

3.1 Multifunction Monitoring

MRM11R

1 phase | 1 CO | multifunction monitoring

Power supply

Nominal voltage	12 ... 48 V UC	110 ... 240 V UC
Operating voltage range	10 ... 60 V	77 ... 250 V
Power consumption AC / DC	3.2 VA / 1.6 W	2.6 VA / 1.5 W
Rated frequency	16 ... 63 Hz	16 ... 63 Hz

Measuring circuit

Measured parameters	U, I, P, S, f, Cosφ
Min. setting step, resolution	0.1 V / 0.1 A / 1 W / 1 VA / 1 Hz / 0.05
Monitoring functions	Under, over, inside, outside
Number of voltage measurement inputs	1
Rated AC voltage L-N / L-L	230 V / -
AC voltage measurement range L-N / L-L	0.1 ... 480 V
Rated DC voltage U+ / U-	300 V
DC voltage measurement range U+ / U-	+0.1 ... +690 V, -0.1 ... -690 V
Undervoltage setting range	+0.1 ... +700 V, -0.1 ... -700 V
Overvoltage setting range	+0.1 ... +700 V, -0.1 ... -700 V
Number of current measurement inputs	1
Rated measurement current	5 A
Measurement current range	0.1 ... 5 A
Undercurrent setting range	0.1 ... 6 A
Overcurrent setting range	0.1 ... 6 A
Rated base frequency	15 ... 150 Hz
Alarm delay	0.5 ... 999.9 s
Alarm reset delay	0.5 ... 999.9 s

Main circuit

Number of contacts	1 CO
Contact material	⚡ AgNi
Rated voltage	250 V AC
Rated current	6 A
Minimum load	10 mA, 10 V
Inrush current	10 A, 10 ms
Rated load DC	fig. 2
Rated load AC-1	1250 VA
Mechanical endurance (cycles)	30 000 000
Electrical endurance at rated load AC-1	fig. 3

Insulation

Rated test voltage measuring / measuring circuit	1.5 kV rms / 1 min
Rated test voltage measuring circuit / power supply	2 kV rms / 1 min
Rated test voltage measuring circuit / main circuit	2 kV rms / 1 min
Rated test voltage main circuit / power supply	2 kV rms / 1 min
Rated test voltage open contact	1.5 kV rms / 1 min
Pollution degree	2
Overvoltage category	III

General data

Ambient temperature storage (no ice)	-40 ... 85 °C
Ambient temperature operation	-40 ... 70 °C
Conductor cross section	2.5 mm ²
Nominal screw torque	0.6 Nm
Dimension	fig. 4
Weight	107 g
Protection degree	IP 20
Housing material	PC

Product reference

Description	Type	12-48	110-240
Single phase monitoring	MRM11R/UC...V	✓	✓

Other voltages on request. Please contact support@comatreleco.com.
 "... list control circuit voltage to complete product references.

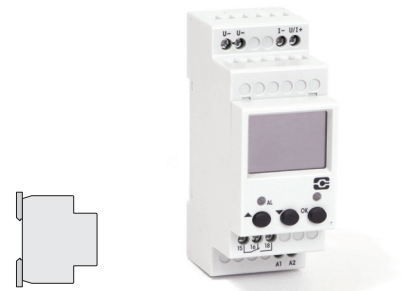


fig. 1. Wiring diagram

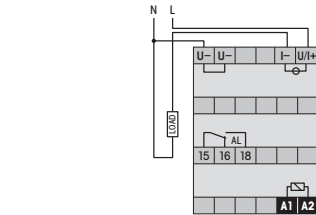


fig. 2. DC load limit curve

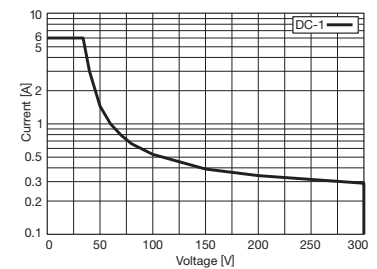


fig. 3. AC voltage endurance

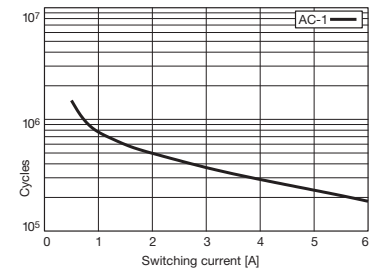
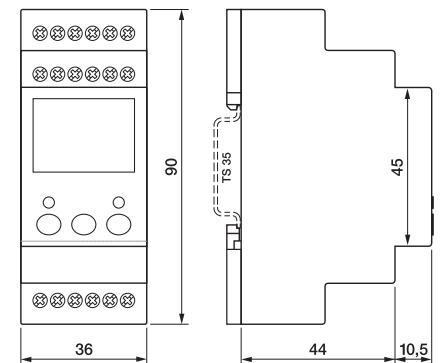


fig. 4. Dimension (mm)



Standards and approvals

Standards	EN 60947; EN 60730-1; EN 61000-6-3; EN 61000-6-2
Railway standards	EN 50155; EN 45545-2

Approvals

	Description	MRM11	MRM11R	MRM32	MRM32R	MRU11	MRU32	MV53	SSU34	SSU31	SSU33L	MRI11	MRI32	TSR19	ESU-D2R	CT515R	CT524R
Monitoring	One phase voltage monitoring	●	●			●		●									
	Three phase voltage monitoring			●	●		●		●		●						
	Four channel voltage measuring																
	DC Voltage monitoring	●	●	●	●	●	●										●
	One phase current monitoring	●	●									●					
	Three phase current monitoring			●	●								●				
	Four channel current measuring																
	DC current monitoring	●	●	●	●							●	●				●
	Phase failure			●	●		●		●	●	●						
	Phase sequence monitoring			●	●		●		●	●	●						
	Phase angle monitoring / measuring*			●	●		●		●		●						
	Differential voltage monitoring / measuring*								●		●						
	Neutral failure monitoring								●		●						
	Frequency monitoring / measuring*	●	●	●	●	●	●		●		●	●					
	Apparent power monitoring / measuring*	●	●	●	●												
	Active power monitoring / measuring*	●	●	●	●												
	Power factor monitoring / measuring*	●	●	●	●												
	Active energy measuring																
	THDI / THDU measuring																
	PTC monitoring														●		
Earth failure monitoring															●		
Functions	Threshold „over“ exceeded fig. 3.	●	●	●	●	●	●	●	●		●	●	●	●		●	●
	Theshold „under“ exceeded fig. 4.	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	„Inside“ band entered fig. 2.	●	●	●	●	●	●					●	●			●	●
	„Outside“ band entered fig. 1.	●	●	●	●	●	●					●	●			●	●
	Alarm on-delay	●	●	●	●	●	●	●	●		●	●	●		●	●	●
	Alarm off-delay	●	●	●	●	●	●	●					●	●			
	Latching alarm output function	●	●	●	●	●	●						●	●	●		
	Threshold selectable	●	●	●	●	●	●	●	●				●	●	●	●	●
	Threshold fixed									●	●				●		
Power supply	Supply isolated from measuring circuit	●	●	●	●	●	●					●	●	●	●		
	Supply from measure circuit							●	●	●	●					●	●
Mounting	DIN rail mounting	●	●	●	●	●	●	●	●			●	●		●		
	Housing according IEC/EN 43880 (electrical distribution mounting)	●	●	●	●	●	●	●				●	●				
	Plug-in (socket mounting)									●	●	●		●		●	●

