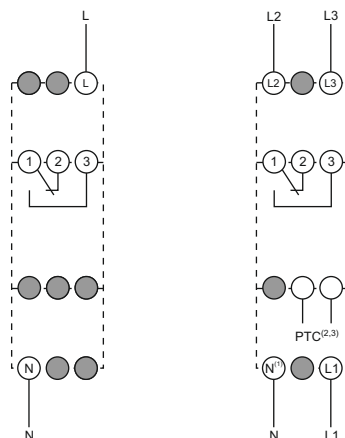


Klemsan® G1, M1 Series Protection Relays

Operating voltage	380 .. 480V AC, ±25% (G1D and M1D series) 190 .. 230V AC, ±25% (G1D-SA-L) 230V AC, ±%25 (G1 and M1 series)
U_N	380V, 400V, 440V, 460V, 480V (G1D-SA) 190V, 200V, 208V, 220V, 230V (G1D-SA-L) 230V (G1 and M1 series) 400V (M1D series)
Supply inputs	L1 - L3 (G1D and M1D series) L3 - N (G1 and M1 series)
Operating frequency	50 .. 60 Hz
Voltage adjustment range	5% .. 20% / OFF 150V..210V (low) - 240V..300V (high) (G1-SV) 270V..370V (low) - 400V..500V (high) (G1D-SV)
Voltage threshold values	$\pm U_N \times (5\% .. 20\%) / \text{OFF}$ $U_N \times 0.75$ (G1-TU)
Voltage hysteresis	6V AC
Time delay (OFF delay : t)	0.1 .. 10 seconds - adjustable (G1 and G1D series) 2 seconds (M1 and M1D series) 0.5 second (G1-TU)
Time delay (ON delay : t_{ON})	1 second (G1, G1D, M1 and M1D series) 1..15 minutes - adjustable (G1-SAT and G1-TU)
Asymmetry adjustment range	5% .. 20% / OFF
Asymmetry threshold value	$U_N \times (5\% .. 20\%) / \text{OFF}$
Asymmetry calculation formula	$A (\%) = \frac{V_{max} - V_{min}}{U_N} \times 100$
Asymmetry hysteresis	3%
Fixed asymmetry threshold value (M1 series)	20%
PTC alarm threshold value	$\approx 1100\Omega$
Output contact	1 C/O
Maximum switching current	10A
Maximum switching voltage	250V AC
Maximum switching power	1250VA
Operating temperature	-20°C .. 60°C
Storage temperature	-40°C .. 75°C
Protection class	IP20
Connection	Rail mounted

type	neutral connection	phase loss	phase sequence	adjustable asymmetry	fixed asymmetry	PTC protection	under voltage protection	over voltage protection	voltage protection function ON/OFF	asymmetry protection function ON/OFF	order no
M1-A	✓	✓			✓						270 134
M1-SA	✓	✓	✓		✓						270 132
M1-SP	✓	✓	✓			✓					270 135
M1-SAP	✓	✓	✓		✓	✓					270 133
G1-SA	✓	✓	✓	✓			✓	✓	✓	✓	270 130
G1-SAP	✓	✓	✓	✓		✓	✓	✓	✓	✓	270 131
G1-A	✓	✓		✓			✓	✓	✓	✓	270 136
G1-SAT	✓	✓	✓	✓			✓	✓	✓	✓	270 137
G1-TU	✓	✓	✓				✓				270 138
G1-SV	✓	✓	✓				✓	✓			270 139
G1-SVP	✓	✓	✓			✓	✓	✓			270 180
M1D-S		✓	✓								270 142
M1D-SA		✓	✓		✓						270 144
G1D-SA		✓	✓	✓			✓	✓	✓	✓	270 140
G1D-SA-L		✓	✓	✓			✓	✓	✓	✓	270 141
G1D-SV		✓	✓				✓	✓			270 145
G1-VM (*)	✓						✓	✓			270 146
G1-TUM (*)	✓						✓				270 147



- (1) : This terminal is closed in the devices without neutral connection
- (2) : PTC terminals must be shorted when not used
- (3) : These terminals are closed in the devices without PTC protection
- (*) : Single phase product

