Phase Protection Relay

RISH Relay - PHR

Applications:

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

RoHS

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

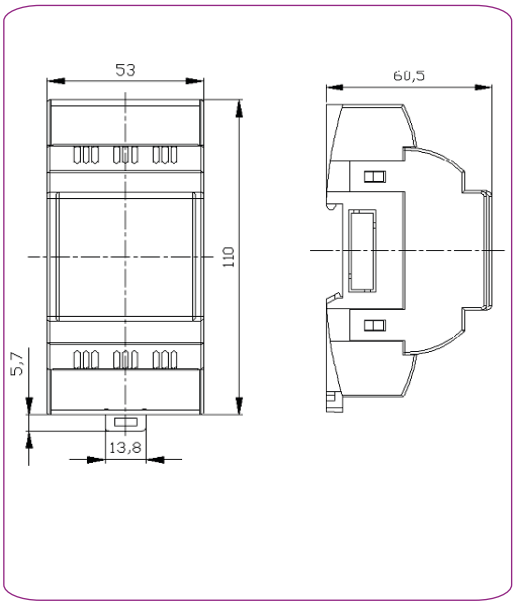
System type:
3 Phase 3 Wire device uses VLL values for tripping and
3 Phase 4 Wire device uses VLN for tripping

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	Unbalance Voltage	---
PF	Phase Fail	---

Dimensions Details:



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%

Measure Control Record Analyze

Phase Protection Relay

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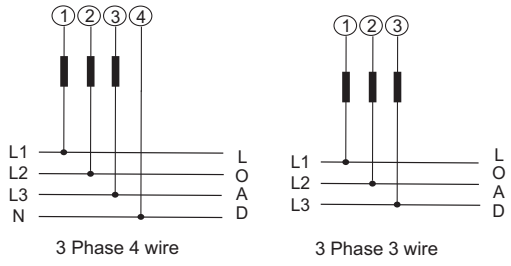
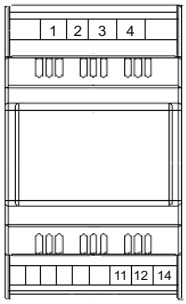
Electrical Connection:

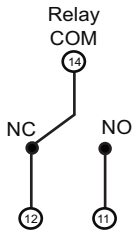


3 Phase 4 wire

3 Phase 3 wire

Terminal Details:





Note- Relay Contacts are shown in power off condition

Technical Specifications:

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.
Environmental	
Operating temperature	-10 to +55°C
Storage temperature	-25 to +70°C
Relative humidity	0...90% non condensing
Shock	15g in 3 planes
Vibration	10...55 Hz, 0.15mm amplitude
Enclosure	IP20 (front face only)
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.

Default Settings:

1. Phase Failure Tripping value	70% of Nominal Voltage
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 Information :

PHR - X - X - X - X

- Relay Configuration (1:- Normally Energized , 2:- Normally De-Energized)
- System Frequency (1:- 50 Hz , 2:- 60 Hz)
- System voltage VLL (1:- 110, 2:- 240 3:- 415 , 4:- 440)
- System Type (2:-3PH3W, 3:-3PH4W)

Order Code Example:

PHR - 3 - 415 - 1 - 1 - Phase protection relay PHR 3 phase 4 wire ,input voltage 415 VLL, system frequency 50 Hz relay contacts in energized configuration

Note:-

1. Energized configuration : Relay is normally energized (ON) condition and become de-energized (OFF) upon fault.
2. De-Energized configuration:- Relay is normally de-energized (OFF) condition and become energized (ON) upon fault.

Rishabh Instruments always tries for Improvement and therefore product specifications are subject to change without notice

Measure Control Record Analyze