

MRS13R/UC12-48V

1 phase | 1 NO + 1 NC forcibly guided | Overcurrent protection

Power supply

Nominal voltage	12 ... 48 V AC / DC
Operating voltage range	10 ... 60 V AC / DC
Power consumption AC / DC	3.2 VA / 1.6 W
Frequency range	0; 16 ... 63 Hz

Measuring circuit

Measured parameters	I (Load current)
Min. setting step, resolution	0.1 A
Monitoring functions	Overcurrent detection
Rated measurement current	5 A
Measurement current range	-5 ... 5 A
Overcurrent threshold I_{th} setting range	0.1 ... 5 A, default = 3.0 A
Saturation current threshold I_{max}	± 5 A
Maximum pulse current	See extended datasheet
Alarm switch-on delay T_{Don}	0 ... 999.9 s, default = 0.0 s
Alarm switch-off delay T_{Doff}	0.1 ... 999.9 s, default = 3.0 s
Hysteresis	3% ... 50%, default = 5%
Scaling factor	0.1 ... 1000, default = 400
Minimum overcurrent detection time	4.5 ms
Minimum saturation current detection time	3.1 ms
Response time in case of overcurrent or saturation current event	See extended datasheet

Main circuit

Number of forcibly guided contacts	1 NO + 1 NC (Type A)
Available contact materials	⚡ AgCuNi + 0.2 ... 0.4 μ Au
Rated voltage	240 V AC
Rated current	6 A
Minimum load	3 mA, 15 V (40mW)
Inrush current	30 A, 20 ms
Rated load DC	fig. 3
Rated load AC-1	1,500 VA
Mechanical endurance (cycles)	10 000 000
Electrical endurance at rated load AC-1 (cycles)	fig. 2

Test/Diagnostic input

Maximal voltage digital inputs	160 V DC
Logic level "1"	≥ 14 V
Logic level "0"	≤ 5 V
Sampling Rate	667 Hz

Insulation

Rated test voltage current loop / diagnostic input	3.0 kV / 1 Min.
Rated test voltage power supply / current loop	3.0 kV / 1 Min.
Rated test voltage power supply / diagnostic input	3.0 kV / 1 Min.
Rated test voltage power supply / relay NO	3.0 kV / 1 Min.
Rated test voltage power supply / relay NC	3.0 kV / 1 Min.
Rated test voltage current loop / relay NO	3.0 kV / 1 Min.
Rated test voltage diagnostic input / relay NO	2.0 kV / 1 Min.
Rated test voltage diagnosis input / relay NC	2.0 kV / 1 Min.
Rated test voltage current loop / relay NC	3.0 kV / 1 Min.
Rated test voltage relay NO / relay NC	2.5 kV / 1 Min.
Pollution degree	2
Overvoltage category	III

Housing and environmental conditions

Storage temperature (no ice)	-40 ... 85 °C
Operation temperature	-40 ... 70 °C (display -20 ... 70 °C)
Vibration resistance	NO: 7g / NC: 3g
Shock resistance	NO: 17g / NC: 10g
Ingress Protection	IP 20
Weight	107 gr
Housing material	PA
Operation Position	any
Dimensions	fig. 4

Wiring

Contact type control / main circuit	screw terminal
Conductor cross section control / main circuit	2.5 mm ² , AWG14 (stranded) / 4mm ² , AWG12 (wire)
	Only copper conductors must be used



fig. 1. Wiring diagram

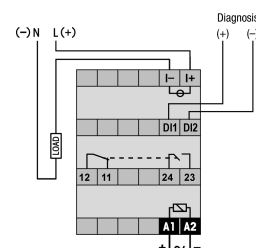


fig. 2. AC voltage endurance

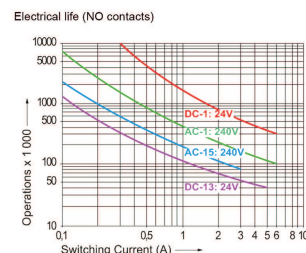


fig. 3. DC load limit curve

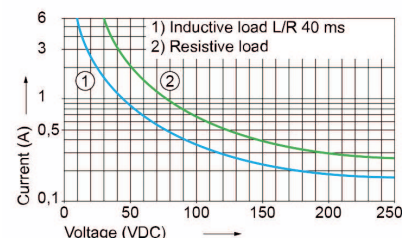
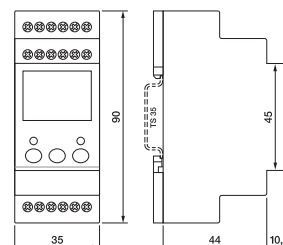


fig. 4. Dimensions (mm)



Technical approvals, conformities

Standards	IEC 61810-3 (Type A)
Railway	EN 50155; EN 45545-2; EN 61373
Approvals	CE UK EAC