



Product Cross Reference and Selection Guide

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Trip, Auxiliary and Supervision Relay Functional Cross Reference

High Speed Trip Relays

RMS Mors Smitt	Function	Competitors
6RJ11, Alpha TR	Low burden Self-reset contacts Hand-reset flag indicator	MVAJ11, MVAJ051*, MVAJ101* TR112, 7PG1511-2
6RJ13, Alpha TR	Low burden Hand-reset contacts & flag indicator	MVAJ13, MVAJ053*, MVAJ103* TR121, 7PG1512-1
6RJ14, Alpha TR	Low burden Electrical reset contacts Independent hand-reset flag indicator	MVAJ14, MVAJ054*, MVAJ104* TR131, 7PG1513-1
6RJ15, Alpha TR	Low burden Hand & Electrical reset contacts Independent hand-reset flag indicator	MVAJ15, MVAJ055*, MVAJ105* TR141, 7PG1514-1

* Can be High or Low burden

RMS Mors Smitt	Function	Competitors
6RJ21, Alpha TR	High burden Self-reset contacts Hand-reset flag indicator	MVAJ21, MVAJ051*, MVAJ101* TR212, 7PG1521-2
6RJ23, Alpha TR	High burden Hand-reset contacts & flag indicator	MVAJ23, MVAJ053*, MVAJ103* TR221, 7PG1522-1
6RJ24, Alpha TR	High burden Electrical reset contacts Independent hand-reset flag indicator	MVAJ24, MVAJ054*, MVAJ104* TR231, 7PG1523-1
6RJ25, Alpha TR	High burden Hand & Electrical reset contacts Independent hand-reset flag indicator	MVAJ25, MVAJ055*, MVAJ105* TR241, 7PG1524-1

* Can be High or Low burden

RMS Mors Smitt	Function	Competitors
6RJ21-20	High burden Self-reset contacts Hand-reset flag indicator 20 contacts	MVAJ51, MVAJ201* TRA212, 7PG1821-2
6RJ23-20	High burden Hand-reset contacts & flag indicator 20 contacts	MVAJ53, MVAJ203* TRA221, 7PG1822-1
6RJ24-20	High burden Electrical reset contacts Independent hand-reset flag indicator 20 contacts	MVAJ54, MVAJ204* TRA231, 7PG1823-1
6RJ25-20	High burden Hand & Electrical reset contacts Independent hand-reset flag indicator 20 contacts	MVAJ55, MVAJ205* TRA241, 7PG1824-1

* Can be High or Low burden

Auxiliary Relays

RMS Mors Smitt	Function	Competitors
6RA11, Alpha AR	Self-reset contacts Hand-reset flag indicator	MVAA11 AR111, 7PG1111-1
6RA13, Alpha AR	Hand-reset contacts & flag indicator	MVAA13 AR112, 7PG1111-2
6RA15, Alpha AR	Hand & electrical reset contacts Independent hand-reset flag indicator	MVAA15 AR113, 7PG1111-3
6RA20	CT shorting relay	
6RA21, Alpha AR	Self-reset contacts Hand-reset flag indicator Double element	MVAA21 AR211, 7PG1121-1
6RA23, Alpha AR	Hand-reset contacts & flag indicator Double element	MVAA23 AR212, 7PG1122-1

Trip Circuit Supervision Relays

RMS Mors Smitt	Function	Competitors
6RX21, Alpha XR5	Single pole TCS	MVAX21 XR250, XR251, 7PG1752
6RX31, Alpha XR5	Single pole TCS	MVAX31 XR350, XR351, 7PG1753

Trip Supply Supervision Relays

RMS Mors Smitt	Function	Competitors
6RX12, Alpha XR5	Trip supply supervision	MVAX12 XR152, XR153, 7PG1741

Trip Relay Supervision Relays

RMS Mors Smitt	Function	Competitors
6RX11, Alpha XR5	Trip relay supervision	MVAX11 XR151, 7PG1751

Compact High Speed Trip Relays

RMS Mors Smitt	Function	Competitors
TRD4-1	High burden Self-reset contacts Hand-reset Mechanical flag indicator 4 contacts	RF-4R, RF-4R HB REL9122, REL9123
TRD4-4	High burden Hand & Electrical reset contacts Hand-reset Mechanical flag indicator 4 contacts	BF-4R, BF-4RP, BF-4R HB, BF-4RP HB REL9126, REL9127

Compact Auxiliary Relays

RMS Mors Smitt	Function	Competitors
ARD4-1	Self-reset contacts Hand-reset Mechanical flag indicator 4 contacts	RF-4 REL9120
ARD4-4	Hand & Electrical reset contacts Hand-reset Mechanical flag indicator 4 contacts	BF-4

Compact Supervision Relays

RMS Mors Smitt	Function	Competitors
1X10	Fuse supervision or Supply supervision	
1X20	Fuse supervision or Trip coil and supply supervision	
1X30	Trip circuit supervision and supply supervision	
XRD-4	Trip supply supervision, hand reset Mechanical flag indicator	RUT-4 REL9135
XRD-5	Trip supply supervision, self-reset LED alarm	RUT-4 REL9135
XRD-6	Trip circuit supervision, hand reset Mechanical flag indicator	VDF-10 REL9132
XRD-7	Trip circuit supervision, self-reset LED alarm	VDF-10 REL9132

Test Block and Test Plug Functional Cross Reference

Test Blocks and Test Plugs

RMS Mors Smitt	Function	Competitors
4M200 4M220	14 circuit Test Block 14 circuit Test Plug	Directly interchangeable with: MMLG, 2RMLG, 7XG2220 MMLB, 2RMLB, 7XG2240
4M400 4M420	14 circuit Test Block 14 circuit Test Plug	MMLG, 2RMLG, 7XG2220, P991, RTXP 8, TSB-14 MMLB, 2RMLB, 7XG2240, P992, RTXH 8, TSB-14-P
4M402 4M422	28 circuit Test Block 28 circuit Test Plug	RTXP 18, RTXP 24 RTXH 18, RTXH 24
4M300 4M320	14 circuit Test Block 14 circuit Test Plug	MMLG, 2RMLG, 7XG2220 MMLB, 2RMLB, 7XG2240

Note: only the 4M200/4M220 system is physically interchangeable with the MMLG/MMLB/2RMLG/2RMLB systems

Other Product Portfolio Alternatives

Arc Fault Protection

Arc Fault Monitors	Function	Sensors Required
1S20	Up to 2 zones and up to 3 point sensors 2 Trip outputs	1S30 point sensor
1S23	Single zone and up to 2 sensors Interfaces with relay binary inputs only	1S30 point sensor
1S24	Up to 16 zones and up to 16 point sensors or 12 point sensors + 2 linear sensors 3 Trip outputs	1S30 point sensor 1S40 linear sensor
1S25	Up to 4 zones and up to 8 point sensors 9 Trip outputs	1S30 point sensor
1S26	Up to 4 zones and up to 8 point sensors Integrated current check 13 Trip outputs	1S30 point sensor
1S27	Up to 2 zones and up to 4 point sensors or 4 point sensors + 1 linear sensor 4 Trip outputs	1S30 point sensor 1S40 linear sensor

Digital Time Delay Relay

RMS Mors Smitt	Function	Competitors
2T105	Four user settable time ranges: 0-0.99s, 0-9.9s, 0-99s, 0-990s	MVTT14, MVTT15 DDB1, DDB5, DDB7, DDB11, DDB12

Pilot Wire Intertripping Relays

RMS Mors Smitt	Function	Competitors
3A20	Pilot Wire DC Intertrip Send & Receive Relays	MVAWA12, MVAWA22, MHOP02, MHOP03 Type GF, B22, B74, B75
3A300	Pilot Wire DC Intertrip & Supervision System	GCM05

Current Check Relays

RMS Mors Smitt	Function	Competitors
2C65	Current check relays	MCTI140 2DABT

Frame Leakage Relays

RMS Mors Smitt	Function	Competitors
2C74	Instantaneous current relay	MR, 7PG13

Sensitive Earth Fault Relays

RMS Mors Smitt	Function	Competitors
2C138	Sensitive Earth Fault	MCSU DAC

DC Current Sensing Relays

RMS Mors Smitt	Function	Competitors
2C81	DC Current Sensing relays	

Shaft Overcurrent Relays

RMS Mors Smitt	Function	Competitors
2C139	150Hz AC shaft current sensing	

Auto Reclose Relays

RMS Mors Smitt	Function	Competitors
1B230	Multi-shot Reclose	MVTR01

High Impedance Differential Busbar/ Restricted Earth Fault (REF)

RMS Mors Smitt	Function	Competitors
2C73	High Impedance Relay (Current set)	MCAG DAD
2V73	High Impedance Relay (Voltage set)	MFAC 5B3
2V68-S	CT Supervision Relay	MVTP
2V75	Metrosil/Resistor Module	Metrosil
1M123	High Impedance Busbar Protection scheme	MCAG34, MFAC34

CT Supervision Relays

RMS Mors Smitt	Function	Competitors
2V68-S	CT Supervision Relay	MVTP

Frequency Relays

RMS Mors Smitt	Function	Competitors
2H34-S	Under Frequency / Over Frequency ROCOF	MFVU21 Argus 8, 7SG118, 7SR158

Synchronism Check Relays

RMS Mors Smitt	Function	Competitors
2SY212-S	Synchronism Check	Argus 7, 7SG117, 7SR157

Under / Over Voltage Relays

RMS Mors Smitt	Function	Competitors
2V67-S	Under Voltage / Over Voltage	MVTU11 Argus 8, 7SG118, 7SG158
2V76	Under Voltage / Over Voltage	MVTU11 Argus 8, 7SG118, 7SG158

Neutral Displacement Relays

RMS Mors Smitt	Function	Competitors
2V76	Under Voltage / Over Voltage	MVTU11 Argus 8, 7SG118, 7SG158

Phase Failure Relays

RMS Mors Smitt	Function	Competitors
2P49	Phase Failure and 3 phase under voltage relay (self powered)	
2P740	Phase Failure and 3 phase under voltage relay (self powered)	

Potential Selecting Relays

RMS Mors Smitt	Function	Competitors
2P48	Potential Selection via either phase failure or 3 phase under voltage detection (Self powered)	

Voltage Regulation Relays

RMS Mors Smitt	Function	Competitors
2V164-S	Transformer Voltage Regulating Relay	MVGC, KVGC MicroTAPP, 7SG15, SuperTAPP
1M122A	Parallel Transformer Voltage Regulation Scheme (Master Follower)	MVGC, KVGC MicroTAPP, 7SG15, SuperTAPP
2V200	Tap Position Transducer (Voltage divider, resistor chain, BCD input)	
4D200	Tap Position Indicator (Frequency, BCD/BIN input)	

Alarm Panels

RMS Mors Smitt	Function	Competitors
1A54	4, 8 or 16 point Alarm panel	
6RM Quad	4 Element Flag Relay (based on 6RM relays)	

The complete product portfolio may be found at: www.morssmitt.com\rms

ANSI Codes – Condensed List

ANSI Code	Function
25	Synchronism Check
27	Undervoltage
30	Annunciator
47	Phase-Sequence or Phase Balance Voltage
50	Instantaneous Overcurrent
51	Time Overcurrent
52	Circuit Breaker
59	Overvoltage
62	Time Delay
74	Alarm
79	Auto Reclose
81	Frequency
83	Automatic Transfer
86	Lockout
87	Differential
90	Regulating Device
94	Tripping

Disclaimer

This cross reference is a guide only and any relay choice must be fully assessed against the end user's specific application requirements.

While the information and guidance given in this document is believed to be correct, no liability shall be accepted for any loss or damage caused by any error or omission, whether such error or omission is the result of negligence or any other cause. Any and all such liability is disclaimed.