

Current Protection Relay

RISH Relay - AR

Applications:

General application - for any electrical load monitoring
 Motors - monitoring conditions such as overload, locked rotor, etc.
 Genset - to ensure load current is within generator capacity
 Transformer protection
 Ground fault protection
 Over current protection
 Under current protection
 Current unbalance protection



Product Features:

Protection feature:

Over Current Protection
 Under Current Protection
 Current Unbalance Protection

Nominal current setting:

Nominal current can be set from 1A - 5A

Adjustable trip point:

Trip point adjustment for Under current and Over current

Unbalance current tripping:

Unbalance current tripping feature can be enabled / disabled on site by using front key. This fault is disabled on factory setting

Adjustable hysteresis:

Hysteresis adjustment for Under current and Over current

Adjustable Time delay for:

Under Current
 Over Current

System types:

Available in Single phase and Three phase option

Relay option:

Relay option 1CO, 1CO+1CO is available

Auto/Manual reset:

In auto mode relay automatically clears itself if it comes out of the fault condition. If relay set in manual mode, the device must be manually cleared by "PRG/RST" key when fault condition is recovered.

Auto / manual resetting feature can be enabled / disabled on site by using front key

Compliance to International Safety standards:

Compliance to International Safety standard IEC 61010-1- 2010

True RMS measurement:

The instrument measures distorted waveform up to 15th harmonics

LED Indication:

LED indication for Power on, Under current, Over current, Current unbalance

Relay operation:

Relay energize and de-energize on fault option available

Parameter Settings:	
Over Current Trip point	30-140% (Variable)
Under Current Trip point	10-95% (Variable)
Current unbalance setting *	Trip point : 20% (Fixed) Trip delay : 5 second (Fixed) Hysteresis : 5% (Fixed)
Hysteresis	5 - 50% (Variable) of Trip point
Trip delay	0 - 10 second variable for Undercurrent, Overcurrent
Reset Delay	1 second (Fixed)
Power On Delay	Approx. 3 seconds (Fixed)

* Note : Unbalance setting is not applicable in single phase model.



Measure



Control



Record

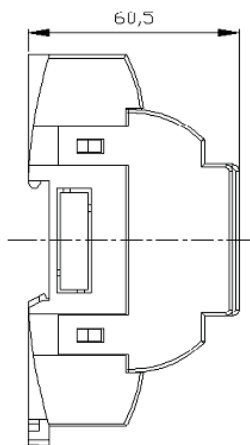
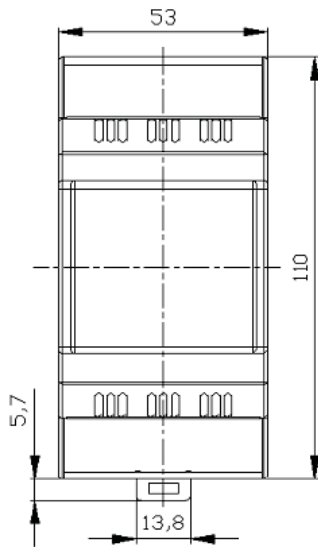


Analyze

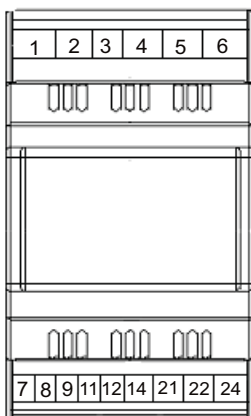
Current Protection Relay

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Dimensions Details:



Terminal details:



Technical Specifications:

Input Current

Nominal Input Current (AC RMS)	1 A to 5 A settable
Max Continuous Input Current	145% of Maximum Nominal input current

Overload Withstand

Current	20 x for 1 second, repeated 5 times at 5 min
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Auxiliary Supply

Auxiliary Supply Voltage	60 V – 300V AC/DC
Aux Nominal value	230 VAC 50/60 Hz
Aux Supply Frequency	45 to 66 Hz range

Operating Measuring Ranges

Current Range	5...140% of Nominal value
Frequency	40...70Hz

VA Burden

Input Current Burden	< 0.25 VA approx. per phase at nominal
Auxiliary Supply Burden	< 3 VA approx.

Operating Reference condition

Reference Temperature	23°C +/- 2°C
Input waveform	Sinusoidal (distortion factor 0.005)
Input Frequency	50 or 60 Hz ±2%
Auxiliary supply voltage	Nominal Value ±1%
Auxiliary supply frequency	Nominal Value ±1%

Accuracy

Measurement Accuracy	± 2% of Nominal value
Setting Accuracy	± 6% of Nominal value ± 0.8 sec for trip delay

Response time Less than 140 msec

Applicable Standards

Safety	IEC 61010-1-2010 , Permanently connected use
IP for water & dust	IEC60529
Pollution degree	2
Installation category	CAT III
High Voltage Test	2.2 KV AC, 50Hz for 1 minute between all Electrical circuits



Measure



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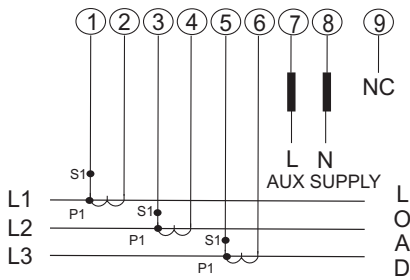


Analyze

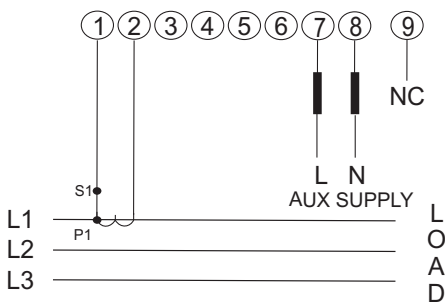
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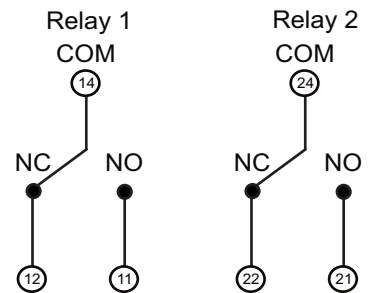
Electrical Connection:



3 Phase



1 Phase



Note- Relay Contacts are shown in power off condition

Technical Specifications:

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, 1CO+1CO
Contact Ratings (Res. Load)	5A/250VAC/30VDC (resistive load)
Mechanical Endurance	1x10 ⁷ OPS
Electrical Endurance	1x10 ⁵ OPS

Mechanical Attributes

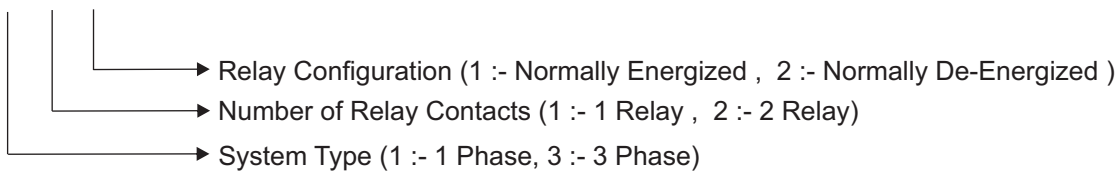
Weight	175 gm Approx.
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LED indication table

LED indication	Continuous ON
P-ON	Power ON
UC	Under Current
OC	Over Current
UB	UnBalance

Ordering Information :

AR - X - X - X



Order code example :

AR-3-2-1 - Current protection relay AR, system type 3 phase, 2 relay model, relay contacts in normally 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