




DIN 35mm

Features :

- 1Ø - 2 Wire, 3Ø - 3 Wire, 3Ø - 4 Wire Input
- Monitors Under Current, Over Current & Current Asymmetry
- True RMS Measurement
- Power ON Delay, Trip Time Delay and Recovery Time Delay
- Adjustable Switching Hysteresis
- One Alarm Relay with NC or NO Operation Selectable
- DIN Rail Mount

Certification : 

Display Specifications

Type	Digital
Display	Liquid Crystal Display
No. of LED	1
No. of Push Button	3

LED Indication

LED1 (Red)	Relay (Continuously ON after trip)
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Input Specifications

Functions	
Measurements	Under current, Over current and Current asymmetry
Time Settings	Power ON delay, Trip time delay, Recovery time delay
Alarm Indications	Trip
Latching	Selectable
Reset	Auto / Manual
Electrical Connection	1Ø - 2 wire, 3Ø - 3 wire, 3Ø - 4 wire
CT Settings	
CT Primary	1A / 5A - 999A (Selectable)
CT Secondary	1A / 5A (Selectable)
Current Rating	
Measuring Range (RMS Value)	0 - 1.19kA
Trip Settings	
Under Current	0 - 999A (0 - 100% of CT Primary Setting)
Over Current	0.5A - 1.19kA (10 - 120% of CT Primary Setting)
Current Asymmetry	5.0 - 99.9%
Trip Time Settings	
Power ON Delay	0.5 - 99.9sec
Trip Time Delay	0 - 99.9sec
Recovery Time Delay	0 - 99.9sec (In Auto Reset Mode)
Response Time	<200ms

Hysteresis

Current 0.1 - 99.9A

Resolution

Current 0.01, 0.1, 1A, 0.01kA
(Depends on CT Setting)

Accuracy

Current $\pm 1\%$ of Setting ± 2 digits
Time Setting Accuracy $\pm 5\%$ of Setting ± 200 ms

Output Specifications

No. of Relay	1
Relay Contact	1 C/O (SPDT)
Relay Rating	NO /5A @250V AC NC /3A @250V AC

Auxiliary Supply Specifications

Supply Voltage	230V AC, $\pm 15\%$
Frequency	50 / 60Hz
Power Consumption	15VA max

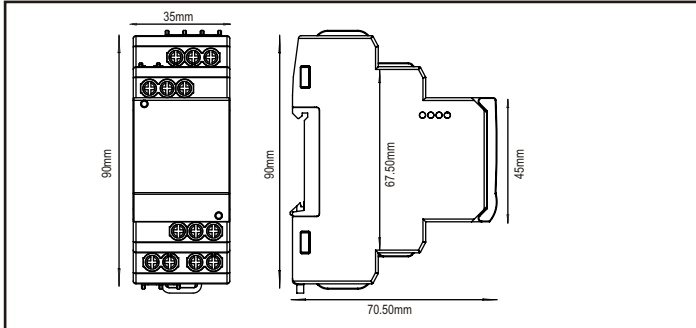
Environmental Specifications

Temperature	Operating Temperature : 0° to 50° C Storage Temperature : -20° to 70° C
Humidity (non-condensing)	Upto 95% RH
Pollution Degree	
For PCB	2
For Product	3
Degree of Protection Devices	IP20

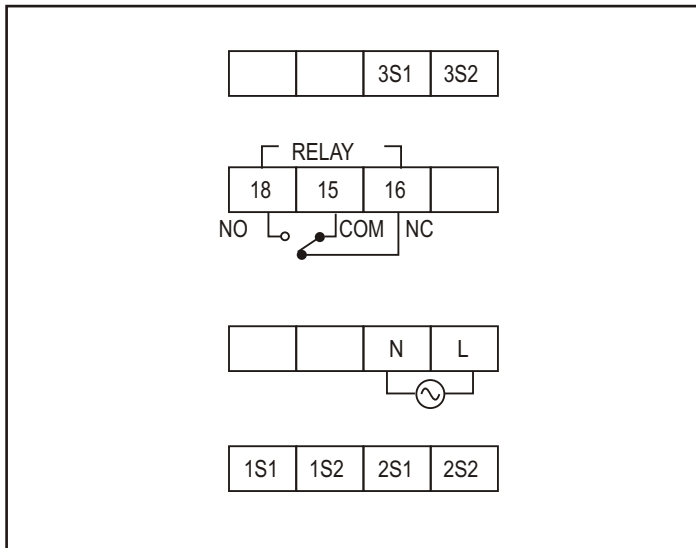
Mechanical Specifications

Mounting	DIN Rail
Weight	150gms
Screw Tightening Torque	0.5 NM

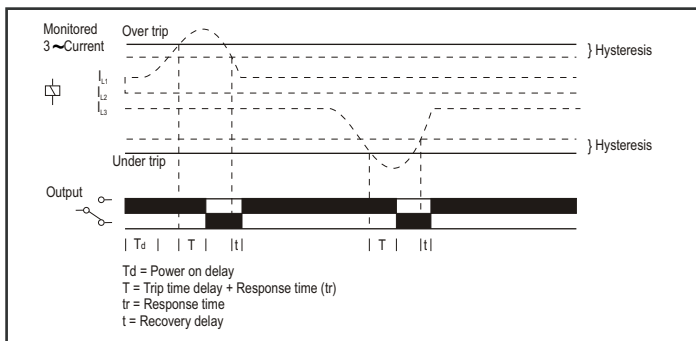
Dimensions



Terminal Connections



Timing Diagram



Compliance

Applicable EMI / EMC Standards		
Product Standard : IEC 60947-2		
Category	Reference Standards	Testing Level
Electrostatic Discharge	IEC 61000-4-2	Level-3
Electrical Fast Transient / Brust	IEC 61000-4-4	Level-3
Electromagnetic Field	IEC 61000-4-3	Level-3
Surge	IEC 61000-4-5	Level-3
Conducted RF	IEC 61000-4-6	Level-2
Rated Power Frequency	IEC 61000-4-8	Level-4
Voltage Dip / Short Interruptions	IEC 61000-4-11	Level-3
Conducted Emissions	CISPR-11	Class-B
Radiated Emission	CISPR-11	Class-A
Emission & Immunity	IEC 61326-1	
Safety	IEC 61010-1	

Ordering Information

Product Code	Supply Voltage	Certification
900CPR-3-1-BL-230V-CE	230V AC	CE
900CPR-3-1-110V-CE	110V AC	CE



CE RoHS

FEATURES

- Under current, Over current protection
- Current asymmetry monitoring (for 3Ø System only)
- True RMS value measurement
- User selectable Power ON delay, Trip time delay and Recovery time
- Adjustable hysteresis
- One alarm relay with NC or NO operation selectable

SPECIFICATIONS

DISPLAY

3 Digits, LCD with backlight

ELECTRICAL CONNECTION

900CPR-1 : 1Ø-2 wire

900CPR-3 : 1Ø-2 wire, 3Ø-3 wire, 3Ø-4 wire

AUXILIARY SUPPLY

110V / 230V AC (factory set)

50 / 60Hz

POWER CONSUMPTION

15VA max

CT PRIMARY SETTING

1A / 5A-999A

CT SECONDARY SETTING

1A or 5A (Selectable)

TRIP SETTINGS

Under Current : 0 - 999A

(0-100% of CT Primary Setting)

Over Current : 0.5A - 1.19kA

(10-120% of CT Primary Setting)

Current Asymmetry : 5.0 - 99.9%

TIME SETTINGS

Power ON Delay : 0.5 - 99.9sec

Response Delay (Trip time delay) : 0 - 99.9sec

Recovery Time : 0 - 99.9sec

Response Time : < 200ms

MAXIMUM CURRENT INPUT

120% of CT Primary setting

HYSTERESIS

0.1 - 99.9A

RESOLUTION

0.01, 0.1, 1A, 0.01kA (Depends on CT setting)

ACCURACY

Current : ±1% of Setting, ±2 digits

Time (Recovery Time, Trip Time Delay,

Power ON Delay) : ±5% of setting ± 200ms

OUTPUT SPECIFICATIONS

Relay : 1C/O (SPDT)

RELAY RATING

NO (5A, 250V AC)

NC (3A, 250V AC)

LED INDICATION

LED(Red) : Trip

ENVIRONMENTAL SPECIFICATIONS

- Indoor use

- Altitude of up to 2000 meters

- Pollution degree II

Temperature : Operating : 0°C to 50°C

Storage : -20°C to 70°C

Humidity : Up to 95% RH, non-condensing

MECHANICAL SPECIFICATIONS

No. of Push Buttons : 3

Size : 35mm width

Mounting : 35mm Din Rail Mount

Wire Size (max) : 4 sq.mm

Screw tightening torque : 0.5 N-M

WEIGHT

CPR-1 : 130 gms.

CPR-3 : 150 gms.

SAFETY PRECAUTIONS

All safety related codifications, symbols and instructions that appear in this operating manual or on the equipment must be strictly followed to ensure the safety of the operating personnel as well as the instrument.

If the equipment is not used in a manner specified by the manufacturer it might impair the protection provided by the equipment.

If there is physical damage to the unit then do not use it.

Read complete instructions prior to installation and operation of the unit.

WIRING GUIDELINES

WARNING

1. To prevent the risk of electric shock power supply to the equipment must be kept OFF while doing the wiring arrangement.

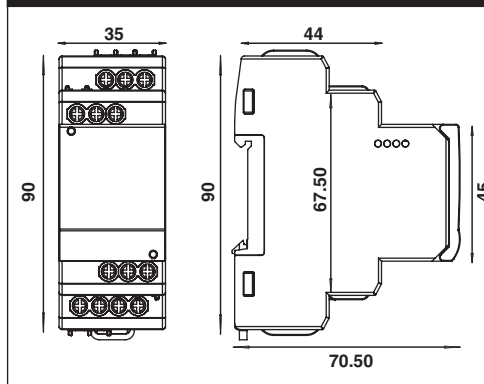
2. Wiring shall be done strictly according to the terminal layout with shortest connections. Confirm that all connections are correct.

CAUTION

1. To ensure the safe operation of unit, check the wiring and connections.

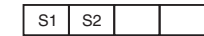
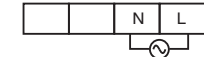
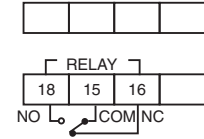
2. It is recommended to test the unit periodically to satisfy the regulations.

DIMENSIONS (All dimensions in mm)

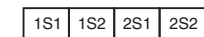
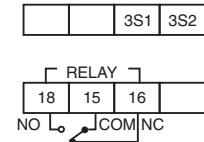


TERMINAL CONNECTIONS

900CPR-1

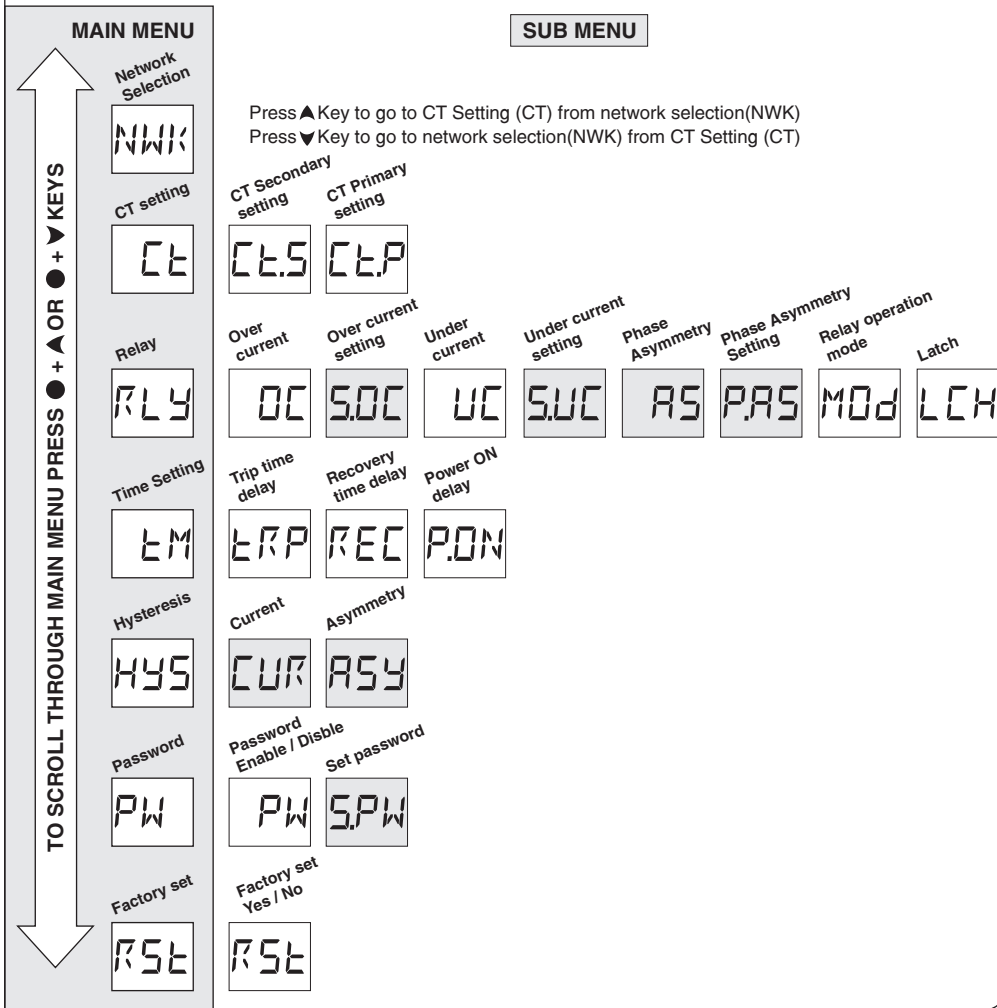


900CPR-3



CONFIGURATION MENU

Press ▲ + ▼ for 3sec. to enter or exit configuration menu.



Note : 1) Appearance of shaded menus dependant on selection of other parameters
 2) Network selection & phase asymmetry setting not applicable for 900CPR-1

SUB MENU

Network selection (NWK) Press ▲ to enter sub menu from main menu				
Press ▲ or ▼ to scroll through sub menu		Press ● + ▲ or ● + ▼ to change parameter value		
DISPLAY (For 1sec)	DESCRIPTION	DEFAULT VALUE	RANGE	CONDITION
NWK	Network selection	3P3	1P2 / 3P3 / 3P4	Not applicable for 900CPR-1

CT setting (CT) Press ▲ to enter sub menu from main menu				
Press ▲ or ▼ to scroll through sub menu		Press ● + ▲ or ● + ▼ to change parameter value		
DISPLAY (For 1sec)	DESCRIPTION	DEFAULT VALUE	RANGE	CONDITION
CT.S	CT Secondary setting	5 ^A	1A / 5A	
CT.P	CT Primary setting	100 ^A	5 - 999A (If CT.S is 5A) 1 - 999A (If CT.S is 1A)	

Relay (RLY) Press ▲ to enter sub menu from main menu				
Press ▲ or ▼ to scroll through sub menu		Press ● + ▲ or ● + ▼ to change parameter value		
DISPLAY (For 1sec)	DESCRIPTION	DEFAULT VALUE	RANGE	CONDITION
OC	Over current	ON ^A	ON / OFF	
SOC	Over current setting	110 ^A	0.5A - 1.19kA 10-120% of CT Primary setting	This option will be prompted only when OC option is made ON in config. menu. OC setting cannot go below the UC setting. e.g. If UC is 50A, OC setting cannot go below 50A
UC	Under current	OFF ^A	ON / OFF	
SUC	Under current setting	500 ^A	0 - 999A 0-100% of CT Primary setting	This option will be prompted only when UC option is made ON in config. menu. UC setting cannot go above the OC setting. e.g. If OC is 100A, UC setting will be limited till 100A only.
AS	Phase Asymmetry	ON ^{As}	ON / OFF	Not prompted for 1P2 network selection (not applicable for 900CPR-1)
PAS	Phase Asymmetry Setting	100 ^{As} %	5.0 - 99.9%	This option will be prompted only when AS option is made ON. Not prompted for 1P2 network selection (not applicable for 900CPR-1)
MOD	Relay operation mode	OFF	ON / OFF	ON : NO(During Trip) OFF : NC(During Trip)
LCH	Latch	OFF	ON / OFF	If Latch is ON, user has to reset the unit manually when fault is removed

Time Setting (TM) Press ▲ to enter sub menu from main menu				
Press ▲ or ▼ to scroll through sub menu		Press ● + ▲ or ● + ▼ to change parameter value		
DISPLAY (For 1sec)	DESCRIPTION	DEFAULT VALUE	RANGE	CONDITION
TRP	Trip time delay	30 ^s	0.0 - 99.9s	
REC	Recovery time	0.5 ^s	0.0 - 99.9s	
P.ON	Power ON delay	5.0 ^s	0.5 - 99.9s	

Hysteresis (HYS) Press ▲ to enter sub menu from main menu				
Press ▲ or ▼ to scroll through sub menu		Press ● + ▲ or ● + ▼ to change parameter value		
DISPLAY (For 1sec)	DESCRIPTION	DEFAULT VALUE	RANGE	CONDITION
CUR	Hysteresis for current	0.5 ^A	0.1 - 99.9A	
ASY	Hysteresis for Asymmetry.	20 ^{As}	2 - 20%	Not prompted for 1P2 network selection (not applicable for 900CPR-1)

Password (PW) Press ▲ to enter sub menu from main menu				
Press ▲ or ▼ to scroll through sub menu		Press ● + ▲ or ● + ▼ to change parameter value		
DISPLAY (For 1sec)	DESCRIPTION	DEFAULT VALUE	RANGE	CONDITION
PW	Password	d15	ENB / DIS	Enable / Disable password protection option
S.PW	Set password	0	0-999	Will be prompted only when Password option is enabled

NOTE : PW option will be asked when the user enter the config. menu if PW option is enabled in the config menu and the user has to enter the password which he has set in the S.PW (set password) option.

Factory set (RST) Press ▲ to enter sub menu from main menu				
Press ▲ or ▼ to scroll through sub menu		Press ● + ▲ or ● + ▼ to change parameter value		
DISPLAY (For 1sec)	DESCRIPTION	DEFAULT VALUE	RANGE	CONDITION
RST	Reset (Factory set)	NO	YES / NO	

TRIP VALUE SETTING Press ▲ key for 3 sec. to enter or exit Trip Value Setting menu :

Press ▲ or ▼ to scroll through main menu		Press ● + ▲ or ● + ▼ to change parameter value		
DISPLAY (For 1sec)	DESCRIPTION	DEFAULT VALUE	RANGE	CONDITION
LCK	LOCK	YES	YES / NO	This option will be prompted first when the user enters the trip setting menu. User has to set NO after which he can access the trip setting menu.
S.OC	Over current setting	110 ^A	0.5A - 1.19kA 10-120% of CT Primary setting	This option will be prompted only when OC option is made ON in config. menu. OC setting cannot go below the UC setting. e.g. If UC is 50A, OC setting cannot go below 50A
S.UC	Under current setting	500 ^A	0 - 999A 0-100% of CT Primary setting	This option will be prompted only when UC option is made ON in config. menu. UC setting cannot go above the OC setting. e.g. If OC is 100A, UC setting will be limited till 100A only.
TRP	Trip time delay	30 ^s	0.0 - 99.9s	
LCK	LOCK	NO	YES / NO. (In this option if YES is selected by the user, then whenever the user enters the Trip Value Setting, initially LOCK option will be prompted. The user will have to set NO after which he can access the trip setting menu. If the user wants to disable LOCK option, he can set NO when LOCK option is prompted after TR2 option.)	

ONLINE KEYS Individual parameters can be viewed with every press of ▼ keys.

900CPR-3	PARAMETER	SYMBOL
	Current (R phase)	L1 A
	Current (Y phase)	L2 A
	Current (B phase)	L3 A
	Phase Asymmetry	As

Note : 1) Phase Asymmetry not displayed for 1P2 network selection.
2) Only one phase current will be displayed for 1P2 network selection.

TRIP INDICATION	Trip Indication on press of ▲ key : Trip value will be displayed till the key is pressed.
RESET	Press ● key for 3sec. to reset manually
Master Password : 753	

(Specifications subject to change as development is a continuous process.)

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