


















SERVING
SAFETY



Mors Smitt Industry Universal relays

Miniature industrial relays

		Universal plug-in relays			
		12 A / 2 C/O	10 A / 3 C/O	6 A / 4 C/O	12 A / 2 C/O
 Mors Smitt A Wabtec Company					
Type		M2	M3	M4	L2
Number of contacts		2 change-over contacts	3 change-over contacts	4 change-over contacts	2 change-over contacts
		Manual test button Mechanical position indicator Optional LED-indicator			LED-indicator
Nom. voltage / max. switching voltage	AC	250 V / 440 V	250 V / 440 V	250 V / 250 V	250 V / 440 V
Switching current (capacity)	AC1	12 A / 250 VAC	10 A / 250 VAC	6 A / 250 VAC	12 A / 250 V
	DC1	12 A / 24 VDC	10 A / 24 VDC	6 A / 24 VDC	12 A / 30 VDC
Minimum switching voltage		10 V	10 V	10 V	5 V
Minimum switching current		10 mA	10 mA	10 mA	5 mA
* Lower switching current with gold plated contacts on request					
Coil voltage					
Nominal voltage	AC (50/60 Hz)	12, 24, 48, 110, 230	12, 24, 48, 110, 230	12, 24, 48, 110, 230	12, 24, 48, 110, 230
	DC	12, 24, 48, 110, 125, 220	12, 24, 48, 110, 125, 220	12, 24, 48, 110, 125, 220	12, 24, 48, 110, 125
Voltage range		0.8...1.1 Un	0.8...1.1 Un	0.8...1.1 Un	0.8...1.1 Un
General					
Dimensions (l x w x h)	mm	27.5 x 21.2 x 35.6	27.5 x 21.2 x 35.6	27.5 x 21.2 x 35.6	27.5 x 21.2 x 34.5
Ambient temperature	AC	-40 °C...+55 °C	-40 °C...+55 °C	-40 °C...+55 °C	-40 °C...+55 °C
	DC	-40 °C...+70 °C	-40 °C...+70 °C	-40 °C...+70 °C	-40 °C...+55 °C
Ordering examples	AC	M2-A110 110 VAC	M3-A230 230 VAC	M4-A230 230 VAC	L2-A230 230 VAC
		M2-L-A024 24 VAC+LED	M3-L-A024 24 VAC+LED	M4-L-A024 24 VAC+LED	L2-L-A012 12 VAC+LED
	DC	M2-D24 24 VDC	M3-D24 24 VDC	M4-D230 230 VDC	L2-D110 110VDC
		M2-L-D110 110 VDC+LED	M3-L-D110 110 VDC+LED	M4-L-D110 24 VDC+LED	L2-L-D024 24 VDC+LED
Approvals					






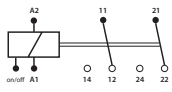
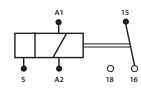
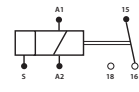
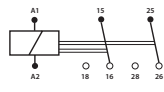
Accessories					
					
VM-2R socket for M2-relays	VM-3R socket for M3-relays	VM-4R socket for M4-relays	VM-4L socket for M4-relays	MS-35 railclip for M-relays	VL-2 socket for ML2-relays

Visit www.morssmitt.com for more types, details and additional information.







Universal plug-in relays		Universal PCB / plug-in relays		Interface relays
10 A / 2 C/O	10 A / 2 C/O	16 A / 1 C/O	8 A / 2 C/O	6 A / 1 C/O
G08	G11	S1	S2	I1
2 change-over contacts		1 change-over contact		2 change-over contacts
Manual test button Mechanical position indicator Optional LED-indicator				Magnetic arc blow-out LED-indication 35 mm rail
250 V / 440 V	250 V / 440 V	250 V / 440 V	250 V / 440 V	250 V / 440 V
10 A / 250 VAC	10 A / 250 VAC	16 A / 250 VAC	8 A / 250 VAC	6 A / 250 VAC
10 A / 24 VDC	10 A / 24 VDC	16 A / 24 VDC	8 A / 24 VDC	6 A / 24VDC
10 V	10 V	10 V	10 V	10 V
10 mA	10 mA	10 mA	10 mA	100 mA
6...240 V 50/60 Hz	6...240 V 50/60 Hz	12, 24 V	12, 24 V	12, 24, 230 V
6...220 V	6...220 V	230 V	230 V	24, 230 V
0.8...1.1 Un	0.8...1.1 Un	0.8...1.2 Un	0.8...1.2 Un	0.8...1.1 Un
35 x 35 x 54.4	35 x 35 x 54.4	29 x 12.7 x 15.7	29 x 12.7 x 15.7	27.5 x 21.1 x 34.5
-40 °C...+55 °C	-40 °C...+55 °C	-40 °C...+70 °C	-40 °C...+70 °C	-40 °C...+55 °C
-40 °C...+55 °C	-40 °C...+55 °C	-40 °C...+85 °C	-40 °C...+85 °C	-40 °C...+55 °C
G08-A24 24 VAC	G11-A24 24 VAC	S1-A230 230 VAC	S2-A230 230 VAC	L2-A230 230 VAC
G08-L-A230 230 VAC+LED	G11-L-A230 230 VAC+LED	S1-D012 12 VDC	S2-D012 12 VDC	L2-L-A012 12 VAC+LED
G08-D110 110 VDC	G11-D110 110 VDC	S1-D024 24 VDC	S2-D024 24 VDC	L2-L-D110 110 VDC
G08-L-D024 24 VDC+LED	G11-L-D024 24 VDC+LED			L2-L-D024 24 VDC+LED

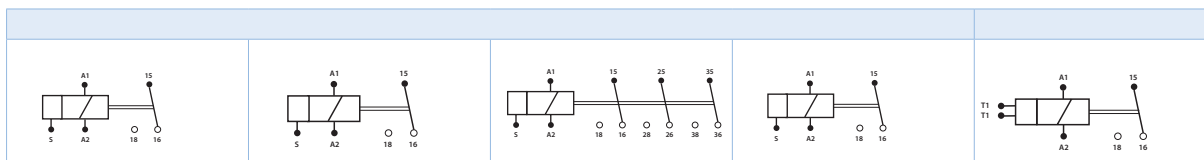
VG-8T socket for G08-relays	VG-11T socket for G11-relays	VS-2L socket for S-relays	MS-2L railclip for S-relays	Contact strips for I1-relays

Modular timer relays



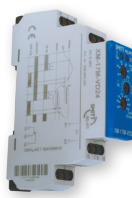

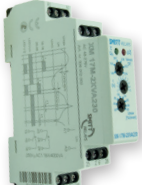
		Single function timer relays			
		16 A / 2 C/O	16 A / 1 C/O	16 A / 1 C/O	12 A / 2 C/O
 Mors Smitt A Wabtec Company		 XT-17M-L	 XT-17M-A	 XT-17M-B	 XT-17M-S
Type		2 change-over contacts	1 change-over contact	1 change-over contact	2 change-over contacts
Number of contacts					
Function		Bi-stable	Delay on	Delay off	Delay on for star / delta engines
Time range		-	0.1...1 s / 1...10 s / 6...60 s / 1...10 min / 6...60 min / 1...10 h (depending on model)	0.1...1 s / 1...10 s / 6...60 s / 1...10 min / 6...60 min / 1...10 h (depending on model)	0.1...1 s / 1...10 s / 0.1...1 min / 1...10 min / 0.1...1 h / 1...1 h / 0.1...1 d / 1...10 d / 3...30 d / 10...100 d
LED-indication		Green / red	Green / red	Green / red	Green / red
Max. switching voltage	AC/DC	250 V / 24 V	250 V / 24 V	250 V / 24 V	250 V / 24 V
Switching current (capacity)	AC1 DC1	16 A / 250 V 16 A / 24 V	16 A / 250 V 16 A / 24 V	16 A / 250 V 16 A / 24 V	16 A / 250 V 16 A / 24 V
Supply					
Voltage	AC: 50/60 Hz AC/DC	12...240 V	12...240 V	12...240 V	12...240 V
Remote control via S contact		Yes	Yes	Yes	No
General					
Dimensions (l x w x h)	mm	90 x 17.6 x 64	90 x 17.6 x 64	90 x 17.6 x 64	90 x 17.6 x 64
Protection category		IP40	IP40	IP40	IP40
Ambient temperature		-20 °C...+55 °C	-20 °C...+55 °C	-20 °C...+55 °C	-20 °C...+55 °C
Article number		326001020	various	various	326006006
Approval		CE	CE	CE	CE
Application example					
					

Visit www.morssmitt.com for more types, details and additional information.

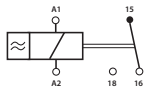
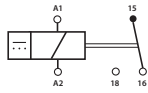
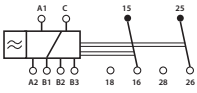
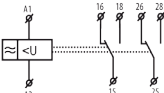
Single function timer relays	Multi function timer relays			Digital timer
16 A / 1 C/O	16 A / 1 C/O	8 A / 3 C/O	16 A / 1 C/O	8 A / 1 C/O
				
XT-17M-P	XT-17M-C1	XT-17M-C3	XT-17M-C1/6	XT-35M-DCL1
1 change-over contact	1 change-over contact	3 change-over contacts	1 change-over contact	1 change-over contact
Pulse / pause	Delay on / delay off / delay on & off / delay on via S contact / delay off via S contact / Flashing 1-shot		Delay on / delay off / delay on via S contact / delay off via S contact / Flashing	Digital timer with twilight switch 
0.1...1 s / 1...10 s / 0.1...1 min / 1...10 min / 0.1...1 u / 1...1 u / 0.1...1 d / 1...10 d / 3...30 d / 10...100 d	0.1...1 s / 1...10 s / 0.1...1 min / 1...10 min / 0.1...1 u / 1...10 u / 0.1...1 d / 1...10 d / on-off		0.1...1 s / 1...10 s / 0.1...1 min / 1...10 min / 0.1...1 u / 1...10 u	0...24 hr daily
Green / red	Green / red		Green / red	-
250 V / 24 V	250 V / 24 V		250 V / 24 V	250 V / 24 V
16 A / 250 V 16 A / 24 V	16 A / 250 V 16 A / 24 V	8 A / 250 V 8 A / 24 V	8 A / 250 V 10 A / 24 V	8 A / 250 V 8 A / 24 V
12...240 V	12...240 V		24...240 V	230 VAC
Yes	Yes		Yes	No
90 x 17.6 x 64	90 x 17.6 x 64		90 x 17.6 x 64	90 x 35.6 x 64
IP40	IP40		IP40	IP40
-20 °C...+55 °C	-20 °C...+55 °C		-20 °C...+55 °C	-20 °C...+55 °C
326001005	326001003	326001004	326001025	326001028
CE	CE	CE	CE	CE







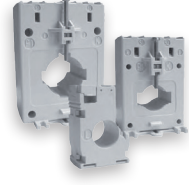
Modular measuring- / monitoring relays

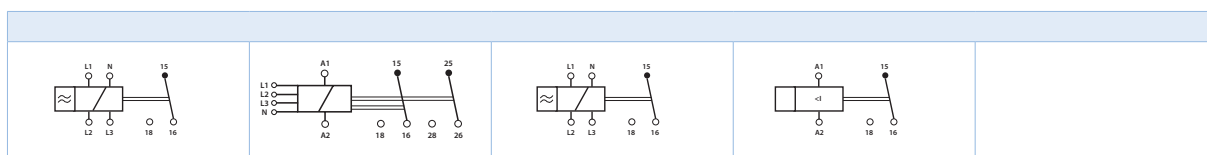
1 phase monitoring relay					
		16 A / 1 C/O	16 A / 1 C/O	16 A / 2 C/O	16 A / 2 C/O
					
Type		XM-17M-VA230	XM-17M-VD24	XM-52M-VA500	XM-17M-2XVA230
Number of contacts		1 change-over contact	1 change-over contact	2 change-over contacts	2 change-over contacts
Max. switching voltage	AC/DC	250 V / 24 V	250 V / 24 V	250 V / 24 V	250 V / 24 V
Operating range		48...276 VAC	6...30 VDC	10...500 VAC/DC	48...276 VAC
Operating range max		160 ...276 VAC	18...30 VDC	20 - 100 % U	160...276 VAC
Operating range min		30 - 95 % U _{max}	35 - 95 % U _{max}	30 - 95 % U _{max}	30 - 95 % U _{max}
Auxiliary power		-	-	230 VAC	-
Function		Under- and over voltage protection	Under- and over voltage protection	Under- and over voltage protection	Under- and over voltage protection
Adjustable time delay		0...10 s	0...10 s	T1 0...10 s T2 0...10 s	0...10 s
LED-indication		Green / red	Green / red	Green / red / yellow	Green / red
Switching current (capacity)	AC1 DC1	16 A / 250 VAC 16 A / 24 VDC	16 A / 250 VAC 16 A / 24 VDC	16 A / 250 VAC 16 A / 24 VDC	16 A / 250 VAC 16 A / 24 VDC

General					
Dimensions (l x w x h)	mm	90 x 17.6 x 64	90 x 17.6 x 64	90 x 52 x 65	90 x 52 x 65
Protection category		IP40	IP40	IP40	IP40
Ambient temperature		-20 °C...+55 °C	-20 °C...+55 °C	-20 °C...+55 °C	-20 °C...+55 °C
Article number		326002000	326002001	326002005	326002002
Approval		CE	CE	CE	CE





Connection diagram					
					



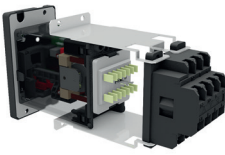
Visit www.morssmitt.com for more types, details and additional information.

3 phase voltage monitoring			Current monitoring	
				
XM-17M-M400L(N)	XM-52M-M400L(N)	XM-17M-VA400LN	XM-17M-IA25U	XM-CT
1 change-over contact	2 change-over contacts	1 change-over contact	1 change-over contact	Current transformer
250 V / 24 V	250 V / 24 V	250 V / 24 V	250 V / 24 V	-
3x 400 VAC / 230 VAC	3x 400 VAC / 230 VAC	3x 400 VAC / 230 VAC	0...25 A AC	50 A, 100 A, 150 A, 200 A, 250 A, 300 A, 400 A, 60 A
125 % U	138...276 V	105 - 125 % U	0.5...25 A	-
75 % U	35 - 99 % U _{max}	75 - 95 % U	-	-
-	230 VAC	-	230 VAC	-
Under- and over voltage protection Phase sequence Phase failure (&N)	Under- and over voltage protection Phase sequence Phase failure (&N) Fase asymmetry	Under- and over voltage protection Phase sequence Phase & N failure	Current monitoring	Expandable measuring range for XM-17M-IA25U Output 0...5 A
T1 500 ms T2 0.1...10 s	T1 500 ms T2 0...10 s	T1 500 ms T2 0...10 s	0.5...10 s	-
Green / red	Green / red / yellow	Green / red	Green / red	-
8 A / 250 VAC	16 A / 250 VAC	8 A / 250 VAC	8 A / 250 VAC	-
8 A / 24 VDC	16 A / 24 VDC	8 A / 24 VDC	8 A / 30 VDC	-
90 x 17.6 x 64	90 x 52 x 65	90 x 17.6 x 64	90 x 17.6 x 64	Various
IP40	IP40	IP40	IP40	-
-20 °C...+55 °C	-20 °C...+55 °C	-20 °C...+55 °C	-20 °C...+55 °C	-20 °C...+55 °C
326002003 (326002004)	326002006 (326002007)	326002011	326001027	Various
CE	CE	CE	CE	CE



Control, trip & supervision relays

Relays				
		  		
		ARD4	TRD4	XRD
Type		Auxiliary relay	High speed switching < 10 ms, trip relay	Supply or circuit supervision relay
Number of contacts		4 contacts	4 contacts	3 or 4 contacts
		Status indication LED-indication Magnetic arc blow-out Mono / bistable contacts Rack / surface mount Plug-in relay		
Max. switching voltage	AC	440 VAC	440 VAC	440 VAC
	DC	350 VDC	250 VDC	250 VDC
Switching voltage (capacity)	AC1	10 A / 230 VAC	10 A / 230 VAC	10 A / 230 VAC
	DC1	7 A / 110 VDC	7 A / 110 VDC	1 A / 110 VDC
Minimal switching voltage		12 V	12 V	12 V
Minimal switching current		10 mA	10 mA	10 mA
Coil current				
Nominal voltage	DC	24...250 VDC	24...250 VDC	24...250 VDC
Voltage range	DC	0.8...1.2 Un	0.7...1.2 Un	0.7...1.2 Un
General				
Dimensions (l x w x h)	rack	80 x 51 x 94 mm	88 x 51 x 94 mm	88 x 51 x 94 mm
	construction	65 x 45 x 94 mm	65 x 45 x 94 mm	65 x 45 x 94 mm
Approval		CE	CE	CE



Accessoires		
  		
V23 Socket	V29 Socket	TBD-R Rack & socket

Visit www.morssmitt.com for more types, details and additional information.

AR	TR	XR	PR
5, 10 or 12 contacts	5 or 12 contacts	5 contacts	5 contacts
Auxiliary relay	High speed switching Tripping relay < 8 ms	Supervision relay	Intertrip relay
HD contacts Automatic & manual reset	HD contacts Automatic & manual reset	Circuit supervision Trip supervision Relays supervision	5 kV isolation
Flag indication 4U high 19 inch rack modular configuration			
660 VAC 660 VDC	660 VAC 660 VDC	660 VAC 660 VDC	660 VAC 660 VDC
See datasheet	See datasheet	See datasheet	See datasheet
-	-	-	-
-	-	-	-
32...250 VDC	32...250 VDC	32...250 VDC	32...250 VDC
0.7...1.2 Un	0.7...1.2 Un	0.5...1.2 Un	0.7...1.2 Un

51 x 217 x 157 mm	51 x 217 x 157 mm	51 x 217 x 157 mm	51 x 217 x 157 mm
CE	CE	CE	CE

Options			
<ul style="list-style-type: none"> • Contact configuration • Contact function • Hand reset flag • Switch counter • Gold plated contacts • LED-indication • Electrical reset 	<ul style="list-style-type: none"> • Contact configuration • Contact function • Hand reset flag • Switch counter • Gold plated contacts • LED-indication • Electrical reset 	<ul style="list-style-type: none"> • Contact configuration • Supervision function • Hand reset flag • LED-indication 	<ul style="list-style-type: none"> • Contact configuration • Hand reset flag • Gold plated contacts • LED-indication

Testblock systems	
	
4M400	4M420
14 test groups	14 test groups
Test block system	Test plug
14 test circuits	14 test groups
Automatic CT shorting Stage 3 isolation	4 mm shrouded test plugs
600 VAC 320 VDC	600 VAC 320 VDC
See datasheet	See datasheet
-	-
-	-

-	-
-	-

51 x 217 x 157 mm	51 x 217 x 157 mm
CE	CE

Industrial relays

Auxiliary relays



Type		D	D8	D-Z
Number of contacts		4 change-over contacts	8 change-over contacts	4 change-over contacts
		LED-indication Magnetic arc blow-outs Plug-in relay	LED-indication Magnetic arc blow-outs Plug-in relay	Plug-in relay
Max. switching voltage	AC	440 VAC	440 VAC	440 VAC
	DC	350 VDC	350 VDC	350 VDC
Switching current (capacity)	AC1	10 A / 230 VAC	10 A / 230 VAC	10 A / 230 VAC
	DC1	1 A / 110 VDC	1 A / 110 VDC	1 A / 110 VDC
Minimal switching voltage		12 V	12 V	12 V
Minimal switching current		10 mA	10 mA	10 mA
Coil voltage				
Nominal voltage	AC	12...380 VAC	12...250 VAC	12...380 VAC
	DC	12...250 VDC	12...250 VDC	12...250 VDC
Voltage range		0.8...1.1 Un	0.8...1.1 Un	0.8...1.1 Un
General				
Dimensions (l x w x h)	mm	40 x 40 x 53	40 x 88 x 56	40 x 40 x 53
Ordering examples	AC	D 24 VAC D 230 VAC	D8 24 VAC D8 48 VAC	D-Z 110...115 V, 50 Hz D-Z 220...230 V, 50 Hz
	DC	D 24 VDC D 230 VDC	D8 100 VDC D8 220 VDC	D-Z 24 VDC D-Z 110 VDC

Accessoires



V23
D-relays socket

V29
D-relays socket

V33
D-relays socket

V93
D8 & KDN-relays socket

Increased touch safety
for V23

Visit www.morssmitt.com for more types, details and additional information.

Low current	Low current	Trip relays	Safety relays	Bistable relays	Bistable relays
D-E	D-B	D-R4	D-BW	KDN	BD
4 change-over contacts	4 change-over contacts	4 change-over contacts	4 contacts	8 change-over contacts	4 contacts
Gold plated contacts LED-indication Magnetic latching Plug-in relay	Arcing chambers LED-indication Magnetic arc blow out Plug-in relay	High speed switching < 7 ms Plug-in relay	Positive guided contacts LED-indication Magnetic latching Plug-in relay	Bistable Mechanical latching Position indicator Plug-in relay	Bistable Magnetic latching Plug-in relay
440 VAC 350 VDC	440 VAC 350 VDC	220 VDC	440 VAC 350 VDC	440 VAC 350 VDC	440 VAC 250 VDC
10 A / 230 VAC 1 A / 110 VDC	10 A / 230 VAC 7 A / 110 VDC	10 A / 230 VAC 1 A / 110 VDC	10 A / 230 VAC 7 A / 110 VDC	10 A / 230 VAC 1 A / 110 VDC	10 A / 230 VAC 1 A / 110 VDC
5 V 1 mA	12 V 10 mA	12 V 10 mA	12 V 10 mA	12 V 10 mA	12 V 10 mA
12...380 VAC 12...250 VDC 0.8...1.1 Un	12...380 VAC 12...250 VDC 0.8...1.1 Un	12...250 VDC 0.8...1.1 Un	12...250 VDC 0.8...1.1 Un	12...380 VAC 12...250 VDC 0.8...1.1 Un	12...380 VAC 12...250 VDC 0.85...1.1 Un

40 x 40 x 53	40 x 40 x 53	40 x 40 x 53	40 x 40 x 53	40 x 88 x 40	40 x 40 x 53
D-E 48 VAC	D-B 24 VAC, 50 Hz	D-R4 24 VDC	D-BW022 24 VDC	KDN 24 VAC, 50 Hz	BD 24 VAC
D-E 320 VAC	D-B 230 VAC, 50 Hz	D-R4 48 VDC	D-BW031 24 VDC	KDN 220 VAC, 50 Hz	BD 220-230 VAC
D-E 24 VDC	D-B 24 VDC	D-R4 110 VDC	D-BW013 110 VDC	KDN 24 VDC	BD 24 VDC
D-E 110 VDC	D-B 110 VDC	D-R4 220 VDC		KDN 110 VDC	BD 110 VDC

Accessoires			
V23BR D-relays socket	19 inch module for D-relays	19 inch module for D8 & KDN relays	V99 for D8 & KDN relays

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