

# Digital / Analog Protection Relays

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# Features

## Protection Relays (900 Series)

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- True RMS Measurement
- LCD with backlight

## Certification

CE | RoHS

IEC 61326-1 - (EMI/EMC)

IEC61010 - 1 (Safety standard)

# 900VPR-U

## Voltage Protection Relay

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- 3Ø Voltage Monitoring (Including Frequency)
- 2 Relay outputs
- Universal supply: 85 - 270V AC/DC

# Selection Criteria for VPR series



35mm



## 900VPR-2

- Under voltage, Over voltage, Under frequency, Over frequency
- Phase asymmetry, Phase failure & Phase sequence
- Self powered
- Power on delay, Trip time delay & Delay on release
- Operating Range : 160 - 300V AC (L-N)  
280 - 520V AC (L-L)
- 3Ø-3 wire, 3Ø-4 wire

## 900VPR-U

- Under voltage, Over voltage, Under frequency, Over frequency
- Phase asymmetry, Phase failure, Neutral loss & Phase sequence
- Auxiliary supply : 85 - 270V AC/DC
- Power on delay, Trip time delay & Recovery time delay
- Operating Range : 50 - 288V AC (L-N)  
85 - 500V AC (L-L)  
3Ø-3 wire, 3Ø-4 wire

## VPRD2M

- Under voltage, Over voltage
- Phase asymmetry, Phase failure & Phase sequence
- Self powered
- Power on delay, Trip time delay & Recovery time delay

Operating Range : 127 - 288V AC (L-N)  
1Ø-2 wire, 3Ø-4 wire

## Certification



## RoHS

IEC 61326-1 - (EMI/EMC)  
IEC 61010 - 1 (Safety standard)

# Selection Criteria for VPR series

35mm



## VPRA2M

- Under voltage, Over voltage
- Phase asymmetry, Phase failure & Phase sequence
- Self powered
- Power on delay, Trip time delay & Recovery time delay (fixed)
- Operating Range : 127 - 288V AC (L-N)
- 1Ø-2 wire, 3Ø-4 wire

17.5mm



## 600VPR (3Ø) / 600VPR-1 (1Ø)

- Under voltage, Over voltage
- Phase failure, Phase sequence
- Self powered
- Power on delay, Trip time delay
- Operating Range : 310 - 520V AC (L-L) for 3Ø  
180 - 300V AC (L-N) for 1Ø
- 3Ø-3 wire / 1Ø-2 wire

## 600PSR

- Phase failure, Phase sequence, Phase asymmetry
- Self powered
- Phase failure trip <154V AC (L-L)
- Phase asymmetry :30V Fixed
- Operating Range : 154 - 500V AC (L-L)
- 3Ø-3 wire

## Certification



## RoHS

IEC 61326-1 - (EMI/EMC)  
IEC 61010 - 1 (Safety standard)

# 900VPR-U

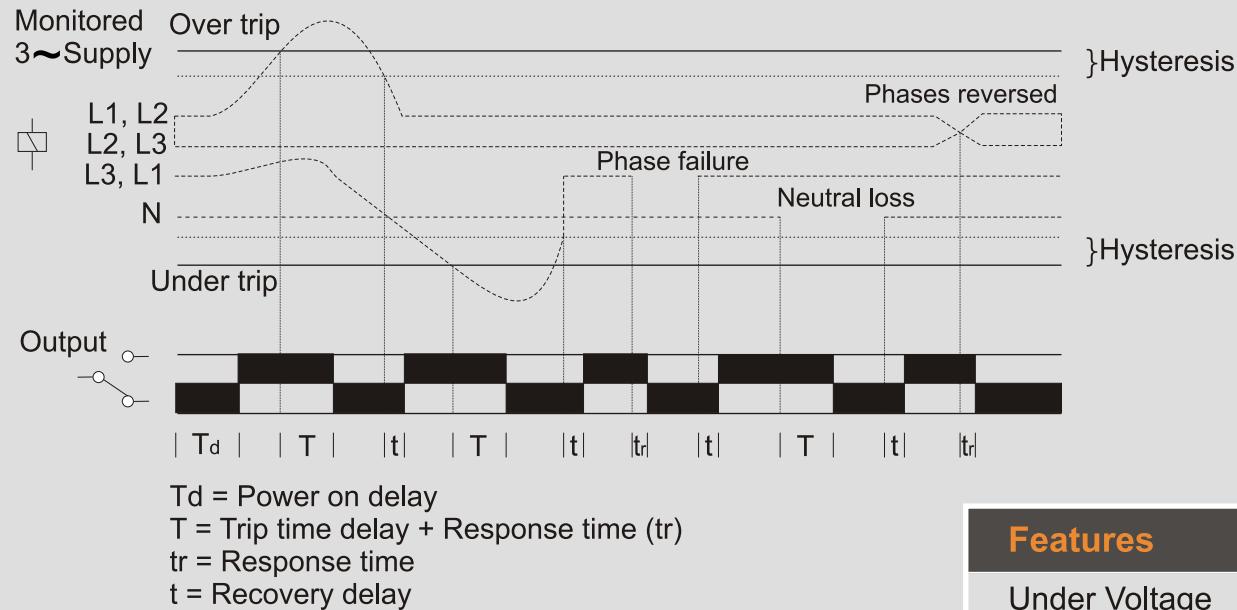
## Features

- Under voltage, Over voltage, Under frequency, Over frequency
- Phase asymmetry, Phase failure, Neutral loss & Phase sequence
- Auxiliary supply : 85 - 270V AC/DC
- True RMS measurement
- Power on delay, Trip time delay & Recovery time delay
- Adjustable switching hysteresis
- Two Separate alarm relays



# 900VPR-U

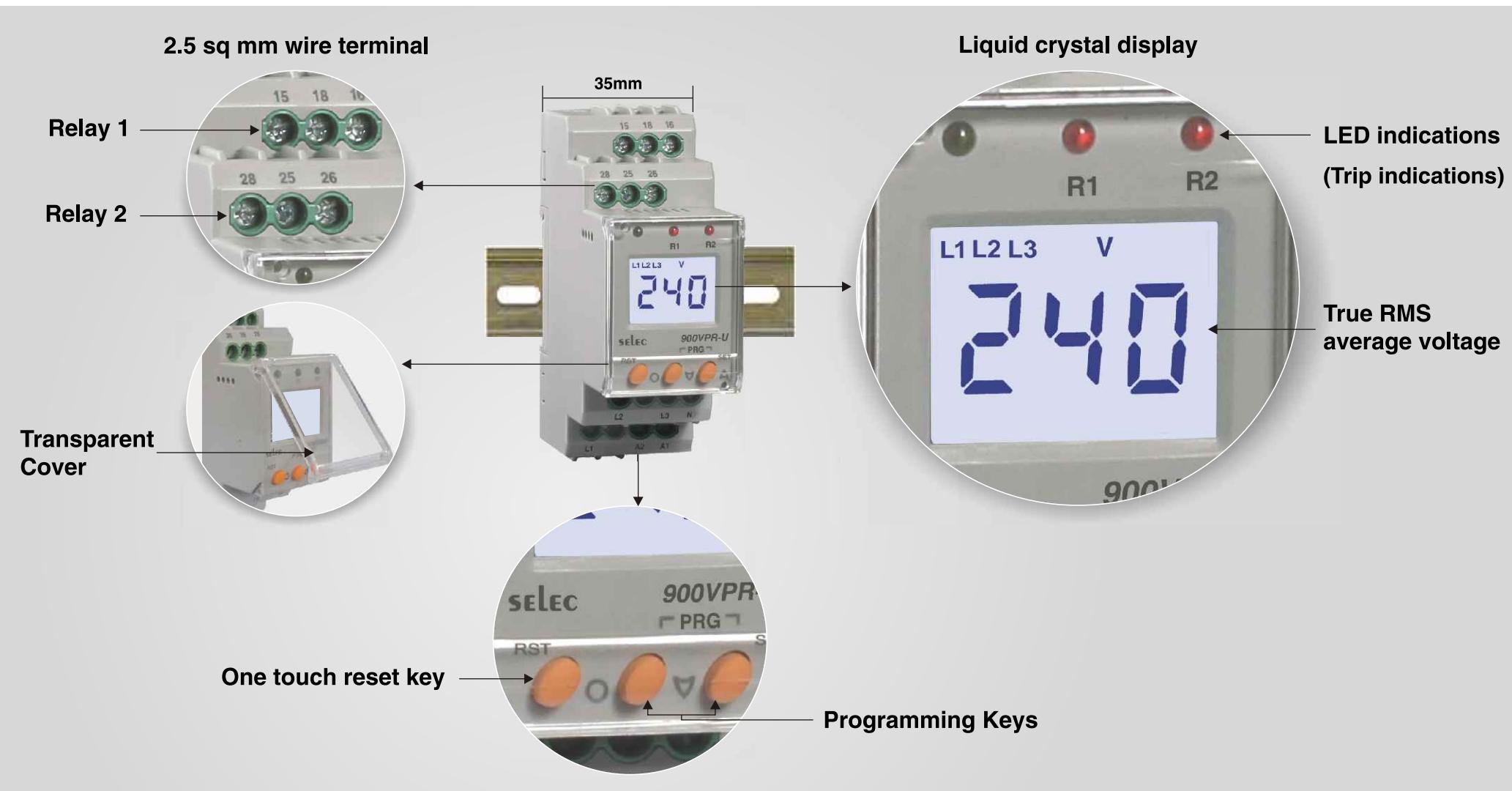
## Function & Timing Diagram



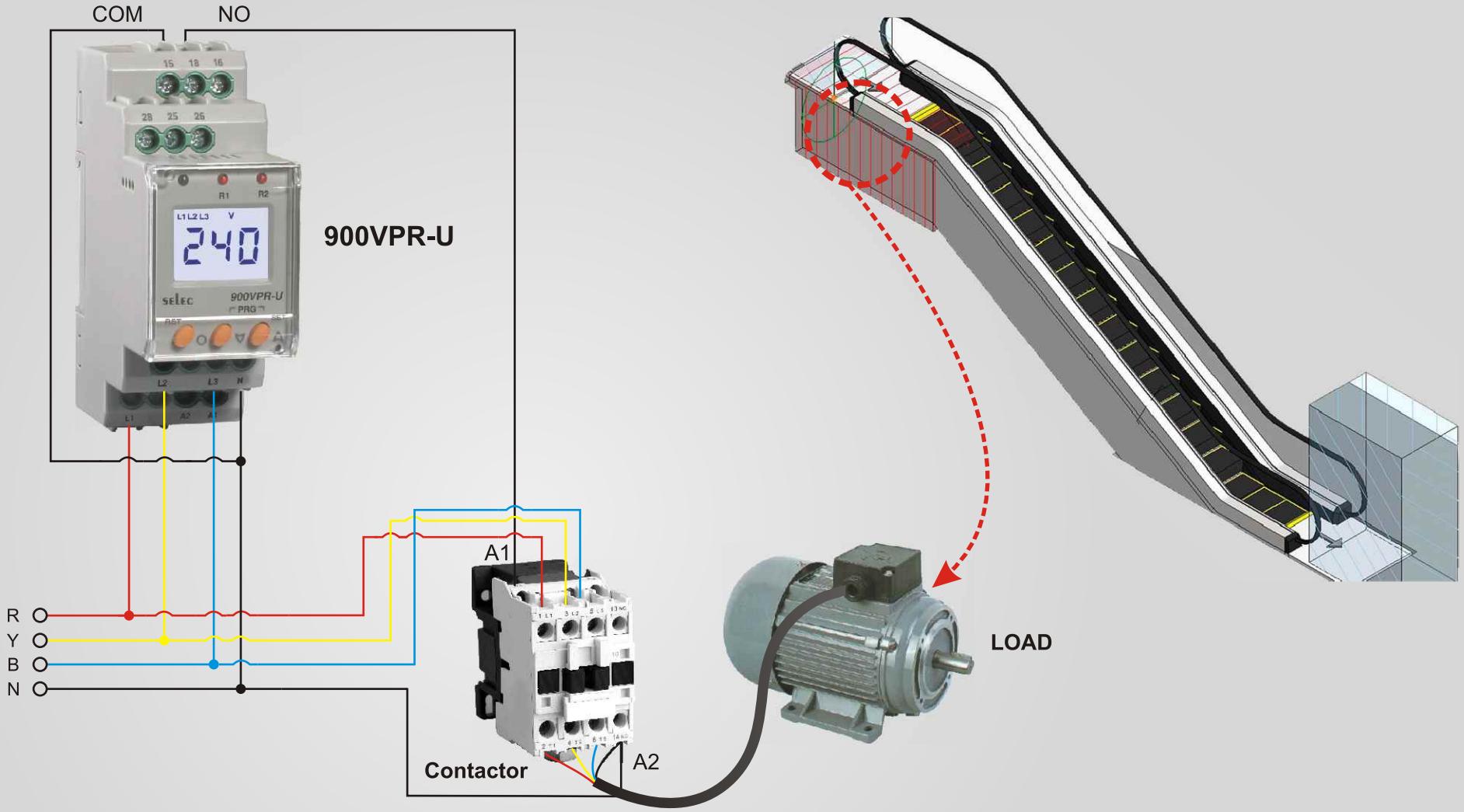
Features	Display
Under Voltage	UV
Over Voltage	OV
Under Frequency	UF
Over Frequency	OF
Phase Asymmetry	PAS
Phase Sequence	PS9
Phase Failure	PFL

# 900VPR-U

## Display & Operational Features



# Wiring illustration



# 900VPR

## Applications

- Control Panel
- Protection of Electrical Installation
- Power Generation Monitoring
- Generator, Inverter
- Transformer

All motor monitoring & Protection application:

- Escalator, High Lift
- Crusher Plant
- Cutting Machine
- Machine control
- Motor Starter

# 900ELR-2

## Earth Leakage Relay

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Features	Display
Trip Current Range	RNG
Set trip value for Earth Leakage	5V
Instantaneous trip selection	INS
Relay Operation mode	Mod

- Leakage Current Monitoring in 1Ø & 3Ø systems

# 900ELR-2

## Features

- Leakage current monitoring in 1Ø & 3Ø systems
- True RMS measurement
- CBCT connection monitoring
- Power on delay, Trip time delay & Delay on release
- Adjustable switching hysteresis
- Test and Reset via front / remote
- LCD with backlight
- Two Separate alarm relays

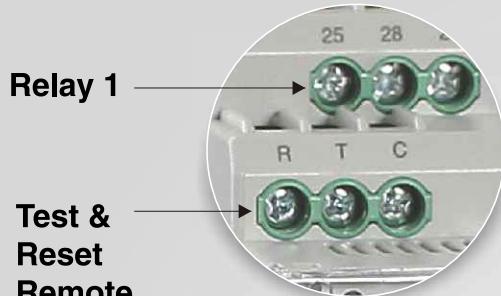


# 900ELR-2

## Display & Operational Features

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2.5 sq mm wire terminal



Relay 1

Test & Reset Remote terminals



Transparent Cover



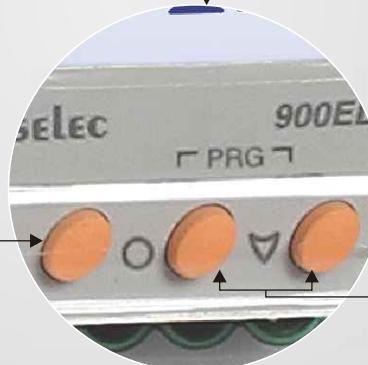
LCD with backlight



LED indications  
(Trip & Pre alarm indications)

Leakage current

True RMS measurement

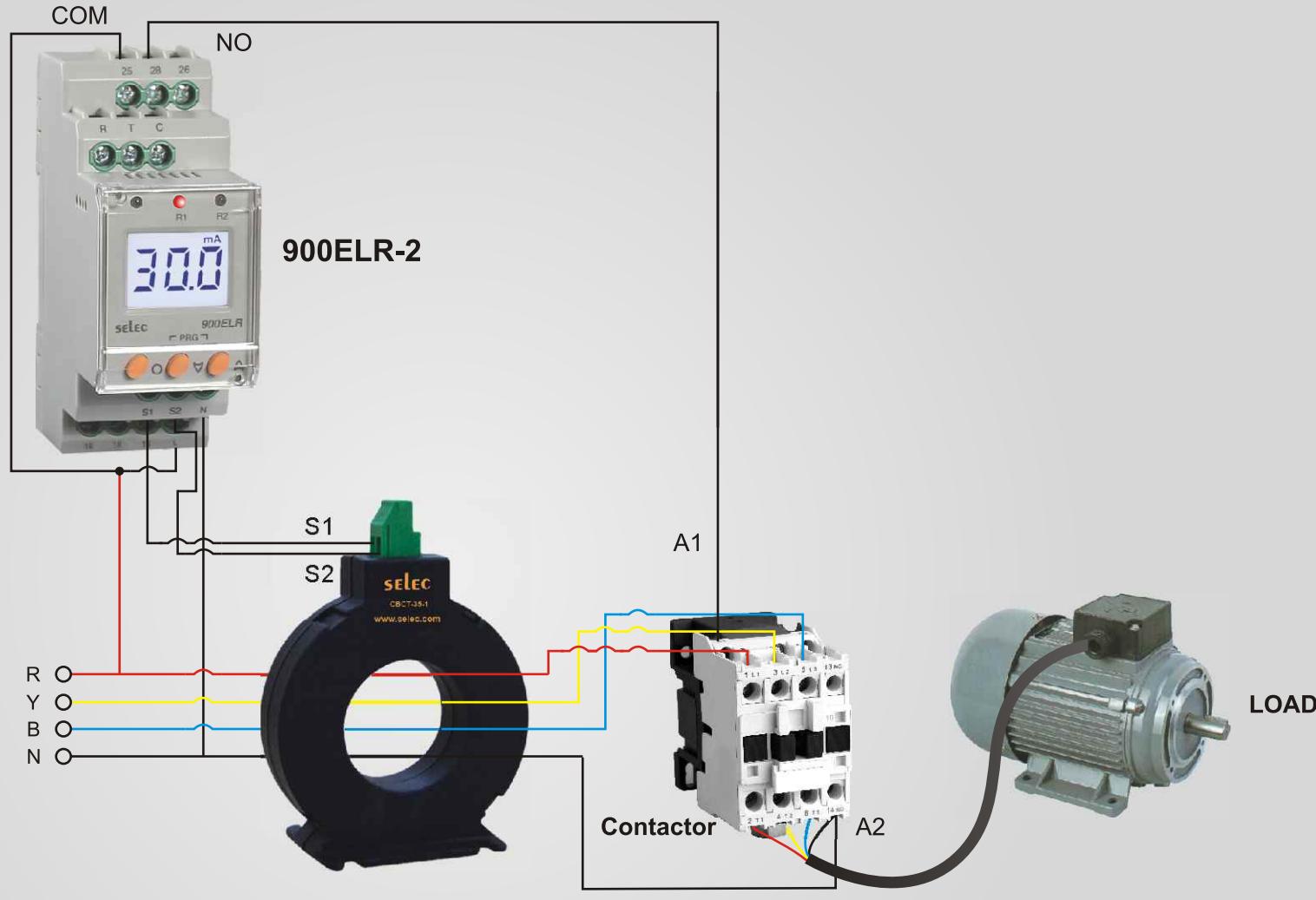


Test & Reset via front key

Programming Keys

# Wiring illustration

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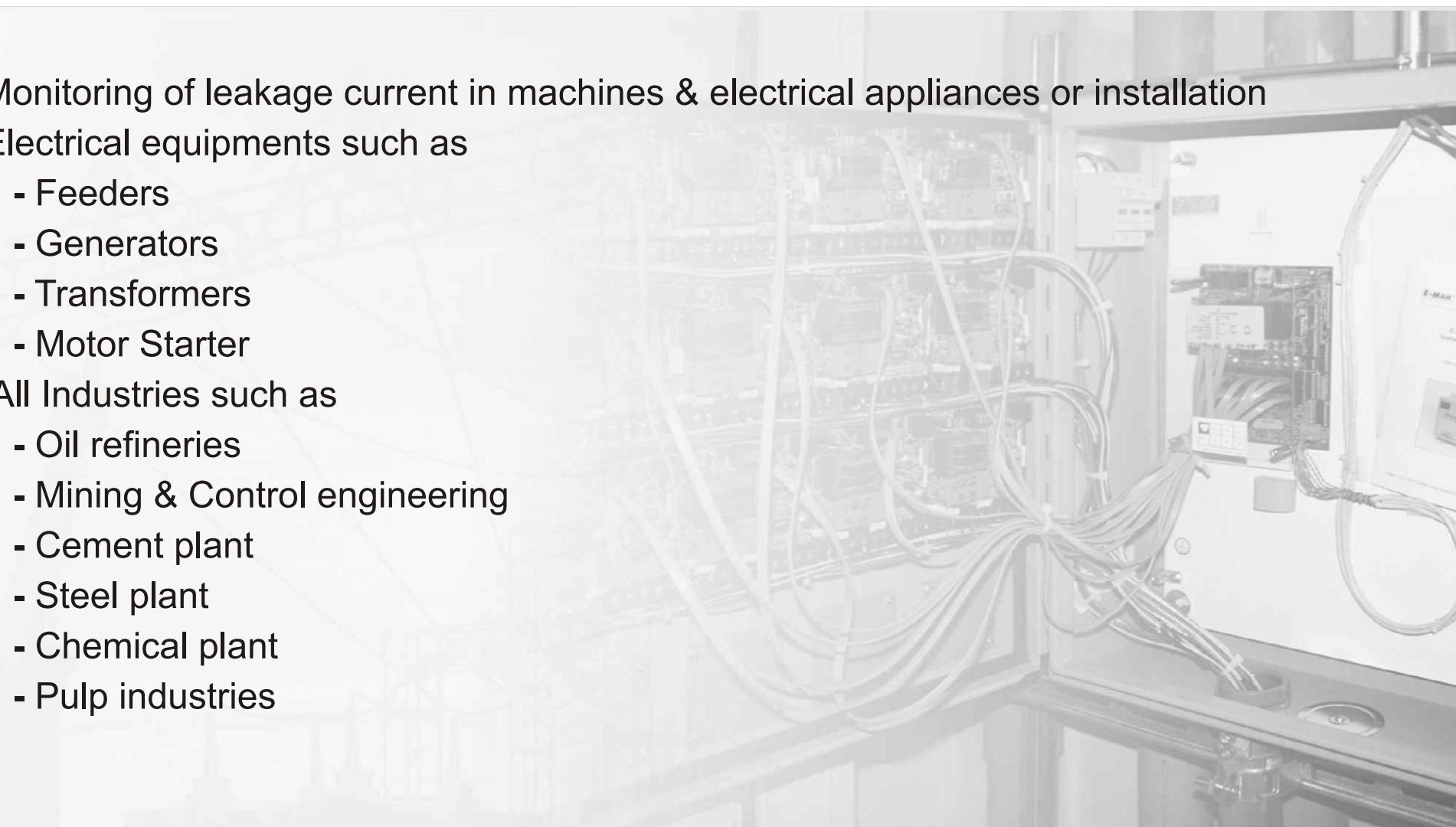
# 900ELR

## Applications

- Monitoring of leakage current in machines & electrical appliances or installation
- Electrical equipments such as
  - Feeders
  - Generators
  - Transformers
  - Motor Starter

All Industries such as

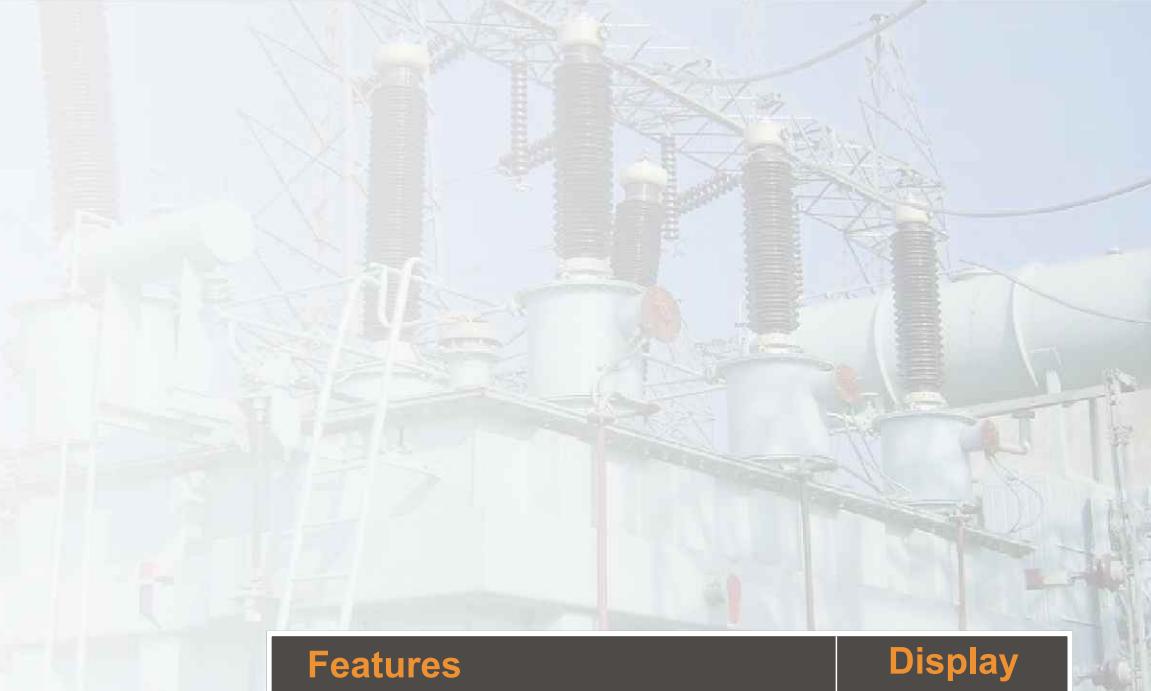
- - Oil refineries
  - Mining & Control engineering
  - Cement plant
  - Steel plant
  - Chemical plant
  - Pulp industries



# 900CPR

## Current Protection Relays

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Features	Display
Over Current	OC
Under Current	UC
Current Asymmetry	AS
Time Settings	EM

- 1Ø / 3Ø Current Monitoring

# Selection Criteria for CPR series



35mm

## 900CPR-1

- Under current, Over current monitoring in 1Ø
- True RMS measurement
- Auxiliary supply : 230V AC ±15%
- Power on delay, Trip time delay & Recovery time delay
- Adjustable switching hysteresis
- One alarm relay with NC or NO operation selectable



## 900CPR-1-U

- Under current, Over current monitoring in 1Ø
- True RMS measurement
- Auxiliary supply : 85 - 270V AC/DC
- Power on delay, Trip time delay & Recovery time delay
- Adjustable switching hysteresis
- One alarm relay with NC or NO operation selectable



## 900CPR-3

- Under / over current monitoring in 1Ø & 3Ø
- Current asymmetry protection (for 3Ø system only)
- True RMS measurement
- Auxiliary supply : 230V AC / 110V AC ; ±15%
- Power on delay, Trip time delay & Recovery time delay
- Adjustable switching hysteresis
- One alarm relay with NC or NO operation selectable

## Certification

CE | RoHS

IEC 61326-1 - (EMI/EMC)  
IEC61010 - 1 (Safety standard)

# 900CPR-1

## Features

- Under current, Over current monitoring in 1Ø
- True RMS measurement
- Power on delay, Trip time delay & Recovery time delay
- Adjustable switching hysteresis
- One alarm relay with NC or NO operation selectable



# 900CPR-1

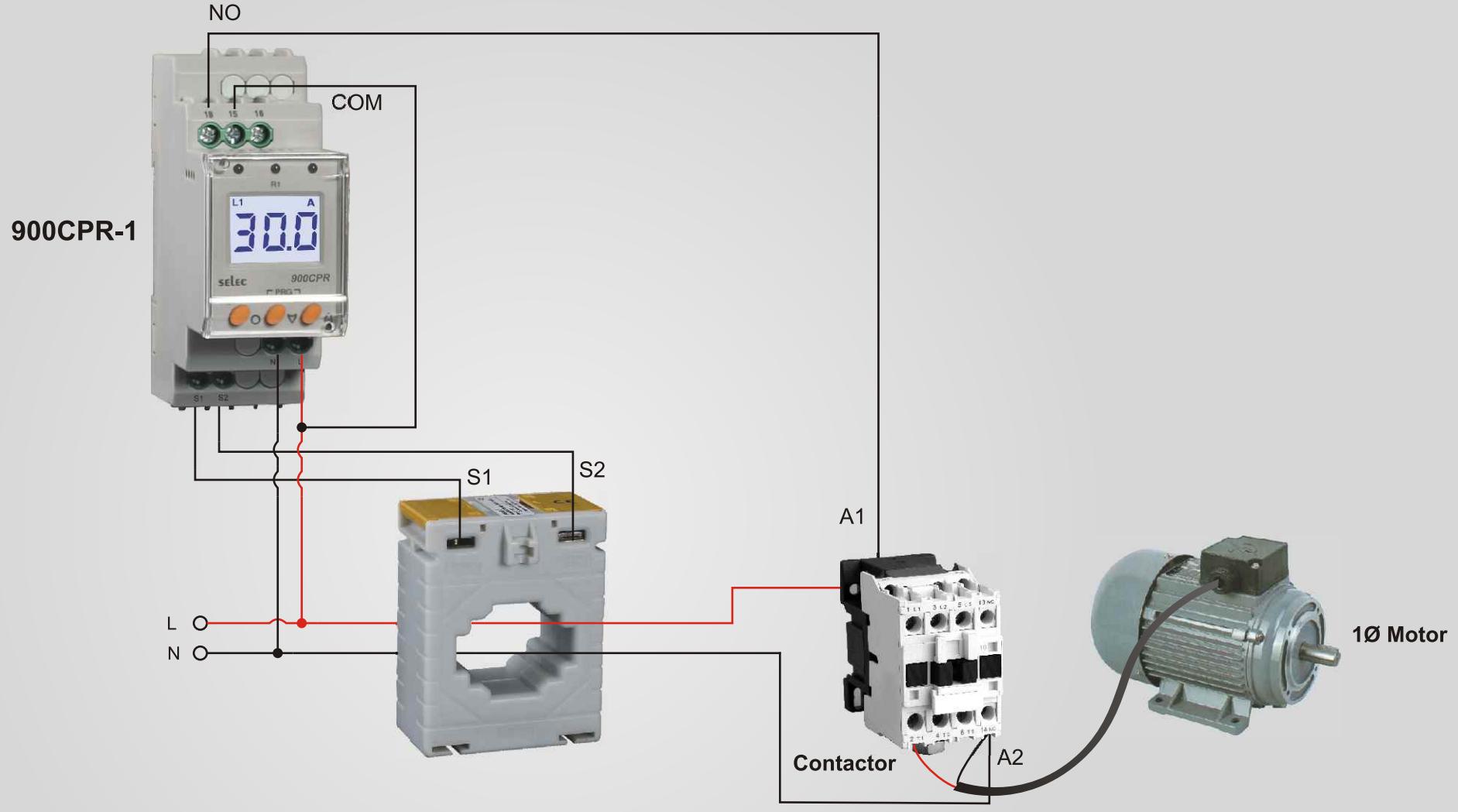
## Display & Operational Features

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# Wiring illustration

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# 900CPR

## Applications

- Motor
- Distribution Feeders
- Agriculture Pump Protection
- Transformer, Water Heater
- Control Panel
- Panel Boards
- Air conditioning & Refrigeration equipment

# Analog Protection Relay

17.5 / 35mm Din Rail Mount

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- 1Ø / 3Ø Voltage monitoring

# Analog Protection Relays Series



- True RMS Measurement
- High Accuracy Digitized Settings

## Certification



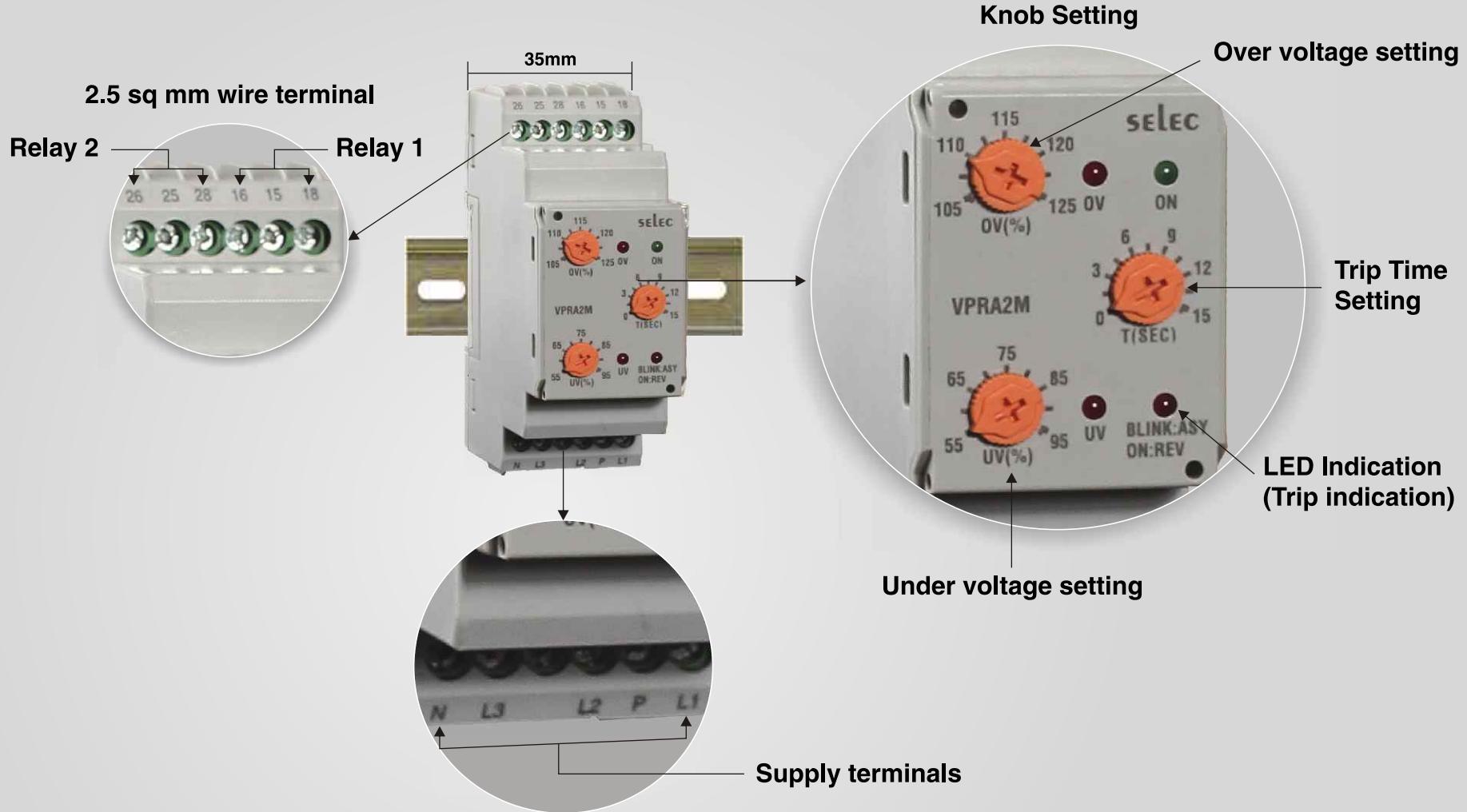
IEC 61326-1 - (EMI/EMC)  
IEC61010 - 1 (Safety standard)

# VPRA2M

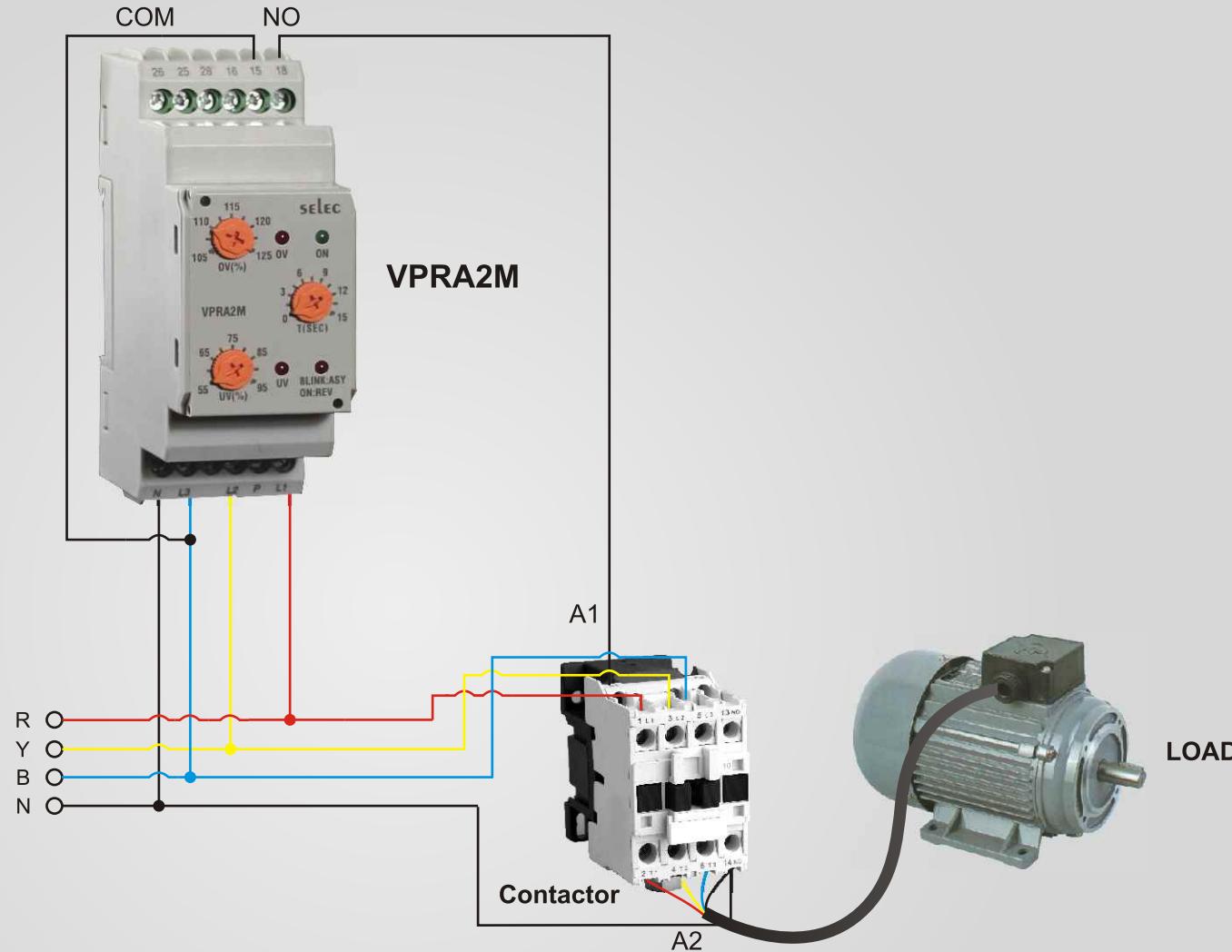
## Features

- Under voltage, Over voltage
- Phase asymmetry, Phase failure & Phase sequence
- Self powered
- True RMS measurement
- Power on delay, Trip time delay & Recovery time delay
- Fixed hysteresis: 7V ( $\pm 2V$ ) of trip voltage
- Two relays with 1 setpoint





# Wiring illustration





### Voltage Protection Relay

- Under voltage, Over voltage
- Phase sequence, Phase failure
- Trip time delay

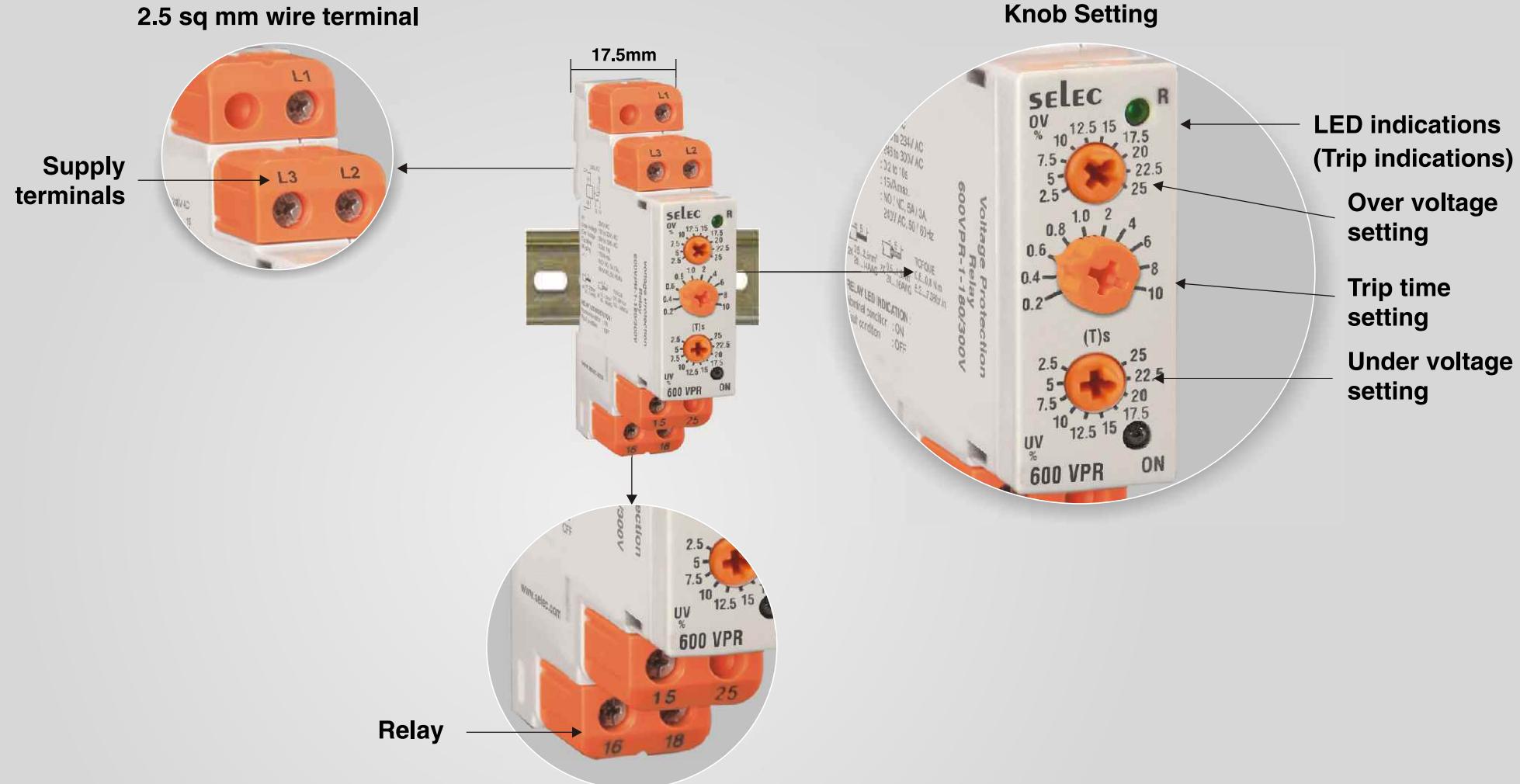


### Phase Sequence Relay

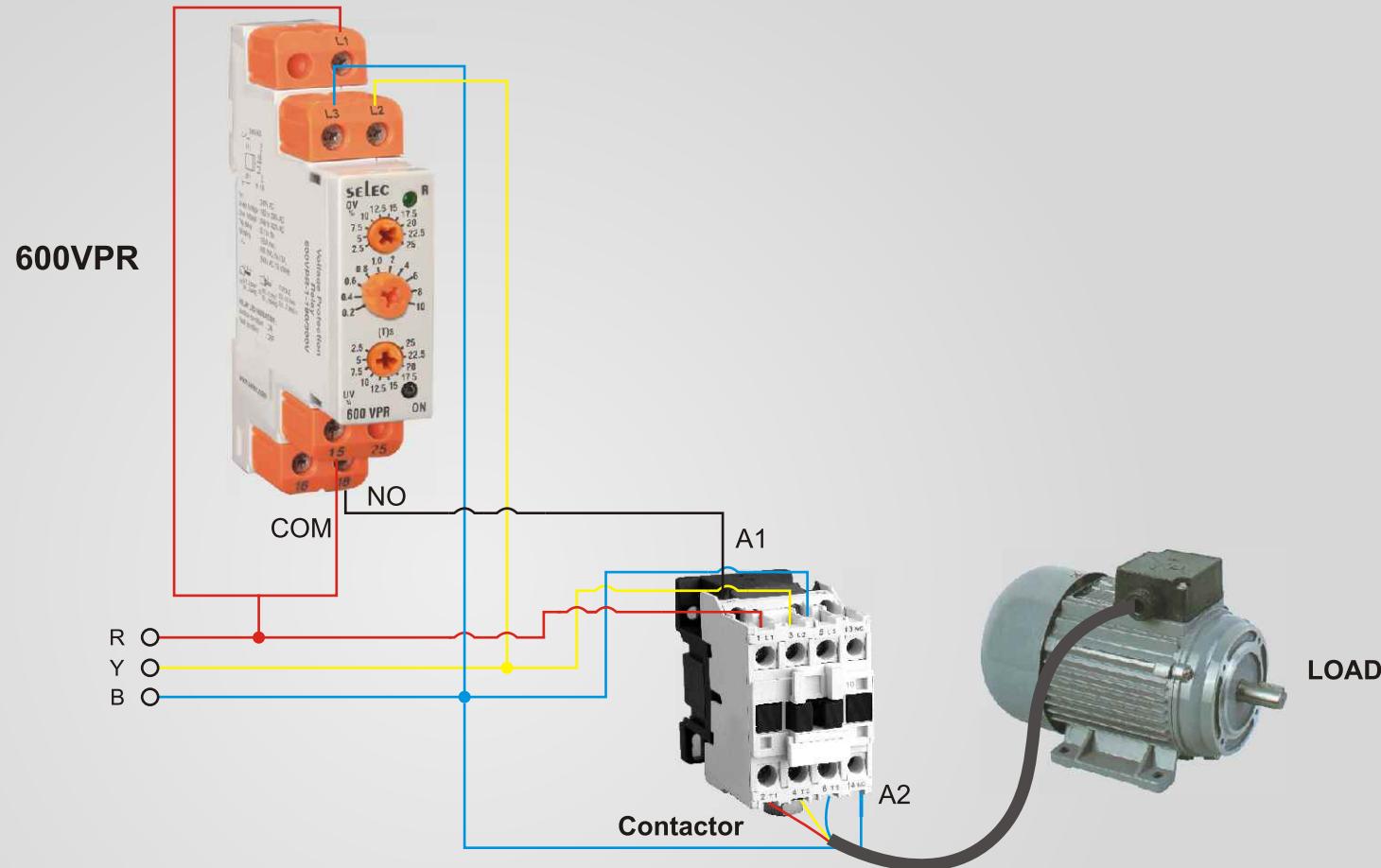
- Phase sequence
- Phase failure
- Phase asymmetry: 30V (fixed)

# 600VPR

## Display & Operational Features



# Wiring illustration



## Applications

- Motor control application such as
  - Inverter
  - UPS
  - Hoist Motor Control
  - Valve Actuator Motor
  - Motor Starter
  - 3Ø Split AC machines
  - Agricultural Pump Starters
- All control panels such as
  - Rectifier Panel
  - Battery Charger Panel
  - 3Ø AC Panel
  - DG Set Panel
- Injection Molding Machine
- Machine Tools