

Phase Protection Relay

RISH Relay - PHR

Applications:

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

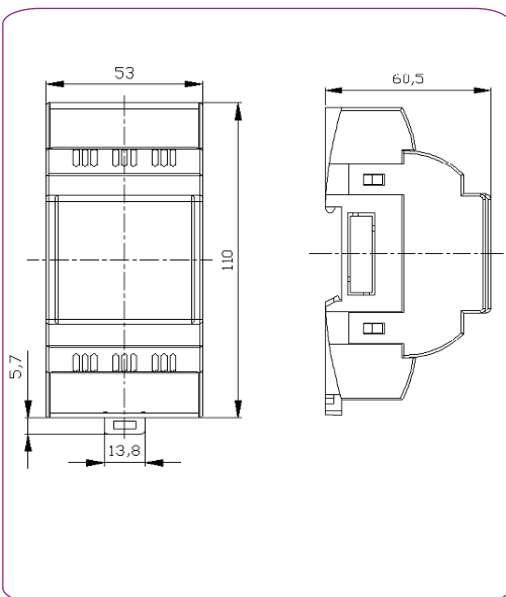
Compliance to International Safety standards:

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	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

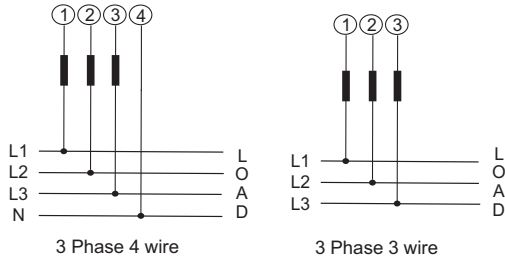


Optimize

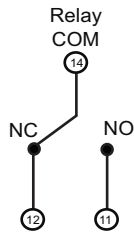
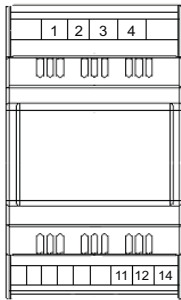
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Electrical Connection:



Terminal Details:



Note- Relay Contacts are shown in power off condition

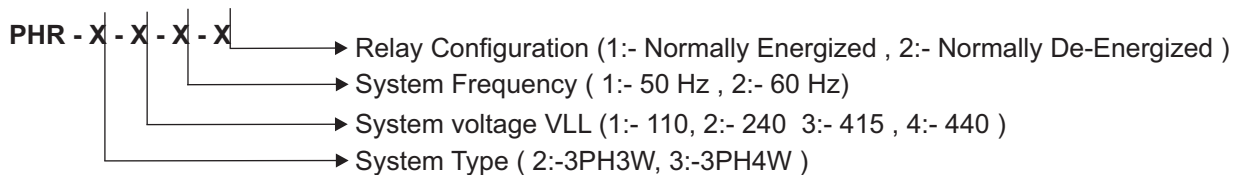
Technical Specifications:

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 :



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



Optimize

RISHABH INSTRUMENTS LIMITED

Domestic (India): +91 253 2202099 | marketing@rishabh.co.in
International: +91 253 2202004/06/08/99 | global@rishabh.co.in
www.rishabh.co.in