





3.2 Voltage Monitoring



Application	Types	Monitoring	Monitoring ratings	Output contacts	Design
Voltage monitoring, AC 15 ... 60 Hz / DC single phase	MRU11	 	0.1 ... AC 480 V / DC 690 V	1 CO	35 mm
Voltage monitoring, AC 15 ... 60 Hz / DC three phase	MRU32	 	0.1 ... AC 480 V / DC 690 V	2 CO	35 mm

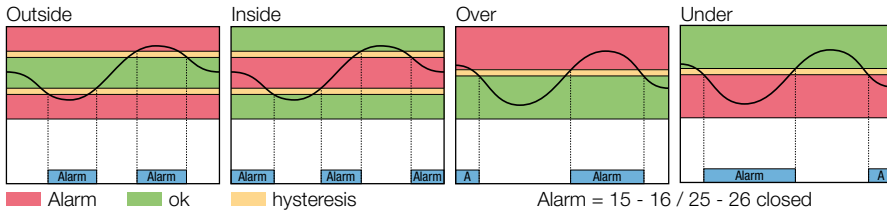
MRU11

Voltage monitoring relay AC/DC, single phase DIN Rail mounting according to DIN 43 880

Type: MRU11/...V

Voltage monitoring relay with over- and under voltage thresholds up to 700 V.
Alarm delay setting. Alarm LED. Display for voltmeter function, alarm signal and interactive parameter setting.
1 change-over alarm contact 5 A 250 V. Comfortable parameter setting.

Monitoring function



Measuring circuit data

Voltage setting ranges AC / DC	0.1 ... 480 V / ±0.1 ... 690 V
Frequency	AC 15 ... 150 Hz
Input resistance U / I	1 MΩ
Measured variables	U, f

Time data

Voltage failure buffering	ca. 30 ms
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Alarm contacts

Type / Material	1 CO / AgNi 0.15
Rated operational current	6 A
Max. inrush current	15 A
Max. switching voltage	250 V
Max. AC load AC-1 (Fig.1)	1250 VA
Max. DC load DC-1, 24 V / 220 V (Fig.2)	120 W / 25 V
Recommended min. contact load	10 mA / 10 V
Alarm delay setting time	0.1 ... 999.9 s (factory adjustment = 0.0 s)
Reset time setting range	0.1 ... 999.9 s (factory adjustment = 0.0 s)

Power supply

	UC12-48V	UC110-240V
Nominal voltage AC/DC	12 ... 48 V	110 ... 240 V
Operating voltage range	10 ... 60 V	85 ... 250 V
AC frequency	16 ... 63 Hz	16 ... 63 Hz
Power consumption	1.6 W / 3.2 VA	1.5 W / 2.6 VA

Insulation

Measuring input – Measuring input	1.5 kV 1 minute
Measuring input – Supply	2.0 kV 1 minute
Measuring input – Contact	2.0 kV 1 minute
Supply – Contact	2.0 kV 1 minute
Contact set – Contact set	1.5 kV 1 minute

General specifications

Ambient temperature storage /operation	-40 ... +85 °C / -40 ... +60 °C
	LCD: -20 ... +60 °C
Mechanical life of contacts	30 x 10 ⁶ operations
Conductor cross section	Stranded wire 2.5 mm ² , 2 x 1.5 mm ²
Ingress protection degree	IP20, (electronics: IP40)
Max. screw torque	0.4 Nm
Housing material	Lexan EXL 9330
Weight	107 g

Standard types

AC/DC 12-48 V, 15...60 Hz
AC/DC 110-240 V, 15...60 Hz

MRU11/UC12-48V
MRU11/UC110-240V



Connection diagram

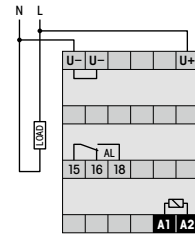


Fig.1 AC voltage endurance

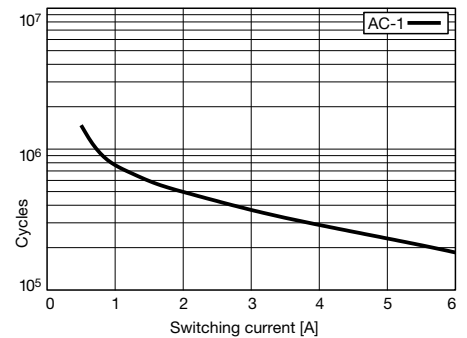
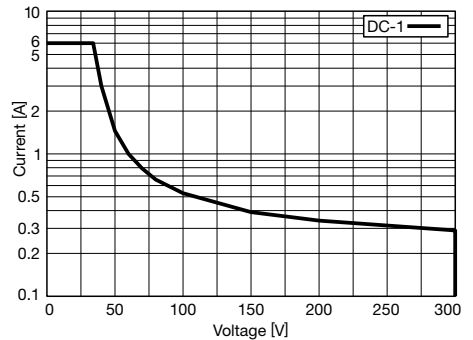
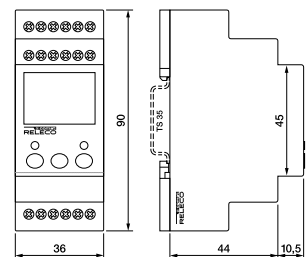


Fig. 2 DC load limit curve



Dimensions [mm]



Technical approvals, conformities



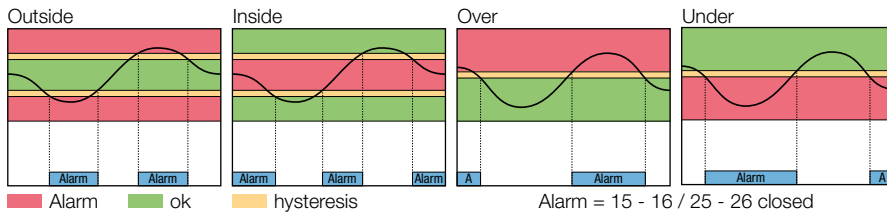
MRU32

Voltage monitoring relay AC/DC, three phase DIN Rail mounting according to DIN 43 880

Type: MRU32/...V

Voltage monitoring relay with over- and under voltage thresholds up to 700 V.
Alarm delay setting. Alarm LED. Display for voltmeter function, alarm signal and interactive parameter setting.
2 change-over alarm contacts 5 A 250 V. Comfortable parameter setting.

Monitoring function



Measuring circuit data

Voltage setting ranges AC / DC	0.1 ... 480 V / ±0.1 ... 690 V
Frequency	AC 15 ... 150 Hz
Input resistance U / I	1 MΩ
Measured variables	U, f, Δφ (phase sequence)

Time data

Voltage failure buffering	ca. 30 ms
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Alarm contacts

Type / Material	2 CO / AgNi 0.15
Rated operational current	6 A
Max. inrush current	15 A
Max. switching voltage	250 V
Max. AC load AC-1 (Fig.1)	1250 VA
Max. DC load DC-1, 24 V / 220 V (Fig.2)	120 W / 25 W
Recommended min. contact load	10 mA / 10 V
Alarm delay setting time	0.1 ... 999.9 s (factory adjustment = 0.0 s)
Reset time setting range	0.1 ... 999.9 s (factory adjustment = 0.0 s)

Power supply

	UC12-48V	UC110-240V
Nominal voltage AC/DC	12 ... 48 V	110 ... 240 V
Operating voltage range	10 ... 60 V	85 ... 250 V
AC frequency	16 ... 63 Hz	16 ... 63 Hz
Power consumption	1.6 W / 3.2 VA	1.5 W / 2.6 VA

Insulation

Measuring input – Measuring input	1.5 kV 1 minute
Measuring input – Supply	2.0 kV 1 minute
Measuring input – Contact	2.0 kV 1 minute
Supply – Contact	2.0 kV 1 minute
Contact set – Contact set	1.5 kV 1 minute

General specifications

Ambient temperature storage /operation	-40 ... +85 °C / -40 ... +60 °C
	LCD: -20 ... +60 °C
Mechanical life of contacts	30 x 10 ⁶ operations
Conductor cross section	Stranded wire 2.5 mm ² , 2 x 1.5 mm ²
Ingress protection degree	IP20, (electronics: IP40)
Max. screw torque	0.4 Nm
Housing material	Lexan EXL 9330
Weight	125 g

Standard types

AC/DC 12-48 V, 15...60 Hz
AC/DC 110-240 V, 15...60 Hz

MRU32/UC12-48V
MRU32/UC110-240V



Connection diagram

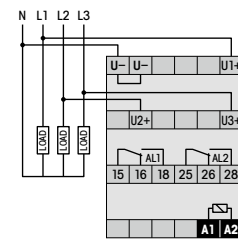


Fig.1 AC voltage endurance

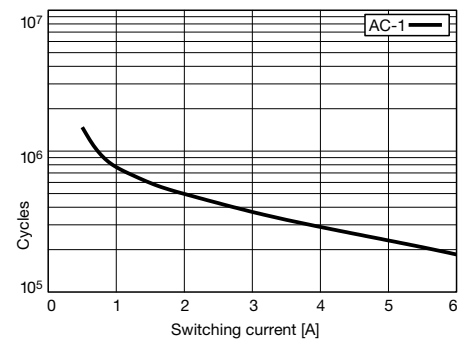
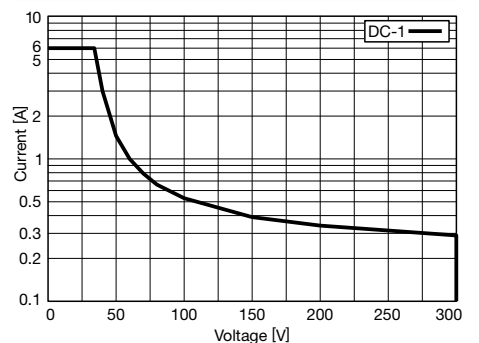
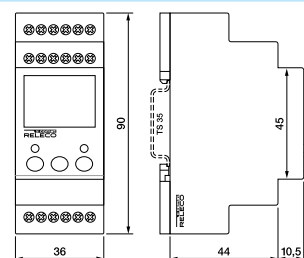


Fig. 2 DC load limit curve



Dimensions [mm]



Technical approvals, conformities



