D101230D		NSYMM1210	
1000	1200	400	2	55	60.00	NSYS3D101240DP	NSYS3D101240D		NSYMM1210	
1200	600	300	1	66	37.00	NSYS3D12630P	NSYS3D12630	NSYS3D12630T	NSYMM126	
1200	600	400	1	66	42.00	NSYS3D12640P	NSYS3D12640	NSYS3D12640T	NSYMM126	
1200	800	300	1	66	45.00	NSYS3D12830P	NSYS3D12830	NSYS3D12830T	NSYMM128	
1200	800	400	1	66	49.00	NSYS3D12840P	NSYS3D12840	NSYS3D12840T	NSYMM128	
1200	1000	300	1	66	53.00	NSYS3D121030P	NSYS3D121030	NSYS3D121030T	NSYMM1210	
1200	1000	300	2	55	54.00	NSYS3D121030DP	NSYS3D121030D	NSYS3D121030DT	NSYMM1210	
1200	1000	400	2	55	61.00	NSYS3D121040DP	NSYS3D121040D		NSYMM1210	
1200	1200	300	2	55	64.00	NSYS3D121230DP	NSYS3D121230D		NSYMM1212	
1200	1200	400	2	55	90.00	NSYS3D121240DP	NSYS3D121240D		NSYMM1212	
1400	1000	300	2	55	80.00	NSYS3D141030DP	NSYS3D141030D		NSYMM1410	

(1) For other dimensions, see our application offer.

(2) In inverted use, the marking is inverted.

\*Enclosure without mounting plate.



Inserts for standard lock  
7mm square  
NSYAEFLS753D



Standard handle with key  
Key 1242 NSYAEFL1242S3D  
Key 1242 NSYAEFL405S3D



Mounting plate						Electricity distribution			
Mounting plate						Modular mounting plate			
Micro-perforated mounting plate	Telequick mounting plate	Bakelite mounting plate	DIN rail chassis	Type	Aluminium vertical rails (3)	Modular mounting plate	N° of modules	Plain front panel	Plain mounting plate
NSYMF32	NSYMR32	NSYMB32			NSYMDVR3				
	NSYMR3025	NSYMB3025			NSYMDVR3				
NSYMF33	NSYMR33	NSYMB33	NSYMD33	B	NSYMDVR3				
NSYMF33	NSYMR33	NSYMB33	NSYMD33	B	NSYMDVR3				
NSYMF43	NSYMR34	NSYMB43			NSYMDVR3				
NSYMF43	NSYMR34	NSYMB43			NSYMDVR3				
NSYMF43	NSYMR43	NSYMB43	NSYMD43	B	NSYMDVR4	NSYDLM24	24	NSYCTL300DLM	NSYPMP300DLM
NSYMF43	NSYMR43	NSYMB43	NSYMD43	B	NSYMDVR4	NSYDLM24	24	NSYCTL300DLM	NSYPMP300DLM
NSYMF44	NSYMR44				NSYMDVR4				
NSYMF64	NSYMR46	NSYMB64			NSYMDVR4				
NSYMF64	NSYMR46	NSYMB64			NSYMDVR4				
NSYMF53	NSYMR53				NSYMDVR5				
NSYMF54	NSYMR54	NSYMB54	NSYMD54	B	NSYMDVR5	NSYDLM48	48	NSYCTL400DLM	NSYPMP400DLM
NSYMF54	NSYMR54	NSYMB54	NSYMD54	B	NSYMDVR5	NSYDLM48	48	NSYCTL400DLM	NSYPMP400DLM
NSYMF55	NSYMR55				NSYMDVR5				
NSYMF55	NSYMR55				NSYMDVR5				
NSYMF64	NSYMR64	NSYMB64	NSYMD64	B	NSYMDVR6	NSYDLM48P	48	NSYCTL400DLM	NSYPMP400DLM
NSYMF64	NSYMR64	NSYMB64	NSYMD64	B	NSYMDVR6	NSYDLM48P	48	NSYCTL400DLM	NSYPMP400DLM
NSYMF65	NSYMR65	NSYMB65			NSYMDVR6				
NSYMF66	NSYMR66		NSYMD66	A	NSYMDVR6	NSYDLM84	84	NSYCTL600DLM	NSYPMP600DLM
NSYMF66	NSYMR66		NSYMD66	A	NSYMDVR6	NSYDLM84	84	NSYCTL600DLM	NSYPMP600DLM
NSYMF66	NSYMR66		NSYMD66	A	NSYMDVR6	NSYDLM84	84	NSYCTL600DLM	NSYPMP600DLM
NSYMF66	NSYMR66		NSYMD66	A	NSYMDVR6	NSYDLM84	84	NSYCTL600DLM	NSYPMP600DLM
NSYMF86	NSYMR68	NSYMB86	NSYMD86**	A	NSYMDVR6				
NSYMF75	NSYMR75	NSYMB75	NSYMD75	B	NSYMDVR7	NSYDLM66	66	NSYCTL500DLM	NSYPMP500DLM
NSYMF86	NSYMR86	NSYMB86	NSYMD86	A	NSYMDVR8	NSYDLM84P	84*	NSYCTL600DLM	NSYPMP600DLM
NSYMF86	NSYMR86	NSYMB86	NSYMD86	A	NSYMDVR8	NSYDLM112	112*	NSYCTL600DLM	NSYPMP600DLM
NSYMF86	NSYMR86	NSYMB86	NSYMD86	A	NSYMDVR8	NSYDLM112	112*	NSYCTL600DLM	NSYPMP600DLM
NSYMF86	NSYMR86	NSYMB86	NSYMD86	A	NSYMDVR8	NSYDLM112	112*	NSYCTL600DLM	NSYPMP600DLM
NSYMF88	NSYMR88				NSYMDVR8				
NSYMF88	NSYMR88				NSYMDVR8				
NSYMF108	NSYMR810 (4)	NSYMB108			NSYMDVR8				
NSYMF108	NSYMR810 (4)	NSYMB108			NSYMDVR8				
NSYMF128	2 x NSYMD86+	2 x NSYMD86+	2 x NSYMD86+	A	NSYMDVR8				
NSYMF106	NSYMR106	NSYMB106			NSYMDVR10	NSYDLM168	168**	NSYCTL600DLM	NSYPMP600DLM
NSYMF106	NSYMR106	NSYMB106			NSYMDVR10	NSYDLM168	168**	NSYCTL600DLM	NSYPMP600DLM
NSYMF106	NSYMR106	NSYMB106			NSYMDVR10	NSYDLM168	168**	NSYCTL600DLM	NSYPMP600DLM
NSYMF108	NSYMR108	NSYMB108	NSYMD108	A	NSYMDVR10	NSYDLM240	240	NSYCTL800DLM	NSYPMP800DLM
NSYMF108	NSYMR108	NSYMB108	NSYMD108	A	NSYMDVR10	NSYDLM240	240	NSYCTL800DLM	NSYPMP800DLM
NSYMF108	NSYMR108	NSYMB108	NSYMD108	A	NSYMDVR10	NSYDLM240	240	NSYCTL800DLM	NSYPMP800DLM
NSYMF1010	NSYMR1010 (4)				NSYMDVR10				
NSYMF1010	NSYMR1010 (4)				NSYMDVR10				
NSYMF1210	NSYMR1012 (4)	NSYMB1210			NSYMDVR10				
NSYMF1210	NSYMR1012 (4)	NSYMB1210			NSYMDVR10				
NSYMF126					NSYMDVR12				
NSYMF126					NSYMDVR12				
NSYMF128	NSYMR128		NSYMD128	A	NSYMDVR12				
NSYMF128	NSYMR128		NSYMD128	A	NSYMDVR12				
NSYMF1210	NSYMR1210 (4)	NSYMB1210			NSYMDVR12				
NSYMF1210	NSYMR1210 (4)	NSYMB1210			NSYMDVR12				
NSYMF1210	NSYMR1210 (4)	NSYMB1210			NSYMDVR12				
2 x NSYMF126+	2 x NSYMR126+				NSYMDVR12				
2 x NSYMF126+	2 x NSYMR126+				NSYMDVR12				
	NSYMR1410 (4)								

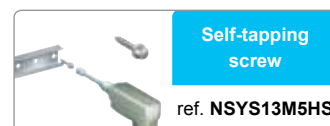
+ Order **NSYCRNGSDR** for double mounting of the mounting plates.

(3) Order nuts ref. **NSYAMCSF**. Steel siderail ref. **NSYMDVR12**.

(4) For width x 1000 mm, ref. **NSYEMR** is mandatory.

\* Possible assembling to ref. **NSYDLM84P** or **NSYDLM112**.

\*\* Possible assembling to ref. **NSYDLM168** or **NSYDLM240**.



# Enclosures Spacial S3D - Wall-mounting steel enclosures



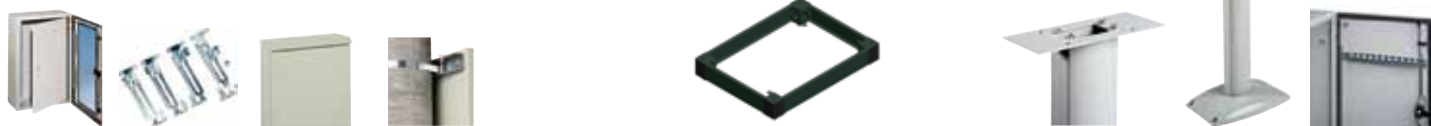
Dimensions (5)			Electronics and networks				Cable-entry accessories				
			19" racks				Cable-gland plates				
			Fixed	Number of U	Swing	Number of U	Entry type	Standard steel	Flexicable	Aluminium	Steel with cut-out for membrane (6)
H	W	D									
300	200	150				A	NSYTLA		NSYT LAU		
300	250	150				A	NSYT LA		NSYT LAU		
300	300	150				B	NSYT LB		NSYT LBU	NSYT LBFL	
300	300	200				C	NSYT LC	NSYT LCME	NSYT LCU	NSYT LCFL	
300	400	150				B	NSYT LB		NSYT LBU	NSYT LBFL	
300	400	200				D	NSYT LD	NSYT LDME	NSYT LDU	NSYT LDFL	
400	300	150				B	NSYT LB		NSYT LBU	NSYT LBFL	
400	300	200				C	NSYT LC	NSYT LCME	NSYT LCU	NSYT LCFL	
400	400	200				D	NSYT LD	NSYT LDME	NSYT LDU	NSYT LDFL	
400	600	200	NSYVDM8UF	8	NSYVDM7UP	7	F	NSYT LF	NSYT LFME	NSYT LFU	NSYT LFFL
400	600	250	NSYVDM8UF	8	NSYVDM7UP	7	F	NSYT LF	NSYT LFME	NSYT LFU	NSYT LFFL
500	300	200				C	NSYT LC	NSYT LCME	NSYT LCU	NSYT LCFL	
500	400	200				D	NSYT LD	NSYT LDME	NSYT LDU	NSYT LDFL	
500	400	250				D	NSYT LD	NSYT LDME	NSYT LDU	NSYT LDFL	
500	500	200				E	NSYT LE	NSYT LE ME	NSYT LEU	NSYT LE FL	
500	500	250				E	NSYT LE	NSYT LE ME	NSYT LEU	NSYT LE FL	
600	400	200				D	NSYT LD	NSYT LDME	NSYT LDU	NSYT LD FL	
600	400	250				D	NSYT LD	NSYT LDME	NSYT LDU	NSYT LD FL	
600	500	250				E	NSYT LE	NSYT LE ME	NSYT LEU	NSYT LE FL	
600	600	200	NSYVDM12UF	12	NSYVDM11UP	11	F	NSYT LF	NSYT LFME	NSYT LFU	NSYT LF FL
600	600	250	NSYVDM12UF	12	NSYVDM11UP	11	F	NSYT LF	NSYT LFME	NSYT LFU	NSYT LF FL
600	600	300	NSYVDM12UF	12	NSYVDM11UP	11	G	NSYT LG	NSYT LGME	NSYT LGU	NSYT LG2FL
600	600	400	NSYVDM12UF	12	NSYVDM11UP	11	G	NSYT LG	NSYT LGME	NSYT LGU	NSYT LG2FL
600	800	300				D*	NSYT LD	NSYT LDME	NSYT LDU	NSYT LD FL	
700	500	250				E	NSYT LE	NSYT LE ME	NSYT LEU	NSYT LE FL	
800	600	200	NSYVDM17UF	17	NSYVDM16UP	16	F	NSYT LF	NSYT LFME	NSYT LFU	NSYT LF FL
800	600	250	NSYVDM17UF	17	NSYVDM16UP	16	F	NSYT LF	NSYT LFME	NSYT LFU	NSYT LF FL
800	600	300	NSYVDM17UF	17	NSYVDM16UP	16	G	NSYT LG	NSYT LGME	NSYT LGU	NSYT LG2FL
800	600	400	NSYVDM17UF	17	NSYVDM16UP	16	G	NSYT LG	NSYT LGME	NSYT LGU	NSYT LG2FL
800	800	250				D*	NSYT LD	NSYT LDME	NSYT LDU	NSYT LD FL	
800	800	300				D*	NSYT LD	NSYT LDME	NSYT LDU	NSYT LD FL	
800	1000	300				E*	NSYT LE	NSYT LE ME	NSYT LEU	NSYT LE FL	
800	1000	300				E*	NSYT LE	NSYT LE ME	NSYT LEU	NSYT LE FL	
800	1200	300				E*	NSYT LE	NSYT LE ME	NSYT LEU	NSYT LE FL	
1000	600	250	NSYVDM21UF	21	NSYVDM20UP	20	F	NSYT LF	NSYT LFME	NSYT LFU	NSYT LF FL
1000	600	300	NSYVDM21UF	21	NSYVDM20UP	20	G	NSYT LG	NSYT LGME	NSYT LGU	NSYT LG2FL
1000	600	400	NSYVDM21UF	21	NSYVDM20UP	20	G	NSYT LG	NSYT LGME	NSYT LGU	NSYT LG2FL
1000	800	250				D*	NSYT LD	NSYT LDME	NSYT LDU	NSYT LD FL	
1000	800	300				D*	NSYT LD	NSYT LDME	NSYT LDU	NSYT LD FL	
1000	800	400				D*	NSYT LD	NSYT LDME	NSYT LDU	NSYT LD FL	
1000	1000	300				E*	NSYT LE	NSYT LE ME	NSYT LEU	NSYT LE FL	
1000	1000	300				E*	NSYT LE	NSYT LE ME	NSYT LEU	NSYT LE FL	
1000	1200	300				E*	NSYT LE	NSYT LE ME	NSYT LEU	NSYT LE FL	
1000	1200	400				E*	NSYT LE	NSYT LE ME	NSYT LEU	NSYT LE FL	
1200	600	300				G	NSYT LG	NSYT LGME	NSYT LGU	NSYT LG2FL	
1200	600	400				G	NSYT LG	NSYT LGME	NSYT LGU	NSYT LG2FL	
1200	800	300				D*	NSYT LD	NSYT LDME	NSYT LDU	NSYT LD FL	
1200	800	400				D*	NSYT LD	NSYT LDME	NSYT LDU	NSYT LD FL	
1200	1000	300				E*	NSYT LE	NSYT LE ME	NSYT LEU	NSYT LE FL	
1200	1000	300				E*	NSYT LE	NSYT LE ME	NSYT LEU	NSYT LE FL	
1200	1000	400				E*	NSYT LE	NSYT LE ME	NSYT LEU	NSYT LE FL	
1200	1200	300				E*	NSYT LE	NSYT LE ME	NSYT LEU	NSYT LE FL	
1200	1200	400				E*	NSYT LE	NSYT LE ME	NSYT LEU	NSYT LE FL	
1400	1000	300				E*	NSYT LE	NSYT LE ME	NSYT LEU	NSYT LE FL	

(5) For other dimensions, consult our application offer  
 (6) FL13 for entry type A and B  
 FL21 for all other entries

\*2 plates



Earthing strip  
 ref. NSYEDCOC  
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Composition accessories										
Internal door (7)	Step slides	Canopy	Fixing on post	Lateral plinth**		Plain front plinth**		Support pillar adaptation plate	Support pillar	Door cross-rails
				100 mm	200 mm	100 mm	200 mm			
		NSYJ2015								
		NSYJ2515								
		NSYJ3015	NSYSFPSC30					NSYAEFP315S3D	NSYCOCN80	
	NSYSDCR200	NSYJ3020	NSYSFPSC30					NSYAEFP32S3D	NSYCOCN80	
		NSYJ4015	NSYSFPSC40					NSYAEFP315S3D	NSYCOCN80	
	NSYSDCR200	NSYJ4020	NSYSFPSC40					NSYAEFP42S3D	NSYCOCN80	
NSYPIN43		NSYJ3015	NSYSFPSC30					NSYAEFP315S3D	NSYCOCN80	
NSYPIN43	NSYSDCR200	NSYJ3020	NSYSFPSC30					NSYAEFP32S3D	NSYCOCN80	
	NSYSDCR200	NSYJ4020	NSYSFPSC40					NSYAEFP42S3D	NSYCOCN80	NSYTFPCR4
	NSYSDCR200	NSYJ6020	NSYSFPSC60							NSYTFPCR6
	NSYSDCR250	NSYJ6025	NSYSFPSC60							NSYTFPCR6
	NSYSDCR200	NSYJ3020	NSYSFPSC30					NSYAEFP32S3D	NSYCOCN80	
NSYPIN54	NSYSDCR200	NSYJ4020	NSYSFPSC40					NSYAEFP42S3D	NSYCOCN80	NSYTFPCR4
NSYPIN54		NSYJ4025	NSYSFPSC40					NSYAEFP42S3D	NSYCOCN80	NSYTFPCR4
	NSYSDCR200	NSYJ5020	NSYSFPSC50							NSYTFPCR5
	NSYSDCR250	NSYJ5025	NSYSFPSC50							NSYTFPCR5
NSYPIN64	NSYSDCR200	NSYJ4020	NSYSFPSC40					NSYAEFP42S3D	NSYCOCN80	NSYTFPCR4
NSYPIN64	NSYSDCR250	NSYJ4025	NSYSFPSC40					NSYAEFP42S3D	NSYCOCN80	NSYTFPCR4
	NSYSDCR250	NSYJ5025	NSYSFPSC50							NSYTFPCR6
	NSYSDCR200	NSYJ6020	NSYSFPSC60							NSYTFPCR6
	NSYSDCR250	NSYJ6025	NSYSFPSC60							NSYTFPCR6
	NSYSDCR300	NSYJ6030	NSYSFPSC60	NSYSPS3100SD	NSYSPS3200SD	NSYSPPF6100	NSYSPPF6200			NSYTFPCR6
	NSYSDCR400	NSYJ6040	NSYSFPSC60	NSYSPS4100SD	NSYSPS4200SD	NSYSPPF6100	NSYSPPF6200			NSYTFPCR6
	NSYSDCR300	NSYJ8030	NSYSFPSC80	NSYSPS3100SD	NSYSPS3200SD	NSYSPPF8100	NSYSPPF8200			NSYTFPCR8
NSYPIN75	NSYSDCR250	NSYJ5025	NSYSFPSC50							NSYTFPCR5
NSYPIN86	NSYSDCR200	NSYJ6020	NSYSFPSC60							NSYTFPCR6
NSYPIN86	NSYSDCR250	NSYJ6025	NSYSFPSC60							NSYTFPCR6
NSYPIN86	NSYSDCR300	NSYJ6030	NSYSFPSC60	NSYSPS3100SD	NSYSPS3200SD	NSYSPPF6100	NSYSPPF6200			NSYTFPCR6
NSYPIN86	NSYSDCR400	NSYJ6040	NSYSFPSC60	NSYSPS4100SD	NSYSPS4200SD	NSYSPPF6100	NSYSPPF6200			NSYTFPCR6
	NSYSDCR250	NSYJ8025	NSYSFPSC80							NSYTFPCR8
	NSYSDCR300	NSYJ8030	NSYSFPSC80	NSYSPS3100SD	NSYSPS3200SD	NSYSPPF8100	NSYSPPF8200			NSYTFPCR8
	NSYSDCR300	NSYJ10030		NSYSPS3100SD	NSYSPS3200SD	NSYSPPF10100	NSYSPPF10200			NSYTFPCR10
	NSYSDCR300	NSYJ10030		NSYSPS3100SD	NSYSPS3200SD	NSYSPPF10100	NSYSPPF10200			
	NSYSDCR300*	NSYJ12030								
NSYPIN106	NSYSDCR250	NSYJ6025								NSYTFPCR6
NSYPIN106	NSYSDCR300	NSYJ6030		NSYSPS3100SD	NSYSPS3200SD	NSYSPPF6100	NSYSPPF6200			NSYTFPCR6
NSYPIN106	NSYSDCR400	NSYJ6040		NSYSPS4100SD	NSYSPS4200SD	NSYSPPF6100	NSYSPPF6200			NSYTFPCR6
NSYPIN108	NSYSDCR250	NSYJ8025								NSYTFPCR8
NSYPIN108	NSYSDCR300	NSYJ8030		NSYSPS3100SD	NSYSPS3200SD	NSYSPPF8100	NSYSPPF8200			NSYTFPCR8
NSYPIN108	NSYSDCR400	NSYJ8040		NSYSPS4100SD	NSYSPS4200SD	NSYSPPF8100	NSYSPPF8200			NSYTFPCR8
	NSYSDCR300	NSYJ10030		NSYSPS3100SD	NSYSPS3200SD	NSYSPPF10100	NSYSPPF10200			NSYTFPCR10
	NSYSDCR300	NSYJ10030		NSYSPS3100SD	NSYSPS3200SD	NSYSPPF10100	NSYSPPF10200			
	NSYSDCR300*	NSYJ12030		NSYSPS3100SD	NSYSPS3200SD	NSYSPPF12100	NSYSPPF12200			
	NSYSDCR400*	NSYJ12040		NSYSPS4100SD	NSYSPS4200SD	NSYSPPF12100	NSYSPPF12200			
NSYPIN126	NSYSDCR300	NSYJ6030		NSYSPS3100SD	NSYSPS3200SD	NSYSPPF6100	NSYSPPF6200			
NSYPIN126	NSYSDCR400	NSYJ6040		NSYSPS4100SD	NSYSPS4200SD	NSYSPPF6100	NSYSPPF6200			
NSYPIN128	NSYSDCR300	NSYJ8030		NSYSPS3100SD	NSYSPS3200SD	NSYSPPF8100	NSYSPPF8200			NSYTFPCR8
NSYPIN128	NSYSDCR400	NSYJ8040		NSYSPS4100SD	NSYSPS4200SD	NSYSPPF8100	NSYSPPF8200			NSYTFPCR8
	NSYSDCR300	NSYJ10030		NSYSPS3100SD	NSYSPS3200SD	NSYSPPF10100	NSYSPPF10200			NSYTFPCR10
	NSYSDCR300	NSYJ10030		NSYSPS3100SD	NSYSPS3200SD	NSYSPPF10100	NSYSPPF10200			
	NSYSDCR400	NSYJ10040		NSYSPS4100SD	NSYSPS4200SD	NSYSPPF10100	NSYSPPF10200			
	NSYSDCR300*	NSYJ12030		NSYSPS3100SD	NSYSPS3200SD	NSYSPPF12100	NSYSPPF12200			
	NSYSDCR400*	NSYJ12040		NSYSPS4100SD	NSYSPS4200SD	NSYSPPF12100	NSYSPPF12200			
	NSYSDCR300	NSYJ10030		NSYSPS3100SD	NSYSPS3200SD	NSYSPPF10100	NSYSPPF10200			

(7) To adjust the depth of the internal door, please order the step slides.

\*For the double mounting plates, order also ref. **NSYSDRSDCR300** (D300) or **NSYSDRSDCR400** (D400).

\*\*To install the plinth to a wall-mounting enclosure, order ref. **NSYAPFWM**.



# Enclosures Spacial SF and SM - Quick selection guide



Nominal dimensions (mm)			No. of doors	Spacial SF			Side panels (fixing from the outside)	Cable-gland plate		
Height	Width	Depth		Plain door		Transparent door		Plain	1 entry	2 entries
			With mounting plate	Without mounting plate	Without mounting plate					
1200	600	400	1	NSYSF12640P	NSYSF12640	-	NSY2SP124	NSYEC64	NSYEC641	-
1200	600	600	1	NSYSF12660P	NSYSF12660	-	NSY2SP126	NSYEC66	NSYEC661	NSYEC662
1200	800	300	1	-	-	-	-	-	-	-
1200	800	400	1	NSYSF12840P	NSYSF12840	-	NSY2SP124	NSYEC84	NSYEC841	-
1200	800	600	1	NSYSF12860P	NSYSF12860	-	NSY2SP126	NSYEC86	NSYEC861	NSYEC862
1200	1000	300	2	-	-	-	-	-	-	-
1200	1200	400	2	-	-	-	-	-	-	-
1400	600	300	1	-	-	-	-	-	-	-
1400	600	400	1	NSYSF14640P	NSYSF14640	-	NSY2SP144	NSYEC64	NSYEC641	-
1400	800	300	1	-	-	-	-	-	-	-
1400	800	400	1	NSYSF14840P	NSYSF14840	-	NSY2SP144	NSYEC84	NSYEC841	-
1400	1000	400	2	-	-	-	-	-	-	-
1400	1200	400	2	-	-	-	-	-	-	-
1600	600	300	1	-	-	-	-	-	-	-
1600	600	400	1	-	-	-	-	-	-	-
1600	600	600	1	NSYSF16660P	NSYSF16660	-	NSY2SP166	NSYEC66	NSYEC661	NSYEC662
1600	600	800	1	NSYSF16680P	NSYSF16680	-	NSY2SP168	NSYEC68	NSYEC681	NSYEC682
1600	800	300	1	-	-	-	-	-	-	-
1600	800	400	1	-	-	-	-	-	-	-
1600	800	600	1	NSYSF16860P	NSYSF16860	-	NSY2SP166	NSYEC86	NSYEC861	NSYEC862
1600	800	800	1	NSYSF16880P	NSYSF16880	-	NSY2SP168	NSYEC88	NSYEC881	NSYEC882
1600	1000	300	2	-	-	-	-	-	-	-
1600	1000	400	2	-	-	-	-	-	-	-
1600	1200	300	2	-	-	-	-	-	-	-
1600	1200	400	2	-	-	-	-	-	-	-
1800	400	400	1	-	NSYSF18440	-	NSY2SP184	NSYEC44	NSYEC441	-
1800	400	500	1	-	NSYSF18450	-	NSY2SP185	NSYEC45	NSYEC451	-
1800	400	600	1	-	NSYSF18460	-	NSY2SP186	-	NSYEC461	NSYEC462
1800	600	300	1	-	-	-	-	-	-	-
1800	600	400	1	NSYSF18640P	NSYSF18640	NSYSF18640T	NSY2SP184	NSYEC64	NSYEC641	-
1800	600	500	1	NSYSF18650P	NSYSF18650	NSYSF18650T	NSY2SP185	NSYEC65	NSYEC651	-
1800	600	600	1	NSYSF18660P	NSYSF18660	-	NSY2SP186	NSYEC66	NSYEC661	NSYEC662
1800	600	800	1	-	-	NSYSF18680T	NSY2SP188	NSYEC68	NSYEC681	NSYEC682
1800	800	300	1	-	-	-	-	-	-	-
1800	800	400	1	NSYSF18840P	NSYSF18840	NSYSF18840T	NSY2SP184	NSYEC84	NSYEC841	-
1800	800	500	1	NSYSF18850P	NSYSF18850	NSYSF18850T	NSY2SP185	NSYEC85	NSYEC851	-
1800	800	600	1	NSYSF18860P	NSYSF18860	NSYSF18860T	NSY2SP186	NSYEC86	NSYEC861	NSYEC862
1800	800	600	2	NSYSF188602DP	NSYSF188602D	-	NSY2SP186	NSYEC86	NSYEC861	NSYEC862
1800	1000	400	1	NSYSF181040P	NSYSF181040	-	NSY2SP184	NSYEC104	NSYEC1041	-
1800	1000	400	2	NSYSF1810402DP	NSYSF1810402D	-	NSY2SP184	NSYEC104	NSYEC1041	-
1800	1000	500	1	NSYSF181050P	NSYSF181050	-	NSY2SP185	NSYEC105	NSYEC1051	-
1800	1000	500	2	-	-	-	-	-	-	-
1800	1000	600	1	NSYSF181060P	NSYSF181060	-	NSY2SP186	NSYEC106	NSYEC1061	NSYEC1062
1800	1000	600	2	NSYSF1810602DP	NSYSF1810602D	-	NSY2SP186	NSYEC106	NSYEC1061	NSYEC1062
1800	1200	400	2	NSYSF1812402DP	NSYSF1812402D	-	NSY2SP184	NSYEC124	NSYEC1241	-
1800	1200	500	2	NSYSF1812502DP	NSYSF1812502D	-	NSY2SP185	NSYEC125	NSYEC1251	-
1800	1200	600	2	NSYSF1812602DP	NSYSF1812602D	-	NSY2SP186	NSYEC126	NSYEC1261	NSYEC1262
1800	1600	400	2	-	-	-	-	-	-	-
1800	1600	500	2	-	-	-	-	-	-	-
2000	300	500	1	-	NSYSF20350	-	NSY2SP205	NSYEC35	NSYEC351	-
2000	300	600	1	-	NSYSF20360	-	NSY2SP206	NSYEC36	NSYEC361	-
2000	400	400	1	-	NSYSF20440	-	NSY2SP204	NSYEC44	NSYEC441	-
2000	400	500	1	-	NSYSF20450	-	NSY2SP205	NSYEC45	NSYEC451	-
2000	400	600	1	-	NSYSF20460	-	NSY2SP206	-	NSYEC461	NSYEC462
2000	400	800	1	-	NSYSF20480	-	NSY2SP208	-	NSYEC481	NSYEC482
2000	600	300	1	-	-	-	-	-	-	-
2000	600	400	1	NSYSF20640P	NSYSF20640	NSYSF20640T	NSY2SP204	NSYEC64	NSYEC641	-
2000	600	500	1	NSYSF20650P	NSYSF20650	NSYSF20650T	NSY2SP205	NSYEC65	NSYEC651	-
2000	600	600	1	NSYSF20660P	NSYSF20660	-	NSY2SP206	NSYEC66	NSYEC661	NSYEC662
2000	600	800	1	NSYSF20680P	NSYSF20680	-	NSY2SP208	NSYEC68	NSYEC681	NSYEC682
2000	800	300	1	-	-	-	-	-	-	-
2000	800	400	1	NSYSF20840P	NSYSF20840	NSYSF20840T	NSY2SP204	NSYEC84	NSYEC841	-
2000	800	500	1	NSYSF20850P	NSYSF20850	NSYSF20850T	NSY2SP205	NSYEC85	NSYEC851	-
2000	800	600	1	NSYSF20860P	NSYSF20860	NSYSF20860T	NSY2SP206	NSYEC86	NSYEC861	NSYEC862
2000	800	600	2	NSYSF208602DP	NSYSF208602D	-	NSY2SP206	NSYEC86	NSYEC861	NSYEC862
2000	800	800	1	NSYSF20880P	NSYSF20880	NSYSF20880T	NSY2SP208	NSYEC88	NSYEC881	NSYEC882
2000	1000	400	1	NSYSF201040P	NSYSF201040	NSYSF201040T	NSY2SP204	NSYEC104	NSYEC1041	-
2000	1000	400	2	NSYSF2010402DP	NSYSF2010402D	-	NSY2SP204	NSYEC104	NSYEC1041	-
2000	1000	500	1	NSYSF201050P	NSYSF201050	NSYSF201050T	NSY2SP205	NSYEC105	NSYEC1051	-
2000	1000	500	2	NSYSF2010502DP	NSYSF2010502D	-	NSY2SP205	NSYEC105	NSYEC1051	-
2000	1000	600	1	NSYSF201060P	NSYSF201060	NSYSF201060T	NSY2SP206	NSYEC106	NSYEC1061	NSYEC1062
2000	1000	600	2	NSYSF2010602DP	NSYSF2010602D	-	NSY2SP206	NSYEC106	NSYEC1061	NSYEC1062
2000	1000	800	1	NSYSF201080P	NSYSF201080	-	NSY2SP208	NSYEC108	NSYEC1081	NSYEC1082
2000	1200	400	2	NSYSF2012402DP	NSYSF2012402D	-	NSY2SP204	NSYEC124	NSYEC1241	-
2000	1200	500	2	NSYSF2012502DP	NSYSF2012502D	-	NSY2SP205	NSYEC125	NSYEC1251	-
2000	1200	600	2	NSYSF2012602DP	NSYSF2012602D	-	NSY2SP206	NSYEC126	NSYEC1261	NSYEC1262
2000	1200	800	2	NSYSF2012802DP	NSYSF2012802D	-	NSY2SP208	NSYEC128	NSYEC1281	NSYEC1282
2000	1600	400	2	NSYSF2016402DP	NSYSF2016402D	-	NSY2SP204	NSYEC164	NSYEC1641	-
2000	1600	500	2	NSYSF2016502DP	NSYSF2016502D	-	NSY2SP205	NSYEC165	NSYEC1651	-
2000	1600	600	2	NSYSF2016602DP	NSYSF2016602D	-	NSY2SP206	NSYEC166	NSYEC1661	NSYEC1662
2200	400	600	1	-	NSYSF22460	-	NSY2SP226	-	NSYEC461	NSYEC462
2200	600	600	1	NSYSF22660P	NSYSF22660	-	NSY2SP226	NSYEC66	NSYEC661	NSYEC662
2200	600	800	1	NSYSF22680P	NSYSF22680	-	NSY2SP228	NSYEC68	NSYEC681	NSYEC682
2200	800	600	1	NSYSF22860P	NSYSF22860	-	NSY2SP226	NSYEC86	NSYEC861	NSYEC862
2200	800	800	1	NSYSF22880P	NSYSF22880	NSYSF22880T	NSY2SP228	NSYEC88	NSYEC881	NSYEC882
2200	1000	600	1	NSYSF221060P	NSYSF221060	-	NSY2SP226	NSYEC106	NSYEC1061	NSYEC1062
2200	1200	600	2	NSYSF2212602DP	NSYSF2212602D	-	NSY2SP226	NSYEC126	NSYEC1261	NSYEC1262
2200	1200	800	2	NSYSF2212802DP	NSYSF2212802D	-	NSY2SP228	NSYEC128	NSYEC1281	NSYEC1282





Spacial SM					SF/SM accessories				
Plain door		Transparent door	Vertical adaptation profiles	Horizontal adaptation profiles	Mounting plate	Plinth height 100 mm		Plinth height 200 mm	
With mounting plate	Without mounting plate	Without mounting plate				Front kit	Side panels	Front kit	Side panels
-	-	-	-	-	NSYMP126	NSYSPF6100	NSYSPS4100	NSYSPF6200	NSYSPS4200
-	-	-	-	-	NSYMP126	NSYSPF6100	NSYSPS6100	NSYSPF6200	NSYSPS6200
NSYSM12830P	NSYSM12830	-	NSYSMVR12	NSYSMHR8	NSYMP128	NSYSPF8100	NSYSPS3100	NSYSPF8200	NSYSPS3200
-	-	-	-	-	NSYMP128	NSYSPF8100	NSYSPS4100	NSYSPF8200	NSYSPS4200
-	-	-	-	-	NSYMP128	NSYSPF8100	NSYSPS6100	NSYSPF8200	NSYSPS6200
NSYSM1210302DP	NSYSM1210302D	-	NSYSMVR14	NSYSMHR10	NSYMP1210	NSYSPF10100	NSYSPS3100	NSYSPF10200	NSYSPS3200
NSYSM1212402DP	NSYSM1212402D	-	NSYSMVR14	NSYSMHR12	NSYMP1212	NSYSPF12100	NSYSPS4100	NSYSPF12200	NSYSPS4200
NSYSM14630P	NSYSM14630	-	NSYSMVR14	NSYSMHR6	NSYMP146	NSYSPF6100	NSYSPS3100	NSYSPF6200	NSYSPS3200
NSYSM14640P	NSYSM14640	-	NSYSMVR14	NSYSMHR6	NSYMP146	NSYSPF6100	NSYSPS4100	NSYSPF6200	NSYSPS4200
NSYSM14830P	NSYSM14830	-	NSYSMVR14	NSYSMHR8	NSYMP148	NSYSPF8100	NSYSPS3100	NSYSPF8200	NSYSPS3200
NSYSM14840P	NSYSM14840	NSYSM14840T	NSYSMVR14	NSYSMHR8	NSYMP148	NSYSPF8100	NSYSPS4100	NSYSPF8200	NSYSPS4200
NSYSM1410402DP	NSYSM1410402D	-	NSYSMVR14	NSYSMHR10	NSYMP1410	NSYSPF10100	NSYSPS4100	NSYSPF10200	NSYSPS4200
NSYSM1412402DP	NSYSM1412402D	-	NSYSMVR14	NSYSMHR12	NSYMP1412	NSYSPF12100	NSYSPS4100	NSYSPF12200	NSYSPS4200
NSYSM16630P	NSYSM16630	-	NSYSMVR16	NSYSMHR6	NSYMP166	NSYSPF6100	NSYSPS3100	NSYSPF6200	NSYSPS3200
NSYSM16640P	NSYSM16640	NSYSM16640T	NSYSMVR16	NSYSMHR6	NSYMP166	NSYSPF6100	NSYSPS4100	NSYSPF6200	NSYSPS4200
-	-	-	-	-	NSYMP166	NSYSPF6100	NSYSPS6100	NSYSPF6200	NSYSPS6200
-	-	-	-	-	NSYMP166	NSYSPF6100	NSYSPS8100	NSYSPF6200	NSYSPS8200
NSYSM16830P	NSYSM16830	NSYSM16830T	NSYSMVR16	NSYSMHR8	NSYMP168	NSYSPF8100	NSYSPS3100	NSYSPF8200	NSYSPS3200
NSYSM16840P	NSYSM16840	NSYSM16840T	NSYSMVR16	NSYSMHR8	NSYMP168	NSYSPF8100	NSYSPS4100	NSYSPF8200	NSYSPS4200
-	-	-	-	-	NSYMP168	NSYSPF8100	NSYSPS6100	NSYSPF8200	NSYSPS6200
-	-	-	-	-	NSYMP168	NSYSPF8100	NSYSPS8100	NSYSPF8200	NSYSPS8200
NSYSM1610302DP	NSYSM1610302D	-	NSYSMVR16	NSYSMHR10	NSYMP1610	NSYSPF10100	NSYSPS3100	-	-
NSYSM1610402DP	NSYSM1610402D	-	NSYSMVR16	NSYSMHR10	NSYMP1610	NSYSPF10100	NSYSPS4100	NSYSPF10200	NSYSPS4200
NSYSM1612302DP	NSYSM1612302D	-	NSYSMVR16	NSYSMHR12	NSYMP1612	NSYSPF12100	NSYSPS3100	NSYSPF12200	NSYSPS3200
NSYSM1612402DP	NSYSM1612402D	-	NSYSMVR16	NSYSMHR12	NSYMP1612	NSYSPF12100	NSYSPS4100	NSYSPF12200	NSYSPS4200
-	-	-	-	-	-	NSYSPF4100	NSYSPS4100	NSYSPF4200	NSYSPS4200
-	-	-	-	-	-	NSYSPF4100	NSYSPS5100	NSYSPF4200	NSYSPS5200
-	-	-	-	-	-	NSYSPF4100	NSYSPS6100	NSYSPF4200	NSYSPS6200
NSYSM18630P	NSYSM18630	-	NSYSMVR18	NSYSMHR6	NSYMP186	NSYSPF6100	NSYSPS3100	NSYSPF6200	NSYSPS3200
NSYSM18640P	NSYSM18640	NSYSM18640T	NSYSMVR18	NSYSMHR6	NSYMP186	NSYSPF6100	NSYSPS4100	NSYSPF6200	NSYSPS4200
NSYSM18650P	NSYSM18650	-	NSYSMVR18	NSYSMHR6	NSYMP186	NSYSPF6100	NSYSPS5100	NSYSPF6200	NSYSPS5200
-	-	-	-	-	NSYMP186	NSYSPF6100	NSYSPS6100	NSYSPF6200	NSYSPS6200
-	-	-	-	-	NSYMP186	NSYSPF6100	NSYSPS8100	NSYSPF6200	NSYSPS8200
NSYSM18830P	NSYSM18830	NSYSM18830T	NSYSMVR18	NSYSMHR8	NSYMP188	NSYSPF8100	NSYSPS3100	NSYSPF8200	NSYSPS3200
NSYSM18840P	NSYSM18840	NSYSM18840T	NSYSMVR18	NSYSMHR8	NSYMP188	NSYSPF8100	NSYSPS4100	NSYSPF8200	NSYSPS4200
NSYSM18850P	NSYSM18850	NSYSM18850T	NSYSMVR18	NSYSMHR8	NSYMP188	NSYSPF8100	NSYSPS5100	NSYSPF8200	NSYSPS5200
NSYSM18860P	NSYSM18860	-	NSYSMVR18	NSYSMHR8	NSYMP188	NSYSPF8100	NSYSPS6100	NSYSPF8200	NSYSPS6200
-	-	-	-	-	NSYMP188	NSYSPF8100	NSYSPS6100	NSYSPF8200	NSYSPS6200
NSYSM181040P	NSYSM181040	-	NSYSMVR18	NSYSMHR10	NSYMP1810	NSYSPF10100	NSYSPS4100	NSYSPF10200	NSYSPS4200
NSYSM1810402DP	NSYSM1810402D	-	NSYSMVR18	NSYSMHR10	NSYMP1810	NSYSPF10100	NSYSPS4100	NSYSPF10200	NSYSPS4200
-	-	-	-	-	NSYMP1810	NSYSPF10100	NSYSPS5100	NSYSPF10200	NSYSPS5200
NSYSM1810502DP	NSYSM1810502D	-	NSYSMVR18	NSYSMHR10	NSYMP1810	NSYSPF10100	NSYSPS5100	NSYSPF10200	NSYSPS5200
-	-	-	-	-	NSYMP1810	NSYSPF10100	NSYSPS6100	NSYSPF10200	NSYSPS6200
-	-	-	-	-	NSYMP1810	NSYSPF10100	NSYSPS6100	NSYSPF10200	NSYSPS6200
NSYSM1812402DP	NSYSM1812402D	-	NSYSMVR18	NSYSMHR12	NSYMP1812	NSYSPF12100	NSYSPS4100	NSYSPF12200	NSYSPS4200
NSYSM1812502DP	NSYSM1812502D	-	NSYSMVR18	NSYSMHR12	NSYMP1812	NSYSPF12100	NSYSPS5100	NSYSPF12200	NSYSPS5200
-	-	-	-	-	NSYMP1812	NSYSPF12100	NSYSPS6100	NSYSPF12200	NSYSPS6200
NSYSM1816402DP	NSYSM1816402D	-	NSYSMVR18	NSYSMHR16	NSYMP1816	NSYSPF16100	NSYSPS4100	NSYSPF16200	NSYSPS4200
NSYSM1816502DP	NSYSM1816502D	-	NSYSMVR18	NSYSMHR16	NSYMP1816	NSYSPF16100	NSYSPS5100	NSYSPF16200	NSYSPS5200
-	-	-	-	-	-	NSYSPF3100	NSYSPS5100	NSYSPF3200	NSYSPS5200
-	-	-	-	-	-	NSYSPF3100	NSYSPS6100	NSYSPF3200	NSYSPS6200
-	-	-	-	-	-	NSYSPF4100	NSYSPS4100	NSYSPF4200	NSYSPS4200
-	-	-	-	-	-	NSYSPF4100	NSYSPS5100	NSYSPF4200	NSYSPS5200
-	-	-	-	-	-	NSYSPF4100	NSYSPS6100	NSYSPF4200	NSYSPS6200
-	-	-	-	-	-	NSYSPF4100	NSYSPS8100	NSYSPF4200	NSYSPS8200
NSYSM20630P	NSYSM20630	-	NSYSMVR20	NSYSMHR6	NSYMP206	NSYSPF6100	NSYSPS3100	NSYSPF6200	NSYSPS3200
NSYSM20640P	NSYSM20640	NSYSM20640T	NSYSMVR20	NSYSMHR6	NSYMP206	NSYSPF6100	NSYSPS4100	NSYSPF6200	NSYSPS4200
NSYSM20650P	NSYSM20650	-	NSYSMVR20	NSYSMHR6	NSYMP206	NSYSPF6100	NSYSPS5100	NSYSPF6200	NSYSPS5200
-	-	-	-	-	NSYMP206	NSYSPF6100	NSYSPS6100	NSYSPF6200	NSYSPS6200
-	-	-	-	-	NSYMP206	NSYSPF6100	NSYSPS8100	NSYSPF6200	NSYSPS8200
NSYSM20830P	NSYSM20830	NSYSM20830T	NSYSMVR20	NSYSMHR8	NSYMP208	NSYSPF8100	NSYSPS3100	NSYSPF8200	NSYSPS3200
NSYSM20840P	NSYSM20840	NSYSM20840T	NSYSMVR20	NSYSMHR8	NSYMP208	NSYSPF8100	NSYSPS4100	NSYSPF8200	NSYSPS4200
NSYSM20850P	NSYSM20850	NSYSM20850T	NSYSMVR20	NSYSMHR8	NSYMP208	NSYSPF8100	NSYSPS5100	NSYSPF8200	NSYSPS5200
NSYSM20860P	NSYSM20860	NSYSM20860T	NSYSMVR20	NSYSMHR8	NSYMP208	NSYSPF8100	NSYSPS6100	NSYSPF8200	NSYSPS6200
-	-	-	-	-	NSYMP208	NSYSPF8100	NSYSPS6100	NSYSPF8200	NSYSPS6200
-	-	-	-	-	NSYMP208	NSYSPF8100	NSYSPS8100	NSYSPF8200	NSYSPS8200
-	-	-	-	-	NSYMP2010	NSYSPF10100	NSYSPS4100	NSYSPF10200	NSYSPS4200
NSYSM2010402DP	NSYSM2010402D	-	NSYSMVR20	NSYSMHR10	NSYMP2010	NSYSPF10100	NSYSPS4100	NSYSPF10200	NSYSPS4200
-	-	-	-	-	NSYMP2010	NSYSPF10100	NSYSPS5100	NSYSPF10200	NSYSPS5200
NSYSM2010502DP	NSYSM2010502D	-	NSYSMVR20	NSYSMHR10	NSYMP2010	NSYSPF10100	NSYSPS5100	NSYSPF10200	NSYSPS5200
-	-	-	-	-	NSYMP2010	NSYSPF10100	NSYSPS6100	NSYSPF10200	NSYSPS6200
-	-	-	-	-	NSYMP2010	NSYSPF10100	NSYSPS6100	NSYSPF10200	NSYSPS6200
-	-	-	-	-	NSYMP2010	NSYSPF10100	NSYSPS8100	NSYSPF10200	NSYSPS8200
NSYSM2012402DP	NSYSM2012402D	-	NSYSMVR20	NSYSMHR12	NSYMP2012	NSYSPF12100	NSYSPS4100	NSYSPF12200	NSYSPS4200
NSYSM2012502DP	NSYSM2012502D	-	NSYSMVR20	NSYSMHR12	NSYMP2012	NSYSPF12100	NSYSPS5100	NSYSPF12200	NSYSPS5200
NSYSM2012602DP	NSYSM2012602D	-	NSYSMVR20	NSYSMHR12	NSYMP2012	NSYSPF12100	NSYSPS6100	NSYSPF12200	NSYSPS6200
-	-	-	-	-	NSYMP2012	NSYSPF12100	NSYSPS8100	NSYSPF12200	NSYSPS8200
NSYSM2016402DP	NSYSM2016402D	-	NSYSMVR20	NSYSMHR16	NSYMP2016	NSYSPF16100	NSYSPS4100	NSYSPF16200	NSYSPS4200
NSYSM2016502DP	NSYSM2016502D	-	NSYSMVR20	NSYSMHR16	NSYMP2016	NSYSPF16100	NSYSPS5100	NSYSPF16200	NSYSPS5200
NSYSM2016602DP	NSYSM2016602D	-	NSYSMVR20	NSYSMHR16	NSYMP2016	NSYSPF16100	NSYSPS6100	NSYSPF16200	NSYSPS6200
-	-	-	-	-	-	NSYSPF4100	NSYSPS6100	NSYSPF4200	NSYSPS6200
-	-	-	-	-	NSYMP226	NSYSPF6100	NSYSPS6100	NSYSPF6200	NSYSPS6200
-	-	-	-	-	NSYMP226	NSYSPF6100	NSYSPS8100	NSYSPF6200	NSYSPS8200
-	-	-	-	-	NSYMP228	NSYSPF8100	NSYSPS6100	NSYSPF8200	NSYSPS6200
-	-	-	-	-	NSYMP228	NSYSPF8100	NSYSPS8100	NSYSPF8200	NSYSPS8200
-	-	-	-	-	NSYMP2210	NSYSPF10100	NSYSPS6100	NSYSPF10200	NSYSPS6200
-	-	-	-	-	NSYMP2212	NSYSPF12100	NSYSPS6100	NSYSPF12200	NSYSPS6200
-	-	-	-	-	NSYMP2212	NSYSPF12100	NSYSPS8100	NSYSPF12200	NSYSPS8200

# Enclosures Spatial SF and SM



Cross-rails							
	Universal	Quick-fixing	Universal	Quick-fixing	Universal	Quick-fixing	Light
Nominal dimensions (mm)	40 mm (1 row)		65 mm (2 rows)		90 mm (3 rows)		
300	NSYSUCR4030	-	NSYSUCR6530	-	NSYSUCR9030	-	-
400	NSYSUCR4040	NSYSQCR4040	NSYSUCR6540	NSYSQCR6540	NSYSUCR9040	NSYSQCR9040	NSYSLCR40
500	NSYSUCR4050	NSYSQCR4050	NSYSUCR6550	NSYSQCR6550	NSYSUCR9050	NSYSQCR9050	NSYSLCR50
600	NSYSUCR4060	NSYSQCR4060	NSYSUCR6560	NSYSQCR6560	NSYSUCR9060	NSYSQCR9060	NSYSLCR60
800	NSYSUCR4080	NSYSQCR4080	NSYSUCR6580	NSYSQCR6580	NSYSUCR9080	NSYSQCR9080	NSYSLCR80
1000	NSYSUCR40100	NSYSQCR40100	NSYSUCR65100	NSYSQCR65100	NSYSUCR90100	NSYSQCR90100	-
1200	NSYSUCR40120	NSYSQCR40120	NSYSUCR65120	NSYSQCR65120	NSYSUCR90120	NSYSQCR90120	-
1400	NSYSUCR40140	-	NSYSUCR65140	-	NSYSUCR90140	-	-
1600	NSYSUCR40160	-	NSYSUCR65160	-	NSYSUCR90160	-	-
1800	NSYSUCR40180	-	NSYSUCR65180	-	NSYSUCR90180	-	-
2000	NSYSUCR40200	-	NSYSUCR65200	-	NSYSUCR90200	-	-
2200	NSYSUCR40220	-	NSYSUCR65220	-	NSYSUCR90220	-	-

Other universal cross-rail dimensions available.



DIN rails							
Width (mm)	Symmetrical			Asymmetrical		Double profile	
	Type	Reference	Supply	Reference	Supply	Reference	Supply
600	A	NSYSDR60	20	NSYADR60	20	NSYDPR60	20
800	A	NSYSDR80	20	NSYADR80	20	NSYDPR80	20
1000	A	NSYSDR100	20	NSYADR100	20	NSYDPR100	20
1200	A	NSYSDR120	20	NSYADR120	20	NSYDPR120	20

Width of 2000 mm available in the 3 versions.



Standard and technical uprights		
Height (mm)	Standard uprights	Technical uprights
	Reference	Reference
1200	-	NSYTVR12
1400	-	NSYTVR14
1600	-	NSYTVR16
1800	NSYVR18	NSYTVR18
2000	NSYVR20	NSYTVR20
2200	NSYVR22	NSYTVR22

Fixing elements		
Fixing element	Supply	Reference
M6 caged nut	50	NSYCNFM6
M8 caged nut	50	NSYCNFM8
M6 removable nut	50	NSYCNM6
M8 removable nut	50	NSYCNM8
M6 × 12 mm screw	100	NSYS12M6H
M6 × 16 mm screw	100	NSYS16M6H
M6 × 18 mm screw	100	NSYS18M6H
M8 × 16 mm screw	50	NSYS16M8H
M8 × 20 mm screw	10	NSYS20M8H
Torx T30 M6 × 16 mm screw <sup>1</sup>	100	NSYST30M6
Torx T40 M8 × 16 mm screw <sup>1</sup>	100	NSYST40M8
Torx T30 M6 × 12 mm self-tapping screw <sup>1</sup>	100	NSYST30M6S

<sup>1</sup> Screw without washer.

Coupling kit	
SF	SM
Reference	
NSYSFBK (standard)	NSYSMBK



"L"-rail for fixing cables	
Width (mm)	Reference
600	NSYFCG60
800	NSYFCG80
1000	NSYFCG100
1200	NSYFCG120
1600	NSYFCG160

Depth-adjustable with a pitch of 25 mm.



Rails for heavy loads	
Depth (mm)	Reference
400	NSYHLCR40
500	NSYHLCR50
600	NSYHLCR60
800	NSYHLCR80

Adjustable on the sides with a pitch of 25 mm.



Lower cable-guide cross-rail	
Width (mm)	Reference
600	NSYCFP60
800	NSYCFP80
1000	NSYCFP100
1200	2 × NSYCFP60
1600	2 × NSYCFP80

Depth-adjustable with a pitch of 25 mm.



## Lifting elements

SF			SM
Eyebolts (M12)	Lifting brackets	Lifting bar (length mm)	Eyebolts (M12)
<b>NSYSFEB</b>	<b>NSYSFELB</b>	<b>NSYSFTB16</b>	<b>NSYSMEB</b>
-	-	<b>NSYSFTB18</b>	-
-	-	<b>NSYSFTB24</b>	-
		1600	
		1800	
		2400	

### Advantage:

The eyebolts screwed directly into the vertical axis of the upright contribute greatly to robustness during transport.



## Door accessories

180° hinge	Door switch*	
	SF	SM
<b>NSYSH180</b>	<b>NSYDCM20</b>	<b>NSYMDCM20</b>

\* M20 cable entry adapted for cable-gland seal.  
Open + closed contact, 10 A/500 V.



## Locks

Handle for form inserts and cylindrical barrels	Handle for DIN, KABA, ASSA inserts	Double-insert handle	Padlock locking	CNOMO kit
<b>NSYSFHS1</b>	<b>NSYSFHD2</b>	<b>NSYSFHD3</b>	<b>NSYBLKH123</b>	<b>NSYCNH123</b>

- 1 Handle supplied with all the Spacial SF and Spacial SM enclosures. Does not include the insert when ordered as an accessory.
- 2 To assemble form inserts or cylindrical barrels, adapter ref. NSYLADP must be added.
- 3 Locking system. Prevents the handle from closing while the door is open.

## Door rails

Width (mm)	Door rail	Door cable-guide cross-rail
	Reference	Reference
400	<b>NSYSDCR4</b>	-
500	<b>NSYSDCR5</b>	<b>NSYSDGCR5</b>
600	<b>NSYSDCR6</b>	<b>NSYSDGCR6</b>
800	<b>NSYSDCR8</b>	<b>NSYSDGCR8</b>
1000	<b>NSYSDCR10</b>	<b>NSYSDGCR10</b>

## Door retainers

	SF	SM
Mechanical retainer, 105° opening	<b>NSYSFMDR</b>	<b>NSYSMDR</b>
Pneumatic retainer, 120° opening	<b>NSYSFNDR</b>	<b>NSYSMNR</b>



## Flat escutcheon lock

Models	Reference
2-mm flat screwdriver slot	<b>NSYSFLOCK24</b>
8-mm triangular insert	<b>NSYSFLOCKT8</b>
7-mm triangular insert	<b>NSYSFLOCKT7</b>
6.5-mm triangular insert	<b>NSYSFLOCKT6</b>
8-mm female square insert	<b>NSYSFLOCKSG8</b>
8-mm square insert	<b>NSYSFLOCKS8</b>
7-mm square insert	<b>NSYSFLOCKS7</b>
6-mm square insert	<b>NSYSFLOCKS6</b>
5-mm double-bar insert	<b>NSYSFLOCKDB5</b>



## Internal door




Nominal dimensions (mm)		Reference
Height (mm)	Width (mm)	
1600	600	<b>NSYID166</b>
	800	<b>NSYID168</b>
1800	600	<b>NSYID186</b>
	800	<b>NSYID188</b>
	1000	<b>NSYID1810</b>
2000	600	<b>NSYID206</b>
	800	<b>NSYID208</b>
	1000	<b>NSYID2010</b>
2200	600	<b>NSYID226</b>
	800	<b>NSYID228</b>

## Side door

Nominal dimensions (mm)		Reference
Height (mm)	Width (mm)	
1200	600	<b>NSYSFD126</b>
	800	<b>NSYSFD128</b>
1400	600	<b>NSYSFD146</b>
	800	<b>NSYSFD148</b>
	1000	<b>NSYSFD1410</b>
1600	600	<b>NSYSFD166</b>
	800	<b>NSYSFD168</b>
	1000	<b>NSYSFD1610</b>
1800	400	<b>NSYSFD184</b>
	500	<b>NSYSFD185</b>
	600	<b>NSYSFD186</b>
	800	<b>NSYSFD188</b>
2000	400	<b>NSYSFD204</b>
	500	<b>NSYSFD205</b>
	600	<b>NSYSFD206</b>
	800	<b>NSYSFD208</b>

# Common accessories


## Single cable entries

IP55	PVC adjustable cone-shaped entries		IP55	PVC adjustable cone-shaped entries		IP55	Neoprene adjustable cone-shaped entries	
	ø câble (mm)	Reference		ø câble (mm)	Reference		ø câble (mm)	Reference
	5 à 18	NSYECPC3		5 à 16	NSYEC1		8.6 à 14	NSYECN1
	5 à 26	NSYECPC5		6 à 16	NSYEC2		9 à 26	NSYECN5
	5 à 36	NSYECPC6		7 à 18	NSYEC3		9 à 32	NSYECN6
	28 à 60	NSYECPC9		8 à 20	NSYEC4		9 à 36	NSYECN7
	28 à 87	NSYECPC15		10 à 26	NSYEC5		9.2 à 60	NSYECN10
		12 à 35		NSYEC6				
		13 à 44		NSYEC7				




ø	ISO cable-gland			Cable-gland gasket	Multi-cable disc		Blanking plug	Transport plug
	Reference	ø min. / Max. (mm)	Drill hole ø (2)	Reference	Reference	No. / ø (mm)	Reference	Reference
M12	ISM71501	3 / 6.5	12.2 (0 + 0.2)	IMT36151	-	-	IMT36161	-
M16	ISM71502	4 / 8	16.2 (0 + 0.2)	IMT36152	IMT36157	2 X ø4	IMT36162	IMT36167
M20	ISM71503	6 / 12	20.2 (0 + 0.2)	IMT36153	IMT36158	3 X ø4	IMT36163	IMT36168
M20 (1)	IMT36150	6 / 12	20.2 (0 + 0.2)	IMT36153	IMT36158	3 X ø4	IMT36163	IMT36168
M25	ISM71504	11 / 17	25.2 (0 + 0.2)	IMT36154	IMT36159	4 X ø5	IMT36164	IMT36169
M32	ISM71505	15 / 21	32.2 (0 + 0.3)	IMT36155	IMT36160	6 X ø5	IMT36165	IMT36170
M40	ISM71506	19 / 28	40.5 (0 + 0.3)	IMT36156	-	-	IMT36166	IMT36171


(1) Cable-gland with high resistance to fire. (2) In brackets: tolerance.

## Multiple cable entries

"A" range membranes FL 13 or FL 21												Reference	
IP65	Type	Dimensions (mm)			Nb of entrances	Diameter of the cable entry (ø mm)							
		H	W	D		13	14	15	16	18	21	30	
	FL 13	20	135	47	7			4			3		NSYAECPFLA7
		20	135	47	10	6			4				NSYAECPFLA10
	FL 21	25	215	86	25		16			6		3	NSYAECPFLA25
		25	215	86	33		24			9			NSYAECPFLA33



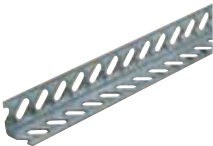

IP65	Number of cable entries	Diameter of the cable entry (ø mm)											Reference		
		5-7	6-10	8-12	8-16	10-14	12-18	14-20	17-32	20-26	25-54	30-60			
	0													NSYAECPFLBP	
	7				4								2	1	NSYAECPFLT7
	25	4		4		12		4		1				NSYAECPFLT25	
	35		2	14		16	2		1					NSYAECPFLT35	

Type	No. of openings	Dimensions cut/out	Diameter of the cable entry (ø mm)							Reference	Quick and easy fixing of cables using this accessory and cable ties.				
			3-5.5	4.3-8.1	3-6.5	3.6-6.5	5-9.2	6-10	8-12.5					9.6-15.9	
	4	50.5						3		1	NSYTSAM504SE		Width (mm)	Max. no. of cables	Reference
	8	50.5				7		1		NSYTSAM508SE					
	8	63.5			2		4		2		NSYTSAM638SE				
	13	63.5	6			6		1			NSYTSAM6313SE				
	14	112 X 36			6		4				NSYSA2414SE				
	17	112 X 36					17			4	NSYSA2417SE	75	6	NSYSCCINLG75	
	22	112 X 36			16		4		2		NSYSA2422SE	140	9	NSYSCCINLG140	
	23	112 X 36		23							NSYSA2423SE				
	29	112 X 36			29						NSYSA2429SE				

IP54	Cable entries system with connectors			Gaskets for cable entries system			
	Types	No. of entries	Reference	For cables (mm) ø *	Reference	For cables (mm) ø *	Reference
	16	8	NSYDCE168	0	NSYCEJD	18-19	NSYCEJD18*
	24	0	NSYDCE240	3-4	NSYCEJD3	20-21	NSYCEJD20*
	24	4	NSYDCE244	5-6	NSYCEJD5	22-23	NSYCEJD22*
	24	10	NSYDCE2410	7-8	NSYCEJD7	24-25	NSYCEJD24*
				9-10	NSYCEJD9	26-27	NSYCEJD26*
				11-12	NSYCEJD11	28-29	NSYCEJD28*
				13-14	NSYCEJD13	30-31	NSYCEJD30*
				16-17	NSYCEJD16*		


\* Large gaskets, only for type 24/4.

## Cable holding


Rail en U			Adjustable cable tie		
	Dimensions (mm)	Reference		Dimensions (mm)	Reference
	2000	NSYCUT30		2.5 X 100	NSYLZ25100
Rail en L					
	Dimensions (mm)	Reference			
	2000	NSYAT32			
Plastic cable support for DIN rail					
	Width (mm)	Max. no. of cables	Reference		
	75	5	NSYSCCDINLG75		
	140	9	NSYSCCDINLG140		

## Earthing and Junction

### Terminal-block support bracket


	NSYEDCO	Référence
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### Fixing lugs for the earthing strip

	NSYEDCOS	Référence
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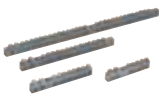
S3D et S3X only

### 45° combined support bracket


	NSYETF	Référence
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For Spacial SM and SF


### Earthing strips

	Number of terminals X section mm <sup>2</sup>	Fig.	Reference
	2 X 16 mm <sup>2</sup> + 5 X 6 mm <sup>2</sup>	2	NSYRBL21656M
	2 X 16 mm <sup>2</sup> + 8 X 6 mm <sup>2</sup>	2	NSYRBL21686M
	2 X 16 mm <sup>2</sup> + 14 X 6 mm <sup>2</sup>	2	NSYRBL216146M
	2 X 16 mm <sup>2</sup> + 29 X 6 mm <sup>2</sup>	2	NSYRBL216296M
	2 X 16 mm <sup>2</sup> + 5 X 6 mm <sup>2</sup>	1	NSYRBLZ21656
	2 X 16 mm <sup>2</sup> + 8 X 6 mm <sup>2</sup>	1	NSYRBLZ21686
	2 X 16 mm <sup>2</sup> + 14 X 6 mm <sup>2</sup>	1	NSYRBLZ216146
	2 X 16 mm <sup>2</sup> + 29 X 6 mm <sup>2</sup>	1	NSYRBLZ216296

### Distribution boards

	N.° of bars	N.° of poles per bar	Fig. n°	Reference
	1	12	1	NSYBDS112
	2	6	2	NSYBDS26
	3	4	3	NSYBDS34
	4	3	4	NSYBDS43

### Sigma safety terminals

	Section (mm <sup>2</sup> )	Reference
	1 X 4	NSYS04
	1 X 6	NSYS06
	1 X 10	NSYS10
	1 X 16	NSYS16
	1 X 35	NSYS2535
	1 X 50	NSYS50
	1 X 70	NSYS70
	1 X 100	NSYS95100

### Earth braids and earth cables

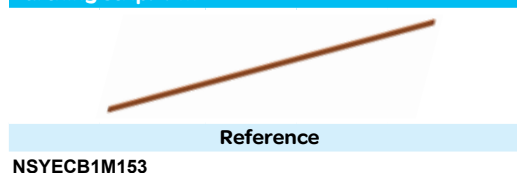


Length (mm)	Width (mm)	Section (mm <sup>2</sup> )	Terminal ø (mm)	Reference
150	12	6	6.5	NSYEB156D6
150	17	10	6.5	NSYEB1510D6
155	17	16	8.5	NSYEB1516D8
200	27	25	8.5	NSYEB2026D8
200	33	50	8.5	NSYEB2050D8



Length (mm)	Section (mm <sup>2</sup> )	Terminal ø (mm)	Reference
130	6	6.4	NSYEL136D6
160	6	6.4	NSYEL166D6
160	6	8.3	NSYEL166D8
170	10	6.4	NSYEL1710D6
220	6	6.4	NSYEL226D6
220	25	8.3	NSYEL2225D8
250	10	6.4	NSYEL2510D6
350	25	8.3	NSYEL3525D8

### Earthing strip: 1 m





# Common accessories

## Cable management

### PVC Cable ducts with cover L = 2m

Width	Height	Reference
25	25	NSYCD2M2525
25	50	NSYCD2M2550
37.5	50	NSYCD2M3750
37.5	75	NSYCD2M3775
50	50	NSYCD2M3755
50	75	NSYCD2M5075
75	25	NSYCD2M7525
75	50	NSYCD2M7550
75	75	NSYCD2M7575
100	75	NSYCD2M10075
125	75	NSYCD2M12575

### Corrugated cable-gland tube

ø nominal (mm)	Reference
17	NSYCPT17
29	NSYCPT29
37	NSYCPT37
50	NSYCPT50

### Cable-gland for body/door






Reference
NSYTC12100

9 mm inner diameter  
50-m reel

### Lyre-shaped clamps

Reference
NSYGCR

### Accessories for fixing cable ducts

				
On Telequick mounting plate or DIN rail.	Insulated-head screw	Ducting support on technical upright	On door with push-buttons	Retention bars
Reference	Reference	Reference	Reference	Reference
NSYSPC	NSYSM10M5HP	NSYCD5	NSYSPCP	NSYCDRB

### Accessories

Model (ø n.)	Fixing support for corrugated tube	
	Reference	
17	NSYCPTS17	
29	NSYCPTS29	
37	NSYCPTS37	
50	NSYCPTS50	

## Maintenance

### Plastic document pocket

Doc. format (mm)	Depth	Reference
A5	22	NSYDPA5
A4	21	NSYDPA4
A4	40	NSYDPA44
A3	35	NSYDPA3

## Lighting and power sockets

### Portable lamp



Description	Voltage	Reference
With switch	230 V	NSYLAMPOR

### Multi-fixing lamp



Description	Voltage	Socket	References
With socket	230 V	Schuko	NSYLAMCS
With socket	230 V	UTE	NSYLAMCF
With socket	230 V	British	NSYLAMCB
With socket	120 V	UL-CSA	NSYLAMCU
Without socket	230 V	-	NSYLAMC
With presence detection	230 V	-	NSYLAMCD

### Door switch for floor-standing enclosures



For ranges	Reference
SF - SFX	NSYDCM20
SM	NSYMDCM20
PLA	NSYSNLPLA

### Door switch for wall-mounting enclosures

For ranges	Reference
CRN, S3D, S3X	NSYINLCRN

### Cost-effective lamp



Power	Voltage	Frequency	Lumens	Dimensions		References
				(mm)	(in)	
8 W	220 V	50-60 Hz	400 lm	213 x 12/140 x 36	112/14.17 x 0.78 x 1.40	NSYLAM8T5
14 W	220 V	50-60 Hz	650 lm	575 x 12/140 x 36	22.43 x 0.78 x 1.40	NSYLAM14T5

## Spacial S3CM - Control Enclosures with Suspension System

### Steel control enclosures



Suspension system solutions available in the Universal Enclosures catalogue



Dimensions (mm)			Cable-gland plate	Tube section (mm)	Weight (kg)	References	
Height	Width	Depth				Enclosure	Box-keyboard
300	300	200		50	8,6	NSYS3CM303020	-
300	400	200		50	9,5	NSYS3CM304020	-
400	400	200		50	11,4	NSYS3CM404020	-
400	600	250	■	50	17,9	NSYS3CM406025	NSYCMT2560110
500	500	250		50	20,2	NSYS3CM505025	-
600	600	200	■	50	26,5	NSYS3CM606020	NSYCMT2560110
600	800	300		80	34,9	NSYS3CM608030	-
800	600	300	■	80	33,6	NSYS3CM806030	NSYCMT2560110

## Spacial SD & SDX - Compact Control Desks

### Control desks



Dimensions (mm)			Nb Front doors	Nb Rear doors	Nb cable-gland plates	References			
Height	Width	Depth				Steel Compact Control desks		Stainless-steel Compact Control desks	Steel control desk with console
						With fixed rear panel	With removable rear panel	With removable rear panel	
1000	600	469	1	-	1	NSYSD6	-	-	-
1000	800	469	1	-	1	NSYSD8	-	-	-
1000	1000	469	2	-	1	NSYSD10	-	-	-
1000	1200	469	2	-	1	NSYSD12	-	-	-
1000	600	600	1	-	1	-	NSYSD6R	NSYSDX6	-
1000	800	600	1	-	1	-	NSYSD8R	NSYSDX8	-
1000	1000	600	2	-	1	-	NSYSD10R	NSYSDX10	-
1000	1200	600	2	-	1	-	NSYSD12R	NSYSDX12	-
1400	800	845	1	1	1	-	-	-	NSYSDF88
1400	1000	845	2	2	1	-	-	-	NSYSDF108
1400	1200	845	2	2	1	-	-	-	NSYSDF128
1400	1600	845	2	2	2	-	-	-	NSYSDF168
1400	800	1045	1	1	1	-	-	-	NSYSDF810
1400	1000	1045	2	2	1	-	-	-	NSYSDF1010
1400	1200	1045	2	2	1	-	-	-	NSYSDF1210
1400	1600	1045	2	2	2	-	-	-	NSYSDF1610

## Spacial SF & SMX PC racks

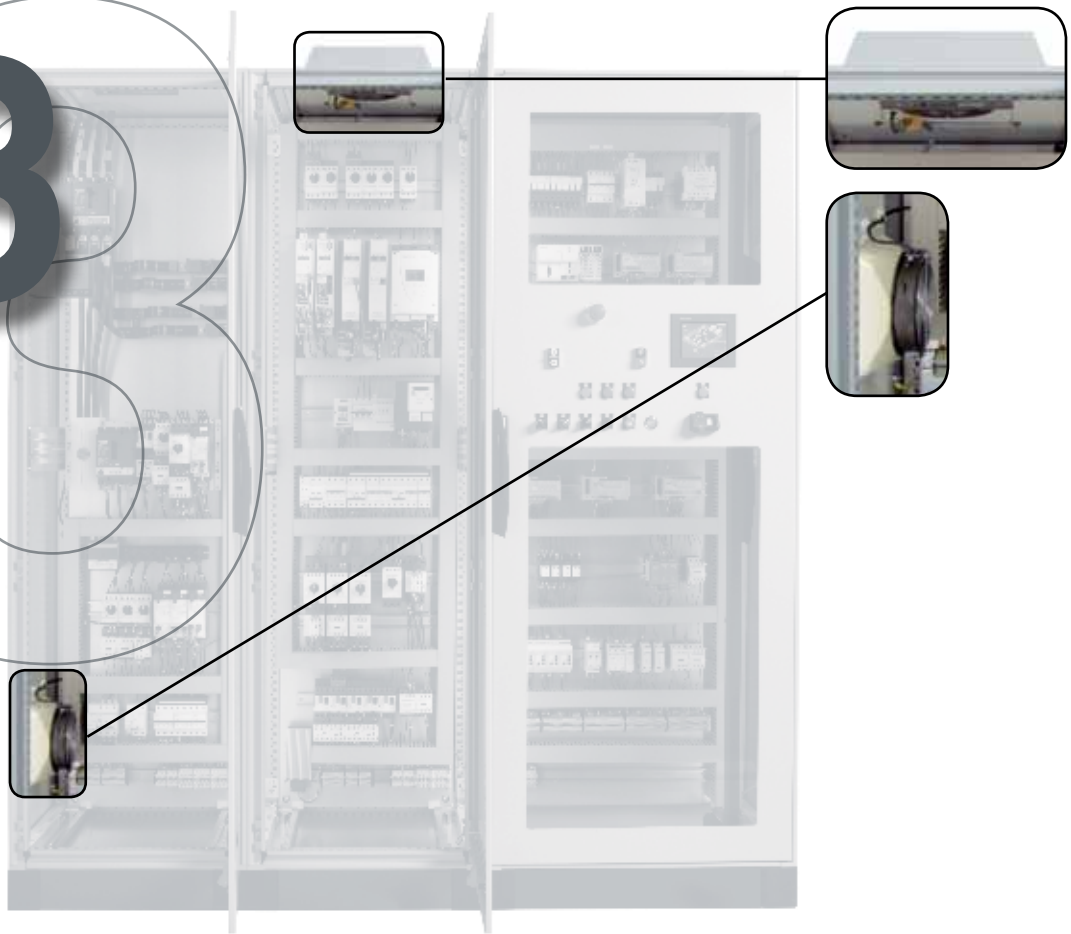
### PC racks



Dimensions (mm)			Nb of compartments	References	
Height	Width	Depth		Steel PC rack	Stainless-steel PC rack
1600	600	600	3	NSYSF16660PC	NSYSMX16660PC
1600	600	800	3	NSYSF16680PC	-
1800	600	600	4	NSYSF18660PC	NSYSMX18660PC
1800	600	800	4	NSYSF18680PC	-

# Thermal management

# 13



**NEW**

Ultra thin resistance heaters have been designed to resolve condensation problems in the most complex installations.

Ultra thin resistance heaters bring you many advantages:

- Minimum thickness
- Heat and safety
- Multiple options for fixing
- Numerous positions for installation
- Low starting current: energy efficiency
- No interference emissions







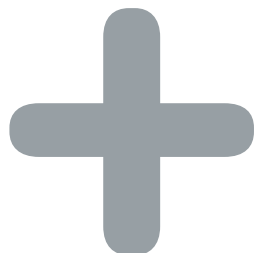
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- Ventilation & exchangers p. 13/4
- Cooling p. 13/5
- Heating p. 13/6
- Control p. 13/7

# Thermal management - Panorama

Function	Ventilation	Cooling		
	Filter fan	SLIM	Lateral	Roof
				
Output	Flow rate	Cooling power		
	38-850m³/h	1100 to 2700W	240 to 4000W	760 to 3100W
Degree of protection	IP54	Up to IP55		IP54
		SLIM units are only 162 mm deep		



## The advantages of efficient thermal management

Thermal management of electrical switchboards is a major factor for industrial maintenance.

Many risks are incurred by not having a suitable thermal solution, which can affect the service life of the components and the performance of the facilities to the extent of causing a halt in production.

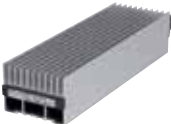




The service life of the components also depends on the temperature and humidity conditions inside the enclosure. The ideal values range from +25 to +35°C for the temperature and 40 to 60 % for the relative humidity (RH).

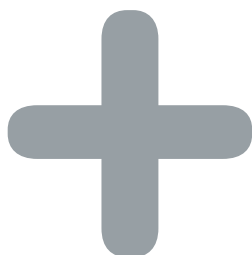
## Cooling, heating, controlling

For the same reasons as the IP/IK protection ratings, equipment installed in enclosures requires suitable thermal protection.

There exist various solutions to these problems. The optimal solution depends on the environmental conditions, the type of components in the electrical switchboard, etc.

We provide a complete Thermal offer to secure your installations. You can easily find the best solution using our ProClima software.

Heating			Control	
Without ventilator	With ventilator	Ultrathin	Bi-metal	Electronic
				
Heating power			Temperature control	Temperature and humidity control
10 to 150W	250 to 400W	10 to 200 W		
Heating units with fan give a higher power output with a reduced volume			The precision of control of temperature or humidity is highest with the Electronic control devices	







### ProClima - thermal calculations made easy

Calculate the right choice for your thermal management requirements, according to the environment and the electrical/electronic devices installed inside the enclosure. ProClima is easy to use and gives you a complete thermal management solution. ProClima can be downloaded from our website.



# Ventilation & exchangers

## Ventilation systems with filters

	Fan flow rate (m³/h)			Voltage	Forced ventilation systems					
	Free with filter	With 1 outlet grille	With 2 outlet grilles		Fan with filter IP54 - RAL 7035	Outlet grille	Colour kit IP54 - RAL 7032	Aluzinc cover IP55 - RAL7035	Stainless-steel cover IP55	EMC cover IP54 - RAL7035
	50 Hz	50 Hz	50 Hz							
	38	25	33	230 V	NSYCVF38M230PF	NSYCAG92LPF	NSYCAG92LPC	-	-	-
	38	27	35	115 V	NSYCVF38M115PF					
	58	39	47	24 V DC	NSYCVF38M24DPF					
	44	34	41	48 V DC	NSYCVF38M48DPF					
	85	63	71	230 V	NSYCVF85M230PF	NSYCAG125LPF	NSYCAG125LPC	NSYCAP125LZF	NSYCAP125LXF	NSYCAP125LE
	79	65	73	115 V	NSYCVF85M115PF					
	80	57	77	24 V DC	NSYCVF85M24DPF					
	79	59	68	48 V DC	NSYCVF85M48DPF					
	165	153	161	230 V	NSYCVF165M230PF	NSYCAG223LPF	NSYCAG223LPC	NSYCAP223LZF	NSYCAP223LXF	NSYCAP223LE
	164	153	161	115 V	NSYCVF165M115PF					
	188	171	179	24 V DC	NSYCVF165M24DPF					
	193	171	179	48 V DC	NSYCVF165M48DPF					
	302	260	268	230 V	NSYCVF300M230PF					
	302	263	271	115 V	NSYCVF300M115PF					
	262	221	229	24 V DC	NSYCVF300M24DPF					
	247	210	218	48 V DC	NSYCVF300M48DPF					
	562	473	481	230 V	NSYCVF560M230PF	NSYCAG291LPF	NSYCAG291LPC	NSYCAP291LZF	NSYCAP291LXF	NSYCAP291LE
	582	485	494	115 V	NSYCVF560M115PF					
	838	718	728	230 V	NSYCVF850M230PF					
	983	843	854	115 V	NSYCVF850M115PF					
	931	798	809	400/440 V	NSYCVF850M400PF					

(1) Fan models with connection type (F) are delivered with the connection cord included (2 metres).

## Air-air exchangers



Side-mounting models IP54 - RAL 7035			
Dimensions (mm)			References
H	W	D	
700	270	144	NSYCEA15W230VL
780	325	144	NSYCEA35W230VL
780	325	144	NSYCEA35W230VLE
1480	450	144	NSYCEA70W230VL
340	600	360	NSYCEA50W230VRE

## Air-water exchangers



Side and top-mounting models IP54 - RAL 7035			
Dimensions (mm)			References
H	W	D	
830	360	113	NSYCEW2100W230VL
950	400	190	NSYCEW3150W230VL
310	600	365	NSYCEW2100W230VR

## Cooling units



Side-mounting models IP54 - RAL 7035		
External dimensions (mm)	Control	References
450 x 350 x 140	Thermostat	<b>NSYCU240W230VL</b>
620 x 300 x 170	Thermostat	<b>NSYCU370W230VL</b>
800 x 350 x 195	Thermostat	<b>NSYCU760W230VL</b>
900 x 400 x 195	Thermostat	<b>NSYCU1050W230VL</b>
1010 x 400 x 240	Electronic controller	<b>NSYCUE1100W230L</b>
1010 x 400 x 240	Electronic controller	<b>NSYCUE1400W230L</b>
1010 x 400 x 240	Electronic controller	<b>NSYCUE1400W400L</b>
1000 x 400 x 220	Thermostat	<b>NSYCU1650W230VL</b>
1000 x 400 x 220	Thermostat	<b>NSYCU1800W400VL</b>
1010 x 400 x 240	Electronic controller	<b>NSYCU1800W400L</b>
1406 x 502 x 300	Thermostat	<b>NSYCU2500W400VL</b>
1406 x 502 x 300	Thermostat	<b>NSYCU4000W400VL</b>



Top-mounting models IP54 - RAL 7035		
External dimensions (mm)	Control	References
340 x 600 x 350	Thermostat	<b>NSYCU760W230VR</b>
400 x 700 x 400	Thermostat	<b>NSYCU1050W230VR</b>
415 x 750 x 412	Electronic controller	<b>NSYCUE1400W230R</b>
400 x 700 x 400	Thermostat	<b>NSYCU1460W230VR</b>
430 x 700 x 400	Thermostat	<b>NSYCU1650W230VR</b>
415 x 750 x 412	Electronic controller	<b>NSYCUE1800W400R</b>
430 x 700 x 400	Thermostat	<b>NSYCU2000W400VR</b>
470 x 800 x 450	Thermostat	<b>NSYCU2450W400VR</b>
470 x 800 x 450	Thermostat	<b>NSYCU3100W400VR</b>



SLIM electronic control models (modular) IP55 - RAL 7035			
1100 W	1500 W	2200 W	2700 W
<b>NSYCUB1100W230S</b>	<b>NSYCUB1500W230S</b>	<b>NSYCUB2200W230S</b>	<b>NSYCUB2700W230S</b>
<b>NSYCUB1100W400S</b>	<b>NSYCUB1500W400S</b>	<b>NSYCUB2200W400S</b>	<b>NSYCUB2700W400S</b>
<b>NSYCUB1100W115S</b>	<b>NSYCUB1500W115S</b>	<b>NSYCUB2200W115S</b>	

Covers					
RAL 7035			Stainless-steel		
Surface-mounting	Partial flush-mounting	Flush-mounting	Surface-mounting	Partial flush-mounting	Flush-mounting
<b>NSYCUCL</b>	<b>NSYCUCH</b>	<b>NSYCUCF</b>	<b>NSYCUCLX</b>	<b>NSYCUCHX</b>	<b>NSYCUCFX</b>

## Resistance heaters



Insulated resistance heater with fan		
Power (W)	Voltage (V)	Reference
177	230 AC	<b>NSYCR170W230VVC</b>

Thermofans		
Power (W)	Voltage (V)	References
350	230 AC	<b>NSYCR350W230VTVC</b>
400/550	120 AC	<b>NSYCRP1W120VTVC</b>
400/550	230 AC	<b>NSYCRP1W230VTVC</b>

## Aluminium resistance heaters



Resistance heaters		
Power (W)	Voltage (V)	References
10	12-24 DC	<b>NSYCR10WU1</b>
10	110-250 AC	<b>NSYCR10WU2</b>
20	12-24 DC	<b>NSYCR20WU1</b>
20	110-250 AC	<b>NSYCR20WU2</b>
20	270-420 AC	<b>NSYCR20WU3</b>
55	12-24 DC	<b>NSYCR55WU1</b>
55	110-250 AC	<b>NSYCR55WU2</b>
55	270-420 AC	<b>NSYCR55WU3</b>
90	12-24 DC	<b>NSYCR100WU1</b>
90	110-250 AC	<b>NSYCR100WU2</b>
90	270-420 AC	<b>NSYCR100WU3</b>
150	12-24 DC	<b>NSYCR150WU1</b>
150	110-250 AC	<b>NSYCR150WU2</b>
150	270-420 AC	<b>NSYCR150WU3</b>

Resistance heaters with fan		
Power (W)	Voltage (V)	References
250	115 AC	<b>NSYCR250W115VV</b>
250	230 AC	<b>NSYCR250W230VV</b>
400	115 AC	<b>NSYCR400W115VV</b>
400	230 AC	<b>NSYCR400W230VV</b>
200	115 AC	<b>NSYCRS200W115V</b>
200	230 AC	<b>NSYCRS200W230V</b>

## Ultra thin resistance heaters



Ultra thin resistance heaters*					
Power (W)	Voltage (V)	Height (mm)	Width (mm)	Depth (mm)	References
10	120	130	250	1.6	<b>NSYCRS10W120V</b>
10	240	130	250	1.6	<b>NSYCRS10W240V</b>
25	120	130	250	1.6	<b>NSYCRS25W120V</b>
25	240	130	250	1.6	<b>NSYCRS25W240V</b>
50	120	200	320	1.6	<b>NSYCRS50W120V</b>
50	240	200	320	1.6	<b>NSYCRS50W240V</b>
100	120	280	450	1.6	<b>NSYCRS100W120V</b>
100	240	280	450	1.6	<b>NSYCRS100W240V</b>
200	120	400	650	1.6	<b>NSYCRS200W120V</b>
200	240	400	650	1.6	<b>NSYCRS200W240V</b>

\* Ultra thin resistance heaters can be manufactured with different dimensions and power ratings than those indicated above. Please contact us.

## Temperature control



NC thermostat

## Control a resistance heater or an alarm

Setting range	References
0...+60 °C	<b>NSYCCOTHC</b>
+32...+140 °F	<b>NSYCCOTHCF</b>



NO thermostat

## Control a fan or an alarm

Setting range	References
0...+60 °C	<b>NSYCCOTH0</b>
+32...+140 °F	<b>NSYCCOTH0F</b>



Double thermostat

## Control a resistance heater and a fan

Setting range	References
0...+60 °C	<b>NSYCCOTHD</b>
+32...+140 °F	<b>NSYCCOTHDF</b>



Thermostat with inverse contact

## Control a resistance heater or a fan

Setting range	References
0...+60 °C	<b>NSYCCOTH1</b>
+32...+140 °F	<b>NSYCCOTH1F</b>



Electronic thermostat

## Control a resistance heater or a fan

Setting range	Display	References
+5 °C...	°C or °F	<b>NSYCCOTH30VID</b>
+50 °C		<b>NSYCCOTH120VID</b>
		<b>NSYCCOTH230VID</b>

7 different operating modes.  
Option of installing one or two external sensors.



Electronic hygrotherm

## Control temperature and relative humidity

Setting range	Display	References
+5 °C...	°C or °F	<b>NSYCCOHT30VID</b>
+50 °C		<b>NSYCCOHT120VID</b>
		<b>NSYCCOHT230VID</b>

3 different operating modes.  
Option of installing an external sensor.



Electronic hygrostat

## Control relative humidity

Setting range	Display	Reference
20 %...80 %	% RH	<b>NSYCCOHT230VID</b>

2 different operating modes.



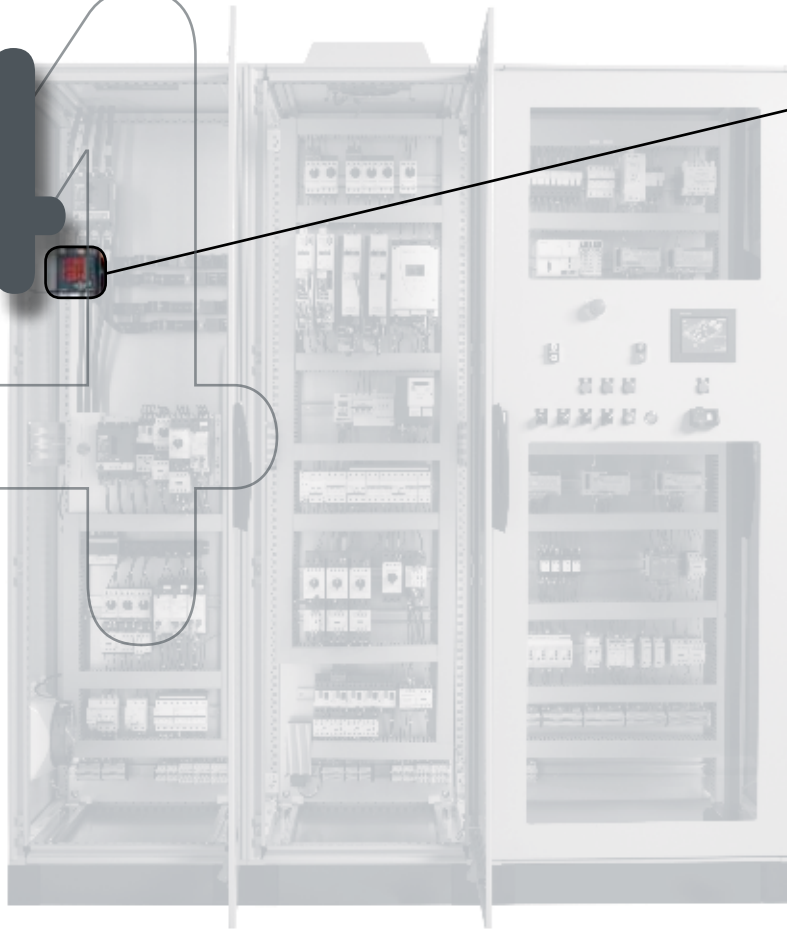
Temperature sensor

## PTC external temperature sensor (double insulation)

Reference
<b>NSYCCAST</b>

# Power & Energy - Monitoring & Control

# 14



**! NEW**



*iEM3000*

*PM3200*



*PM5000*



*Compact NSX + Micrologic*

**From basic kWh metering to billing applications**

- Energy metering, real-time power condition, network monitoring and equipment status.
- More possibilities such as alarming, load trending, event logging thanks to integrated I/Os and bus communication (according meter version).

**Integrated monitoring**

The originality lies in how Compact NSX measures, processes and displays data, either directly on screen, on the switchboard front panel, or via a monitoring system.









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# Power & Energy - Monitoring & Control - Panorama

		Basic meters		Basic energy meters	
		⇒ <i>Applications:</i> Display of simple electrical values, volts or amps. Meters for mounting on DIN rails.	⇒ <i>Applications:</i> Display of simple electrical values, volts or amps. Meters for mounting on front panels.	⇒ <i>Applications:</i> Recording and display of energy consumption. The meters are mounted on a DIN rail.	
		<b>iVLT iAMP</b>	<b>VLT AMP</b>	<b>iEM2000 / iEM2010 / iEM200T</b>	<b>iME1</b> <b>iEM3000 Series</b>
					
<b>Description</b>		Voltmeter Ammeter	Voltmeter Ammeter	Kilowatt-hour meters	
<b>Electrical indications</b>		I / U	I / U	E	
<b>Characteristics</b>	Measurement accuracy	Class 1.5	Class 1.5	Class 1	
	Installation	DIN rail 4 x 18 mm modules	Flush mounted 72 x 72 mm / 96 x 96 mm	DIN rail 1.2 or 4 x 18 mm modules	
	Voltage measurement	VLT: 500 V AC direct or external VT	VLT: 500 V AC direct or external VT	400 V AC direct	
	Current measurement	AMP: 30 A direct or external CT	AMP: external CT	40 to 63 A direct or external CT	
	Communication ports	-	-	-	
	Inputs / Outputs	-	-	-	
	Memory capacity	-	-	-	



## Monitoring software



### Power Monitoring " PowerView"

- Real time viewing of data
- Historical tabular data into Microsoft Excel
- Historical trending
- Reporting



Basic multi-function metering			Current transformers		
<p>⇒ <i>Applications:</i> Simple indication of the current passing through a Compact NSX circuit-breaker.</p>		<p>⇒ <i>Applications:</i> Full indication of electrical values and energy metering of a circuit protected by a Compact NSX circuit-breaker.</p>		<p>⇒ <i>Applications:</i> Full indication of electrical values and energy metering of a circuit.</p>	<p>⇒ <i>Applications:</i> Current sensor: the current value is converted into a 0 to 5 A scale. To be used with ammeter, power meter, energy metering.</p>
<p><b>Micrologic A trip unit</b></p>	<p><b>Micrologic E trip unit</b></p>	<p><b>PM3200 / PM3210 / PM3250 / PM3255</b></p>	<p><b>PM5100 / PM5300 / PM5500</b></p>	<p><b>CT</b></p>	
Ammeter	Power meter	Metering & sub-metering Class 0.5S: IEC 62053-22 Class 1: IEC 62053-21 Class 2: IEC 62053-23	Metering & sub-metering Class 0.5S: IEC 62053-22 Class 0.2S (PM55●●): IEC 62053-22 Class 1/2: IEC 62053-24	Current transformers	
I	I, U, F, P, Q, S, PF, E	I, U, F, P, Q, S, PF, E (Power demand and current demand)	I, U, F, P, Q, S, PF, E (Power demand and current demand)	-	
Current: class 1	Current: class 1 Voltage: 0.5% Power: class 2	Class 0.5	Class 0.2S (PM55●●) Class 0.5S	Class 0.5 to 3	
Embedded into circuit-breaker, remote LCD display available	Embedded into circuit-breaker, remote LCD display available	DIN rail	Flush mounted 96 mm x 96 mm	On conductor (cable, bar..)	
	690 V AC	50 V to 330 V AC (Ph-N) 80 V to 570 V AC (Ph-Ph) up to 1 MV AC (ext. VT)	20 V L-N / 35 V L-L to 277 V L-N / 480 V L-L / 600 V L-L (PM55●●)	Maximum rated operational voltage: 720 V AC	
0.2 x In .... 1.2 x In of circuit-breaker	0.2 x In .... 1.2 x In of circuit-breaker	External CT	External CT	Ranges from 40/5 A to 6000/5 A	
1	1	1	2	-	
-	-	-	4 I/O 6 I/O (PM55●●)	-	
-	-	-	256 KB 1.1 MB (PM55●●)	-	

### Selector switches for ammeter and voltmeter



CMA

CMV

- Din Rail Panel mounted 48x48

# Basic meters

## Analogue ammeters and voltmeters



DIN rail	Scale	Connection with CT	Width in mod. of 9 mm	Ref.
<b>AMP with direct connection</b>				
	0-30 A	no	8	<b>16029</b>
<b>AMP with connection on CT</b>				
	Basic device (delivered without dial)	X/5	8	<b>16030</b>
Dial	0-5 A			<b>16031</b>
	0-50 A	50/5		<b>16032</b>
	0-75 A	75/5		<b>16033</b>
	0-100 A	100/5		<b>16034</b>
	0-150 A	150/5		<b>16035</b>
	0-200 A	200/5		<b>16036</b>
	0-250 A	250/5		<b>16037</b>
	0-300 A	300/5		<b>16038</b>
	0-400 A	400/5		<b>16039</b>
	0-500 A	500/5		<b>16040</b>
	0-600 A	600/5		<b>16041</b>
	0-800 A	800/5		<b>16042</b>
	0-1000 A	1000/5		<b>16043</b>
	0-1500 A	1500/5		<b>16044</b>
	0-2000 A	2000/5		<b>16045</b>
<b>VLT</b>				
	0-300 V		8	<b>16060</b>
	0-500 V		8	<b>16061</b>

96 x 96	Scale	Connection on CT	References
<b>AMP for standard feeder</b>			
Basic device (delivered without dial)		X/5	<b>16074</b>
1.3 In dial	0-50 A	50/5	<b>16079</b>
	0-100 A	100/5	<b>16080</b>
	0-200 A	200/5	<b>16081</b>
	0-400 A	400/5	<b>16082</b>
	0-600 A	600/5	<b>16083</b>
	0-1000 A	1000/5	<b>16084</b>
	0-1250 A	1250/5	<b>16085</b>
	0-1500 A	1500/5	<b>16086</b>
	0-2000 A	2000/5	<b>16087</b>
	0-2500 A	2500/5	<b>16088</b>
	0-3000 A	3000/5	<b>16089</b>
	0-4000 A	4000/5	<b>16090</b>
	0-5000 A	5000/5	<b>16091</b>
	0-6000 A	6000/5	<b>16092</b>
<b>AMP for motor feeder</b>			
Basic device (delivered without dial)		X/5	<b>16073</b>
3 In dial	0-30-90 A	30/5	<b>16076</b>
	0-75-225 A	75/5	<b>16077</b>
	0-200-600 A	200/5	<b>16078</b>
<b>VLT</b>			
	0-500 V		<b>16075</b>

## Digital ammeters, voltmeter and frequency meter



DIN rail	Scale	Connection with CT	Width in mod. of 9 mm	References
<b>Direct reading AMP</b>	0-10 A	No	4	<b>15202</b>
<b>Multi-rating AMP</b>	0-5000 A	As per rating	4	<b>15209</b>
<b>VLT</b>	0-600 V		4	<b>15201</b>
<b>FRE (frequency meter)</b>	20-100 Hz		4	<b>15208</b>



## Basic energy meters – iEM2000, iME1 series



*Direct connected up to 40 A*

*Direct connected up to 63 A*

Model	iEM2000T	iEM2000	iEM2010	iME1	iME1z	iME1zr
Operating voltage	230 V AC $\pm$ 20% - single phase AC					
Frequency	48 –62 Hz					
Rating (A)	40	40	40	63	63	63
Class	1					
Total meter capacity	999 999.9 kWh Display in kWh			999.99 MWh Display in kWh or MWh		
Display	No	Mechanical	Mechanical	LCD	LCD	LCD
Metering impulses	■	-	■	-	-	■
Partial meter	-	-	-	-	■	■
Width (mod of 9 mm)	2	2	2	4	4	4
References	<b>A9MEM2000</b>	<b>A9MEM2010</b>	<b>A9MEM2000T</b>	<b>A9M17065</b>	<b>A9M17066</b>	<b>A9M17067</b>

# Basic energy meters - Power Meter Series iEM3000



Direct connected up to 63 A



CTs connected (1 A / 5 A)

Function guide	iEM3100	iEM3110	iEM3115	iEM3150	iEM3155	iEM3200	iEM3210	iEM3215	iEM3250	iEM3255
Direct measurement (up to 63A)	■	■	■	■	■					
CTs inputs (1 A, 5 A)						■	■	■	■	■
VTs inputs									■	■
Active energy measurements	■	■	■	■	■	■	■	■	■	■
Four quadrant energy measurements					■					■
Electrical measurements (I, V, P, etc.)				■	■				■	■
Multi-tariff (internal clock)			4		4			4		4
Multi-tariff (external control)			4		2			4		2
Measurement display	■	■	■	■	■	■	■	■	■	■
Programmable inputs			2		1			2		1
Programmable digital outputs					1					1
Pulse output		■					■			
kW overload alarm					■					■
Modbus RS485				■	■					■
MID (legal metrology certification)		■	■		■		■	■		■
Width (18 mm module in DIN Rail mounting)	5	5	5	5	5	5	5	5	5	5

Meter model and description	Current measurement	References
iEM3100 basic energy meter	Direct connected 63 A	<b>A9MEM3100</b>
iEM3110 energy meter with pulse output	Direct connected 63 A	<b>A9MEM3110</b>
iEM3115 multi-tariff energy meter	Direct connected 63 A	<b>A9MEM3115</b>
iEM3150 energy meter & electrical parameter plus RS485 comm port	Direct connected 63 A	<b>A9MEM3150</b>
iEM3155 advanced multi-tariff energy meter & electrical parameter plus RS485 comm port	Direct connected 63 A	<b>A9MEM3155</b>
iEM3200 basic energy meter	Transformer connected 6 A	<b>A9MEM3200</b>
iEM3210 energy meter with pulse output	Transformer connected 6 A	<b>A9MEM3210</b>
iEM3215 multi-tariff energy meter	Transformer connected 6 A	<b>A9MEM3215</b>
iEM3250 energy meter & electrical parameter plus RS485 comm port	Transformer connected 6 A	<b>A9MEM3250</b>
iEM3255 advanced multi-tariff energy meter & electrical parameter plus RS485 comm port	Transformer connected 6 A	<b>A9MEM3255</b>



			Type		Display	
			A	E	Micrologic LCD	FDM121 display
<b>Display of protection settings</b>						
Pick-ups (A) and delays	All settings can be displayed	I <sub>r</sub> , t <sub>r</sub> , I <sub>sd</sub> , t <sub>sd</sub> , I <sub>i</sub> , I <sub>g</sub> , t <sub>g</sub>	•	•	•	-
<b>Measurements</b>						
<b>Instantaneous rms measurements</b>						
Currents (A)	Phases and neutral	I <sub>1</sub> , I <sub>2</sub> , I <sub>3</sub> , I <sub>N</sub>	•	•	•	•
	Average of phases	$I_{avg} = (I_1 + I_2 + I_3) / 3$	•	•	-	•
	Highest current of the 3 phases and neutral	I <sub>max</sub> of I <sub>1</sub> , I <sub>2</sub> , I <sub>3</sub> , I <sub>N</sub>	•	•	•	•
	Ground fault (Micrologic 6)	% I <sub>g</sub> (pick-up setting)	•	•	•	•
	Current unbalance between phases	% I <sub>avg</sub>	-	•	-	•
Voltages (V)	Phase-to-phase	U <sub>12</sub> , U <sub>23</sub> , U <sub>31</sub>	-	•	•	•
	Phase-to-neutral	V <sub>1N</sub> , V <sub>2N</sub> , V <sub>3N</sub>	-	•	•	•
	Average of phase-to-phase voltages	$U_{avg} = (U_{12} + U_{21} + U_{23}) / 3$	-	•	-	•
	Average of phase-to-neutral voltages	$V_{avg} = (V_{1N} + V_{2N} + V_{3N}) / 3$	-	•	-	•
	Ph-Ph and Ph-N voltage unbalance	T% U <sub>avg</sub> and % V <sub>avg</sub>	-	•	-	•
	Phase sequence	1-2-3, 1-3-2	-	•	•	•
Frequency (Hz)	Power system	f	-	•	-	•
Power	Active (kW)	P, total / per phase	-/-	•/•	•/-	•/•
	Reactive (kVAR)	Q, total / per phase	-/-	•/•	•/-	•/•
	Apparent (kVA)	S, total / per phase	-/-	•/•	•/-	•/•
	Power factor and cos φ (fundamental)	PF and cos φ, total and per phase	-	•	-	•
<b>Maximeters / minimeters</b>						
	Associated with instantaneous rms measurements	Reset via Micrologic or FDM121 display unit	•	•	-	•
<b>Energy metering</b>						
Energy	Active (kW), reactive (kVARh), apparent (kVAh)	Total since last reset Absolute or signed mode (1)	-	•	•	•
<b>Demand and maximum demand values</b>						
Demand current (A)	Phases and neutral	Present value on the selected window	-	•	-	•
		Maximum demand since last reset	-	•	-	•
Demand power	Active (kWh), reactive (kVAR), apparent (kVA)	Present value on the selected window	-	•	-	•
		Maximum demand since last reset	-	•	-	•
Calculation window	Sliding, fixed or com-synchronised	Adjustable from 5 to 60 minutes in 1 minute steps (2)	-	•	-	•
<b>Power quality</b>						
Total harmonic distortion (%)	Of voltage with respect to rms value	THDU, THDV of the Ph-Ph and Ph-N voltage	-	•	-	•
	Of current with respect to rms value	THDI of the phase current	-	•	-	•

(1) Absolute mode:  $E_{absolute} = E_{out} + E_{in}$ ; Signed mode:  $E_{signed} = E_{out} - E_{in}$ .

(2) Available via the communication system only.

### Additional technical characteristics

#### Measurement accuracy

Accuracies are those of the entire measurement system, including the sensors:

- current: Class 1 as per IEC 61557-12.
- voltage: 0.5 %.
- power and energy: Class 2 as per IEC 61557-12.
- frequency: 0.1 %.

# Multi-function meters - PM3200 series



Power Meter Series PM3200

Function guide	PM3200	PM3210	PM3250	PM3255
<b>Performance standard</b>				
IEC 61557-12 PMD/Sx/K55/0.5	■	■	■	■
<b>General</b>				
Use on LV and HV systems	■	■	■	■
Number of samples per cycle	32	32	32	32
CT input 1A/5A	■	■	■	■
VT input	■	■	■	■
Multi-tariff	4	4	4	4
Multi-lingual backlit display	■	■	■	■
<b>Instantaneous rms values</b>				
Current, voltage	Per phase and average	■	■	■
Active, reactive, apparent power	Total and per phase	■	■	■
Power factor	Total and per phase	■	■	■
<b>Energy values</b>				
Active, reactive and apparent energy; import and export	■	■	■	■
<b>Demand value</b>				
Current, power (active, reactive, apparent) demand; present	■	■	■	■
Current, power (active, reactive, apparent) demand; peak		■	■	■
<b>Power quality measurements</b>				
THD Current and voltage		■	■	■
<b>Data recording</b>				
Min/max of the instantaneous values	■	■	■	■
Power demand logs				■
Energy consumption log (day, week, month)				■
Alarms with time stamping		5	5	15
Digital inputs/digital outputs		0/1		2/2
<b>Communication</b>				
RS-485 port			■	■
Modbus protocol			■	■

Meter model and description	Performance	References
PM3200 basic power meter	Basic power meter	<b>METSEPM3200</b>
PM3210 power meter with pulse output	Power, current, THD, peak demand	<b>METSEPM3210</b>
PM3250 power meter with RS485 port	Power, current, THD, peak demand	<b>METSEPM3250</b>
PM3255 power meter plus 2 digital inputs, 2 digital outputs with RS485 port	Power, current, THD, peak demand, memory for load profile	<b>METSEPM3255</b>





Model	PM5100	PM5110	PM5310	PM5320	PM5330	PM5340	PM5560	PM5563
<b>Power and energy metering</b>								
3-phase voltage, current, power, demand, energy, frequency, power factor	■	■	■	■	■	■	■	■
Multi-tariff	-	-	4	4	4	4	8	8
Measurement accuracy IEC 62053-22 Active Energy	Class 0.5 S						Class 0.2 S	
	Class 2						Class 1	
<b>Power quality analysis</b>								
THD, thd, TDD	■	■	■	■	■	■	■	■
Harmonics, individual up to	15th	31st	31st	31st	31st	31st	63rd	63rd
<b>Alarms and control</b>								
Alarms	28	28	28	28	28	28	52	52
Set point response time, seconds	1	1	1	1	1	1	1	1
Single and multi-condition alarms	-	-	■	■	■	■	■	■
Boolean alarm logic	-	-	-	-	-	-	■	■
<b>Communication</b>								
Serial ports with modbus protocol	-	1	1	-	1	-	1	1
Ethernet port with Modbus TCP protocol	-	-	-	1	-	1	2**	2**
<b>Installation</b>								
Panel mounting	■	■	■	■	■	■	■	-
DIN rail	-	-	-	-	-	-	-	■
<b>References</b>	<b>METSEPM5100</b>	<b>METSEPM5110</b>	<b>METSEPM5310</b>	<b>METSEPM5320</b>	<b>METSEPM5330</b>	<b>METSEPM5340</b>	<b>METSEPM5560</b>	<b>METSEPM5563</b>
Model		PM5111			PM5331	PM5341	PM5561	
MID ready compliance, EN 50470-1/3, Annex B and D, Class C (*)		■			■	■	■	
<b>References</b>		MESEPM5111			MESEPM5331	MESEPM5341	MESEPM5561	

(\*) Can be used for fiscal (legal) billing

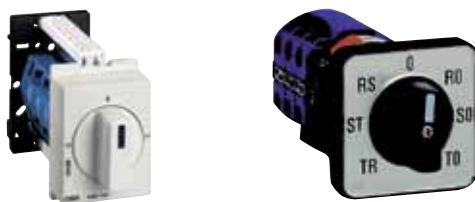
## CT current transformers



Rating	Power (VA)			Insulated cable		Dimension	Weight (g)	References	
	Accuracy class			Maximum diameter <sup>(1)</sup> (mm)	Maximum cross-section <sup>(1)</sup> (mm <sup>2</sup> )			Opening for bars	Tropicalised CT
Ip/5 A	0.5	1	3						
40 A	-	-	1	21	120	-	200	<b>16500</b>	built-in
50 A	-	1.25	1.5	21	120	-	200	<b>16451</b>	built-in
75 A	-	1.5	2.5	21	120	-	200	<b>16452</b>	built-in
100 A	2	2.5	3.5	21	120	-	200	<b>16453</b>	built-in
125 A	2.5	3.5	4	21	120	-	200	<b>16454</b>	built-in
150 A	3	4	5	21	120	-	200	<b>16455</b>	built-in
	1.5	5.5	6.5	22	150	30 x 10	270	<b>16459</b>	<b>16552</b>
200 A	4	5.5	6	21	120	-	200	<b>16456</b>	built-in
	4	7	8.5	22	150	30 x 10	270	<b>16460</b>	<b>16552</b>
	-	2	5	-	-	65 x 32	600	<b>16476</b>	built-in
250 A	6	9	11	22	150	30 x 10	270	<b>16461</b>	<b>16552</b>
	2.5	5	8	35	240	40 x 10	430	<b>16468</b>	<b>16553</b>
	1	4	6	-	-	65 x 32	600	<b>16477</b>	built-in

- (1) Cable(s) that can be routed through the CT  
 (2) For CT with primary connection by screw and nut  
 (3) Cylinder with inner dia. 8.5 mm, L = 32 mm  
 (4) Cylinder with inner dia. 12.5 mm, L = 62 mm

## CMA and CMV selector switches



Type	DIN rail		48 x 48	
	CMA	CMV	CMA	CMV
Rating (A)	10	-	20	-
Voltage (V)	-	415	-	500
Number of positions	4	7	4	7
Width in mod. of 9 mm	4		-	-
References	<b>15126</b>	<b>15125</b>	<b>16017</b>	<b>16018</b>







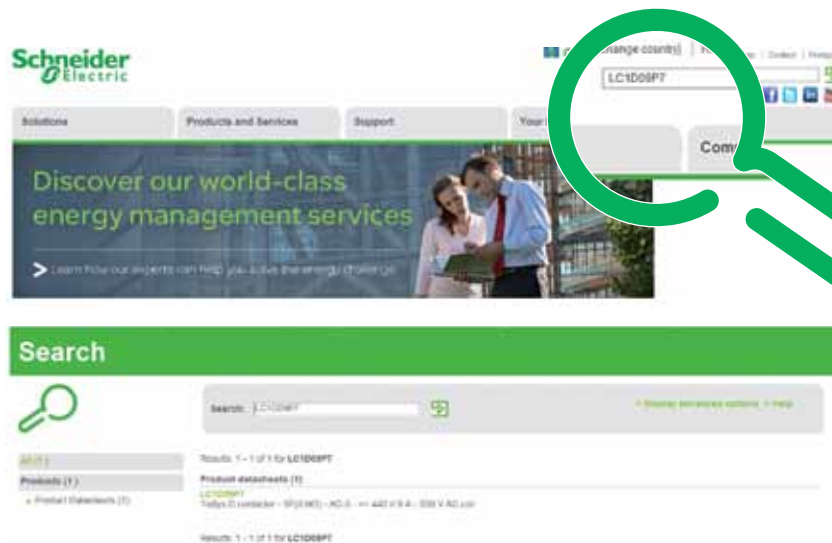
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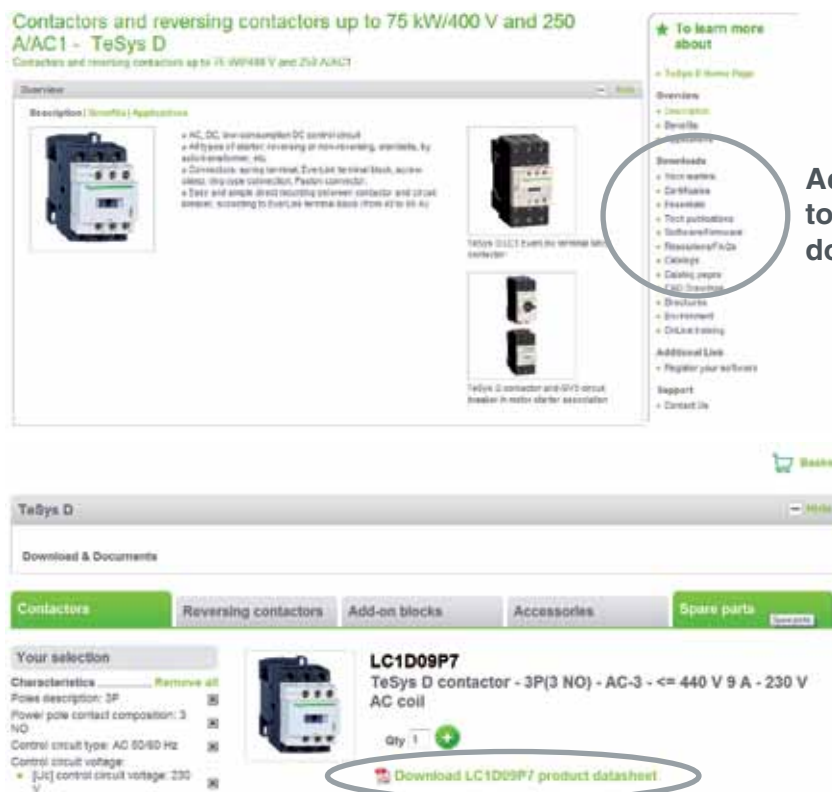
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