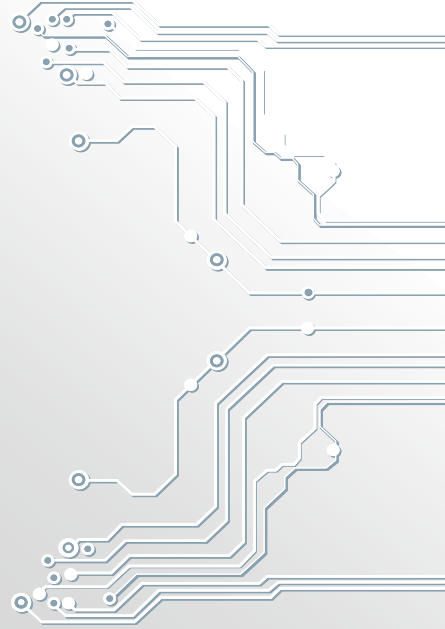




An ISO 9001-2015 Certified Company

PROTECTION RELAYS & METERS

Providing excellence with
Latest technology | Customized solution | Timely delivery



PROTON POWER CONTROL PVT.LTD.

www.protonelectronic.com

Voltage & Frequency Relay (Three Phase & Single)



Supply Voltage : 3 Phase 415 VAC, 50 Hz (R, Y, B & N) (No auxiliary supply) (Also available in single phase)
 Output Contacts : Two changeover (C-NO), Rating 5A at 230VAC
 Voltage trip setting : Lower Limit is 340 Volts for Under Voltage (Resolution of 1 Volt), Upper Limit is 460 Volts for Over Voltage (resolution of 1 V) (Hysteresis between cut off & cut in is 10V)
 Trip Time delay : Trip time Less than 100msec. for SPP, Reverse Phasing & Over Voltage Trip Time is settable for Under Voltage & Unbalance.
 ON Delay : Selectable by keys from 1 to 60 sec.
 Reset Mode : Auto reset.

Indications :

SPP : RED LED
 OVER VOLTAGE : RED LED
 UNDER VOLTAGE : RED LED
 RELAY ON : GREEN LED
 FAULT (UB/SPP/RP, UV, OV, OF) : RED LED
 RELAY ON : GREEN LED

Keys :

1. SET : FUNCTION key, To select a set point.
2. \wedge : INC key, To increment set point.
3. \vee : DEC key, To Decrement set point.

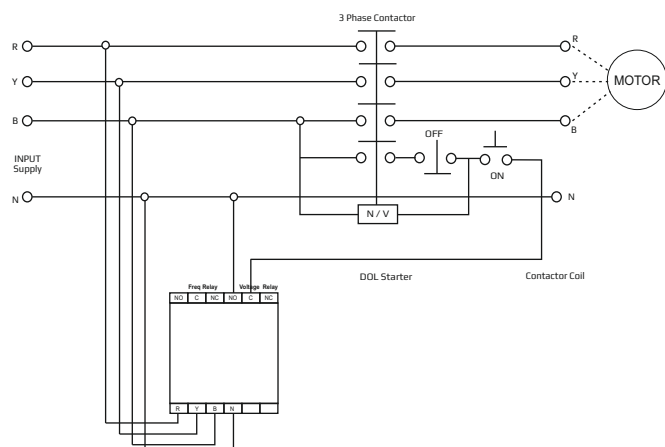
Din Rail :

Dimension : 55 (W) X 70(H) X 110 (D) mm

Door (Panel) :

Cutout : 92 (W) X 92(H) mm
 Overall : 96 (W) X 96(H) X 85 (D) mm

Wiring diagram



Overload Relay (Single Phase)



Supply Voltage : 1 Phase 230 V, 50 Hz AC supply.
 Accuracy: Current : 0.25% +- 1 digit.
 Resolution: Current : 0.01 A

Environmental :

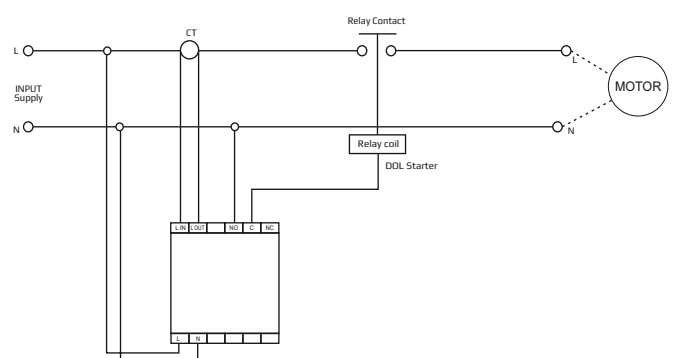
Working Temp : 0 to 55 degree C
 Storage Temp : 10 to 70 degree C
 Relative humidity : 0 – 95 % non-condensive
 Warm up time : 5 Sec
 Protection : Current (Over Load and Under Load)

Din Rail :

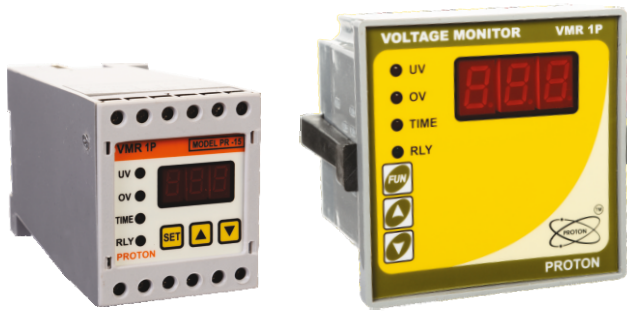
Dimension : 55 (W) X 70(H) X 110 (D) mm

Terminal : Screw ON Terminals.

Wiring diagram



Voltage Monitoring Relay (Single Phase)

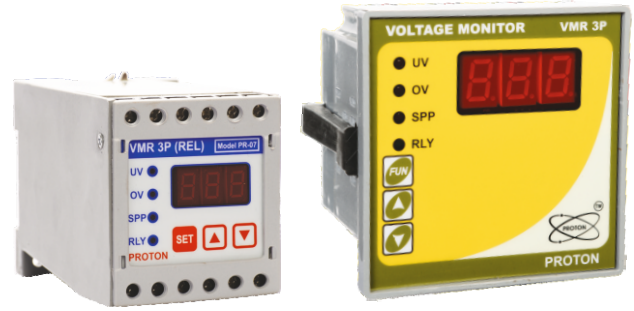


Supply Voltage	: 230 VAC, 50 Hz (P & N) (No auxiliary supply)
Output Contacts	: Two SPDT (C-N/O-N/C) Relay, Rating 5A at 230V AC
Indications	: VOLTAGE RELAY ON: GREEN LED
ON Delay	: Selectable by Keys From 1 to 60 sec
Relative Humidity	: 10 to 95% RH
Mounting	: Din Rail and Door (Panel) Mounting
Trip Time delay	: Settable 0- 30 sec

Din Rail :
Dimension : 55 (W) X 70(H) X 110 (D) mm

Door (Panel) :
Cutout : 92 (W) X 92(H) mm
Overall : 96 (W) X 96(H) X 85 (D) mm

Voltage Monitoring Relay (Three Phase)



Supply Voltage	: 3 Phase 415 VAC, 50 Hz (R, Y, B & N) (No auxiliary supply)
Output Contacts	: Two changeover (C-NO), Rating 5A at 230VAC
Voltage trip setting	: Lower Limit is 340 for Under voltage (Resolution of 1 Volt), Upper Limit is 460 Volts for OV (resolution of 1 V) (Hysterisis between cut off & cut in is 10V)
Trip Time delay	: Trip time Less than 100msec. for SPP, Reverse Phasing & Over Voltage Trip Time is settable for Under Voltage & Unbalance.
ON Delay	: Selectable by keys from 1 to 60 sec.
Reset Mode	: Auto reset.

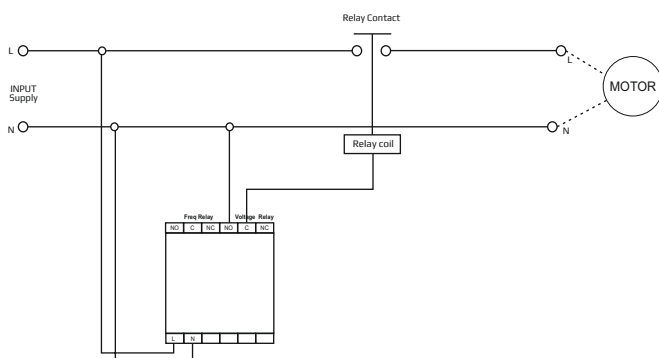
Indications :
SPP : RED LED
OVER VOLTAGE : RED LED
UNDER VOLTAGE : RED LED
RELAY ON : GREEN LED (healthy)

Operating Temp. range : -5 0C to 60 0C.
Relative Humidity : 10% to 95%

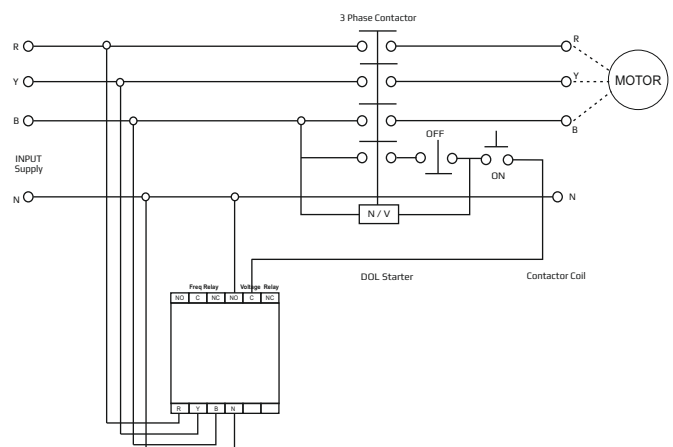
Din Rail :
Dimension : 55 (W) X 70(H) X 110 (D) mm

Door (Panel) :
Cutout : 92 (W) X 92(H) mm
Overall : 96 (W) X 96(H) X 85 (D) mm

Wiring diagram



Wiring diagram



AC Power Monitor (Three Phase)



Nominal Voltage Input : 1. Single Phase 230 V AC
2. Accuracy Range 50 – 115% of nominal voltage.
Nominal Input Current : 5 Amp
Accuracy Range for 5 Amps = 120% nominal.
Frequency : 50 Hz / 60 Hz range (± 5 Hz)

Measured Parameters :

1. RMS Voltage (Volt) (R, Y, B Phase) Phase - Neutral measured.
2. RMS Current (Amps) (R, Y, B Phase) Phase current
3. Frequency (R, Y, B Phase)
4. Power Factor (R, Y, B Phase)
5. Active Power (KVA) (R, Y, B Phase)
6. Apparent Power (KW) (R, Y, B Phase)
7. Main's KWH
8. DG KWH
9. DG Run hour
10. Mains Run hour

Auxiliary Power : No External power is required (Draws power from the voltage signal Inputs)

Accuracy :

Volt / Current : $0.25\% \pm 1$ dgts.
Frequency : $0.1\% \text{ Hz} \pm 1$ dgts.
Power Factor : $0.25\% \pm 1$ dgts. (for 0.5 Lag – 1.0 - 0.8 Lead)
Active Power : $0.5\% \pm 1$ dgts.
Apparent Power : $0.25\% \pm 1$ dgts.
Active Energy Class : 1.0

Communication Output :

Serial port : RS 485
Baud rate : Selectable 1200, 2400, 4800, 9600, 19200.
(Default: 9600)
No of Unit : 1-32 (Default 1)
Start / Stop bit : 1
Protocol : MODBUS - RTU
Parity : None

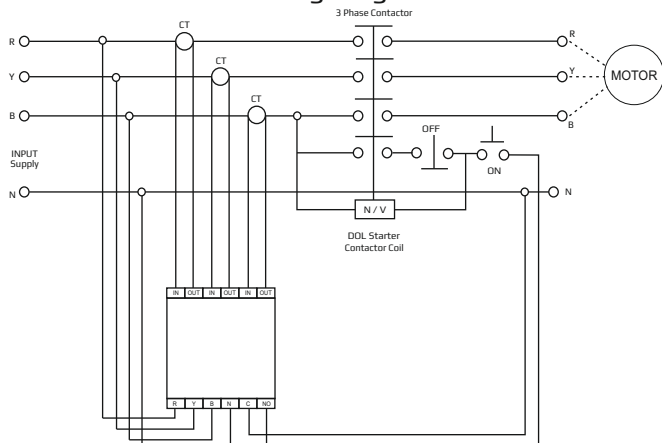
Environmental :

Working Temp : 0 to 55° C
Storage Temp : 10 to 70° C
Relative humidity : 0 – 95 % non-condensive
Warm up time : 30 Sec

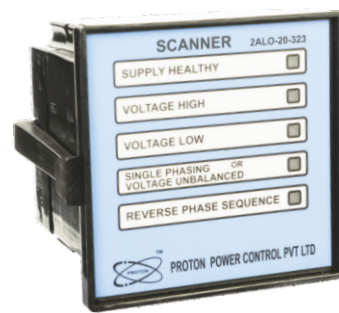
Door (Panel) :

Cutout : 92 (W) X 92(H) mm
Overall : 96 (W) X 96(H) X 110 (D) mm
Terminal : Screw ON Terminals.

Wiring diagram



Voltage Scanner (Three Phase)



Technology : Micro controller based system
Output Supply Voltage range : 280-500VAC supply (3-Phase)
Contact Type : C/NO potential free Rating 5 A at 230 VAC
Contact Rating : 10 Amps. 230VAC
Frequency : 50Hz +/- 3%
Auxiliary supply : Built-in (Additional supply not required)
Unbalance Trip setting : 60V OFF, 50V ON (Phase to Phase voltage)
Trip Time Delay : 50 m sec
Connecting Terminals : Terminals are from backward

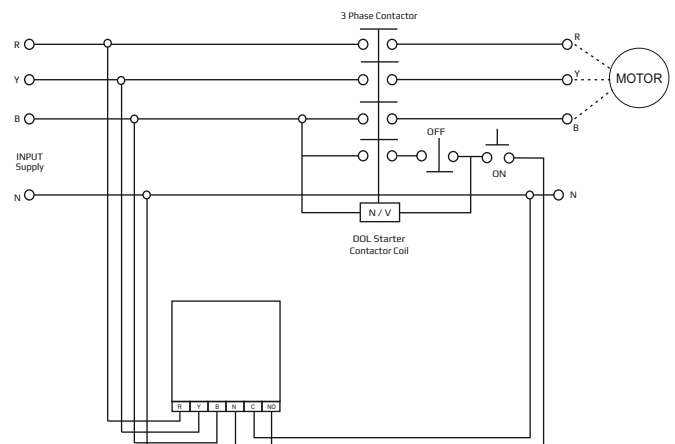
Indication :

supply Healthy : Green LED
Voltage High : Red LED
Voltage Low : Red LED
Single phase or Voltage Unbalanced : Red LED
Reverse phase, sequence : Red LED

Door (Panel) :

Cutout : 92 (W) X 92(H) mm
Overall : 96 (W) X 96(H) X 85 (D) mm

Wiring diagram



Phase Correction Relay (Three Phase)



Supply voltage : 415 VAC, 50 Hz (P & P) Additional Auxiliary Supply not required

Indications :

Under Voltage : RED LED
OverVoltage : RED LED
Relay 2 ON : Green LED
Relay 1 ON : Green LED

Display : Right 7 segment LED 3 Digit
Relative Humidity : 10 to 95% RH
Mounting : Din rail mounting
Dimension : 55 (W) X 70(H) X 110 (D) mm
ON Delay : Selectable by keys from 1 to 60 sec

Output contacts : 1. Phase O/P1 for R-Y-B Sequence contactor 1
2. Phase O/P2 for Reverse Sequence contactor 2
Operating Temp range : -5°C + 60°C
Dimensions : 48 X 96 mm.

Phase Selector Relay



'PHASE SELECTOR' is the protection relay developed by 'Proton Power Control' to provide automatic switching between the R-,Y-,B- phases for providing one of the live phase supply uninterruptedly. The unit offers following protections along with 3 digit display showing R-N,Y-N,B-N voltages in scanning mode with precise accuracy.

Supply voltage : 415V 3Ph,4 wire 50 Hz
Additional auxiliary supply not required
Output Contacts : 4 SPDT (C-NO-NC) Relay, Rating 5A at 250V AC
Indications : Healthy Phase presents(RELAY ON status)

Keys :

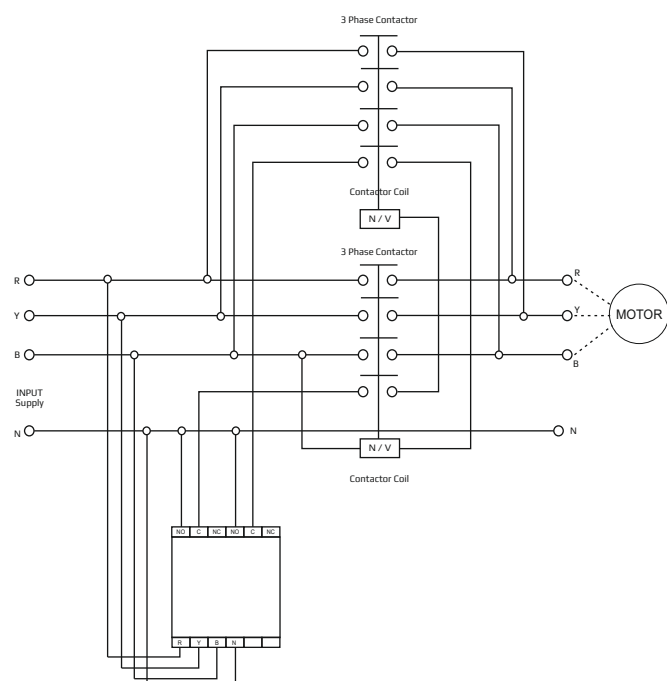
SET : Press to enter into SET Mode
INC : Upward Arrow key, Press to increment the setpoint.
DEC : Downward Arrow key, To Decrement the setpoint.

Operating Temperature range : -5 C to 60 C.
Relative Humidity : 10 to 95% RH
Mounting : Drain Rail

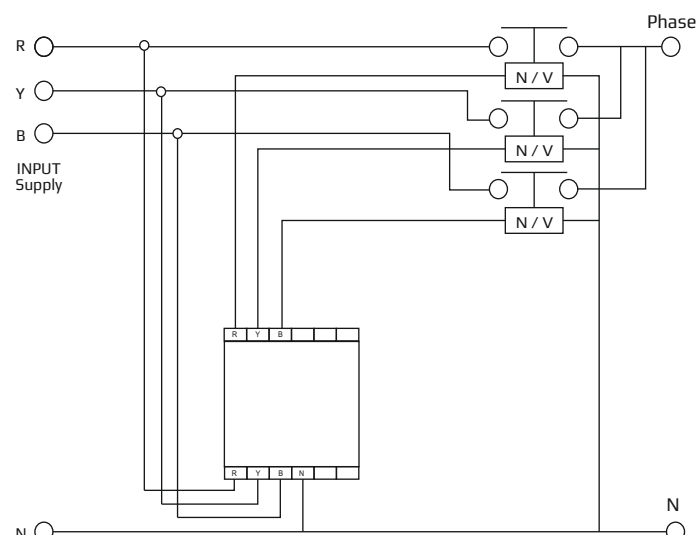
Din Rail :

Dimension : 55 (W) X 70(H) X 110 (D) mm

Wiring diagram



Wiring diagram



VAF Meter (Three Phase)



Mounting	: Door Mounting
Supply	: 3 Phase 415 V AC, 50 Hz [R, Y, B, N]
Resolution	: Voltage : 1V, Frequency : 1Hz Current : 0.1A
Display	: 3 digit bright red 7 segment LED display
CT Ratio	: Settable 30A/5A to 999A/5A. Default 50A/5A Current calibration site settable.
Hour counter	: Hour counter up to 65535 Hrs (Resolution 0.1 Hrs = 6 minutes).

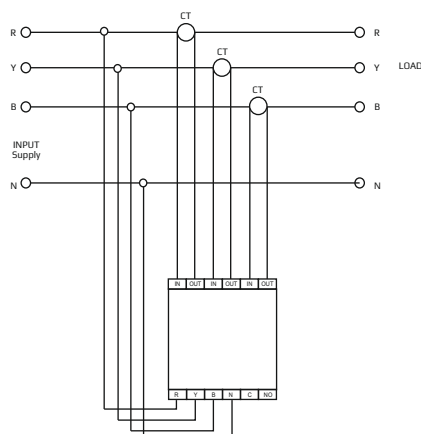
Indication :

RY	: R-Y Voltage
YB	: Y-B Voltage
BR	: B-R Voltage
R	: R - phase current
Y	: Y - phase current
B	: B - phase current

Door (Panel) :

Cutout	: 92 (W) X 92(H) mm
Overall	: 96 (W) X 96(H) X 85 (D) mm

Wiring diagram



VAF Meter (Single Phase)

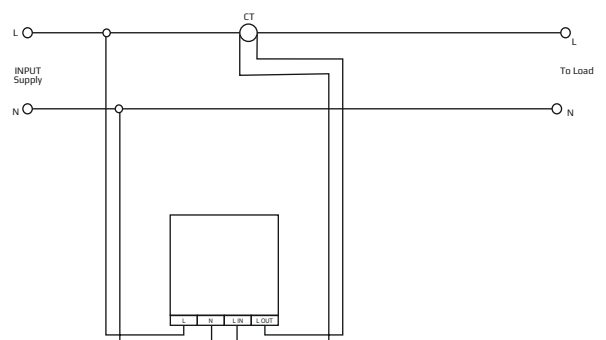


Supply	: 1 Phase 230 V AC, 50 Hz
Display	: 3 digit 0.5, 7 segment LED
Resolution	: 1V For Voltage 0.1 HZ for Frequency, 1A For current ≥ 100 & 0.1 A For current < 100 .
CT Ration	: Settable 30A/5A to 999A /5A, Default- 50A/5A.

Door (Panel) :

Cutout	: 92 (W) X 92(H) mm
Overall	: 96 (W) X 96(H) X 85 (D) mm

Wiring diagram



Multi Function Meter 31 & 4D



Mounting	: Door Mounting
Supply	: 3 Phase 415 V AC, 50 Hz [R, Y, B & N] (No auxiliary supply)
Input voltage Range	: 200 V to 500 V.(Phase to Phase)
Input Current Range	: 00.0 A to 5.00 A.
Input Freq Range	: 40.00 Hz to 60.00 Hz.
Resolution	: Voltage : 0.1 V Current : 0.01 A Frequency : 0.01 Hz PF : 0.01 KW , KWA , KWh
Display	: 3 x 4 Digit bright RED 7 segment LED

Door (Panel) :

Cutout	: 92 (W) X 92(H) mm
Overall	: 96 (W) X 96(H) X 85 (D) mm

Earth Fault Relay (Three Phase)



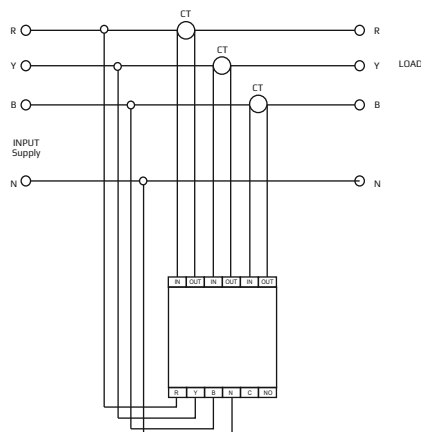
Aux. Supply	: 3 Phase, 415 VAC +-10%
Output	: Two Potential free Relay contact of 5A rating
UV	: UV Setting 360 to 400 V Default is 360 v
OV	: OV Setting 430 to 460 V Default is 450 v
UB	: Unbalance Voltage Setting 30to 100 V Default is 60 v
DLY	: Relay on Delay Setting 1to 10 sec Default is 10 sec
TRP	: Fault trip delay setting 1 to 10 sec Default is 5sec
RP	: Reverse Phase Enable setting Yes to No Default is Yes
E-N	: Earth to Neutral Voltage setting 1 to 30 V Default is 0 V

Relay trip for Earth-Neutral voltage fault.
Earth fault voltage range selectable from 1 to 300 Volt.
Indication of earth fault by message on display.
Over voltage & under voltage set points site selectable.
On delay site selectable

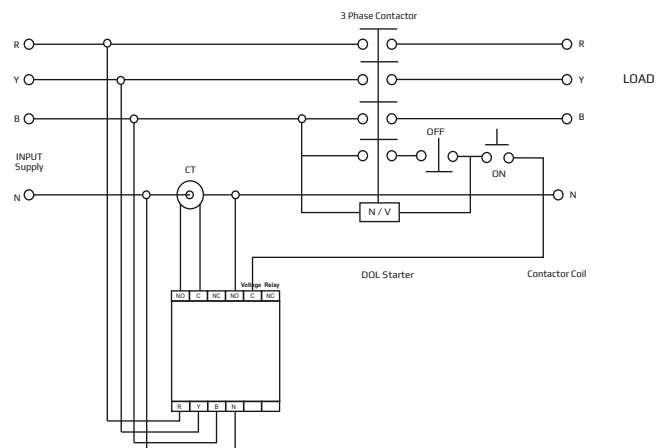
Din Rail :

Dimension : 55 (W) X 70(H) X 110 (D) mm

Wiring diagram



Wiring diagram



The first protective relays were electro-magnetic devices, relying on coils operating on moving parts to provide detection of abnormal operating conditions such as over-current, over-voltage, reverse power flow, over- and under-frequency. Microprocessor-based digital protection relays now emulate the original devices, as well as providing types of protection and supervision impractical with electro-mechanical relays. In many cases a single microprocessor relay provides functions that would take two or more electro-mechanical

devices. By combining several functions in one case, numerical relays also save capital cost and maintenance cost over electromechanical relays. However, due to their very long life span, tens of thousands of these "silent sentinels" are still protecting transmission lines and electrical apparatus all over the world. An important transmission line or generator unit will have cubicles dedicated to protection, with many individual electromechanical devices, or one or two microprocessor relays.



Proton power Control Pvt. Ltd. was established in 1988 with a vision to provide innovative products and reliable solutions for optimum power management, added many more professional electronic systems and products through in-house Design and Development.

House design facility, timely delivery, CE certified, latest testing setup, as per IEC standards & EMI EMC tested, AHU controller, controller for water treatment plant.

We, at Proton Power Control, are committed to design, development, manufacturing and supply of professional electronic equipment for the customer and strive for their complete satisfaction.

We cater to customer requirements, which are dynamically changing due to advancement of technology. Our strength is to adapt to these changes and bring out solutions in the form of products and systems in a minimal throughput time, without sacrificing on quality, reliability and delivery commitments.

We achieve quality through high level of commitment to it while optimizing costs. This has been possible due to continued improvement in the areas of design, operations and an ability to embrace latest technology.

We continuously invest in our technology base, maintain a strong team with an eye on customer satisfaction and service support.



PROTON POWER CONTROL PVT. LTD.

Sr. No. 28, Jagtap Dairy, Pimple Nilakh, Pune 411 027, Maharashtra, INDIA

Telefax : +91 20 2727 0100

Mobile : +91 94220 09655, 73507 99200, 73507 99300

E mail : sales@protonpowercontrol.com

response@protonelectronic.com

www.protonelectronic.com