



DATASHEET

Issue 1



Multifunction Meters

Transducers & Isolators

Temperature Controllers

Converters & Recorders

Digital Panel Meters

Current Transformers

Analogue Panel Meters

Shunts

Digital Multimeters

Clamp Meters

Insulation Testers

OMICRON-PHR PHASE PROTECTION RELAY

Product Characteristics

- True RMS measurement
- Self Powered
- Instrument automatically clears (resets) itself as soon as fault condition is recovered
- Compliance to International Safety standard IEC 61010-1-2010
- LED indication for Unbalance, Phase Fail condition and incorrect Phase Sequence condition
- Well suited for 3PH 3W and 3PH 4W applications

SUBJECT TO CHANGE WITHOUT NOTICE

This datasheet superseded all previous versions – please keep for future reference

Features

- True RMS measurement
- Self Powered
- Instrument automatically clears (resets) itself as soon as fault condition is recovered
- Compliance to International Safety standard IEC 61010-1-2010
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- Well suited for 3PH 3W and 3PH 4W applications



OMICRON-PHR monitors AC voltage of a system/equipment and protects it from phase failure issues. Suits applications such as Control close loop operations, Conveyor system, motor protection from faults like incorrect phase sequence, unbalance in phase or loss of phase.

Application

- Motor protection
- Conveyor system
- Control close loop operations
- Incorrect phase sequence protection
- Phase failure protection

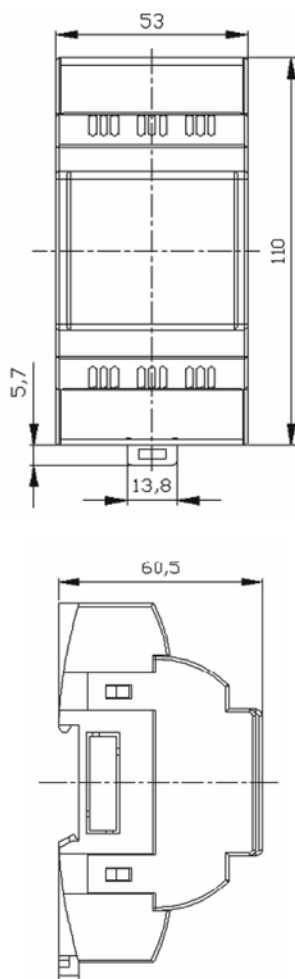
Product Features

True RMS measurement	The instrument measures distorted waveform up to 15th harmonics
Protection Feature	Phase Unbalance Protection Phase Failure Protection Phase Incorrect Sequence Protection
Self Powered	Needs no external power supply
Auto reset	Instrument automatically clears itself if fault condition is recovered
LED Indication	LED indication for Unbalance, Phase Fail condition and Incorrect Phase Sequence condition
Relay operation	Relay energize and de-energize on fault option available
System type	3 Phase 3 Wire device uses VLL values for tripping and 3 Phase 4 Wire device uses VLN for tripping
Compliance to International Safety standards	Compliance to International Safety standard IEC 61010-1-2010

LED indication table

LED indication	Continuous ON	Blinking LED
P-ON	Power ON	Phase Reversal
UB	Universal Voltage	–
PF	Phase Fail	–

Dimensions Details

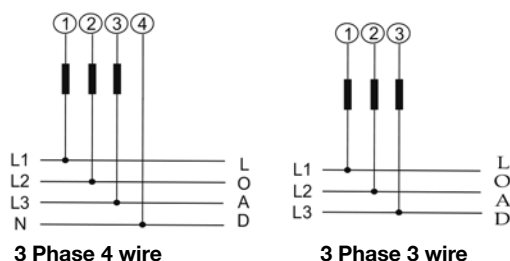


All the dimensions are in mm.

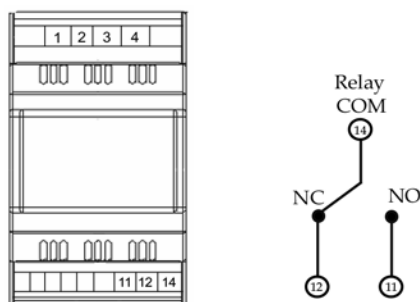
Technical Specifications

Input Voltage	
Nominal Input Voltage (AC RMS)	110 VLL / 240 VLL / 415VLL / 440VLL) (to be specified while ordering)
Nominal Frequency	50 Hz / 60 Hz (to be specified while ordering)
Auxiliary Supply	Self Auxiliary VA burden < 11 VA
Operating Ranges	
Voltage Range	110VLL(85 to 137VLL) 240VLL(204 to 300VLL) 415VLL(330 to 518VLL) 440VLL(350 to 550VLL)
Operating Reference Condition	
Reference Condition	23°C +/- 2°C
Input waveform	Sinusoidal (distortion factor 0.005)
Input Frequency	Nominal Frequency ± 2%
Accuracy	± 3% of Nominal Voltage
Applicable Standards	
Safety	IEC 61010-1-2010
IP for water & dust	IEC 60529
Pollution degree	2
Installation category	CAT III
High Voltage Test	2.2 kV AC, 50Hz for 1 minute between all Electrical circuits
Relay Contacts	
Types of output	1CO
Contact Ratings	5A/250VAC/30VDC (resistive load)
Mechanical Endurance	1x10 ⁷ OPS
Electrical Endurance	1x10 ⁵ OPS
Mechanical Attributes	
Weight	120 gm Approx

Electrical Connection



Terminal Details



Note: Relay Contacts are shown in power off condition

Default Settings

1. Phase Failure Tripping value	Phase Failure Tripping value
2. Phase failure Trip delay	Instantaneous Tripping
3. Incorrect Phase Sequence Trip delay	Instantaneous Tripping
4. Voltage Unbalance Tripping value	20 % of Nominal voltage
5. Trip delay for voltage unbalance	3.5 Seconds
6. Reset, Power on delay	1 Second Approx
7. Hysteresis	3 % of Trip Value

Ordering Codes

Ordering Codes													
Product Code	PR10-	X	X	X	X	X	X	X	0	0	0	0	OST
Model type for PR10	Phase monitor relay	P											
System Type for PR10	3P3W		4										
	3P4W		5										
System Voltage for PR10	110VLL			1									
	240VLL			2									
	415VLL			3									
	440VLL			4									
System Freq for PR10	50Hz				1								
	60Hz				2								
Relay Configuration for PR10	Normally Energized					1							
	Normally De-energized					2							
No. of Relay for PR10	1 relay						1						
Reserved									0	0	0	0	OST

Contact



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