

## Analog Protection Relays

- Phase
- Voltage



## Digital Protection Relays

- Phase
- Voltage
- Current
- Frequency
- Earth Leakage



900VPR-2



900ELR-2

DESCRIPTION	Voltage Protection Relay	Earth Leakage Relay
<b>Functions</b>	<ul style="list-style-type: none"> <li>Under / over voltage, under frequency, over frequency, asymmetry, phase failure and phase sequence monitoring in 3Ø system</li> <li>RMS value measurement</li> <li>Power ON delay, Trip time delay and Delay on release</li> <li>Adjustable switching hysteresis</li> <li>Two separate alarm relays</li> </ul>	<ul style="list-style-type: none"> <li>Leakage current monitoring in 1Ø and 3Ø systems</li> <li>RMS value measurement</li> <li>CBCT connection monitoring</li> <li>Power ON delay, response delay and delay on release</li> <li>Adjustable switching hysteresis</li> <li>Test and Reset via front / remote</li> <li>LCD display with backlight</li> <li>Two separate alarm relays with NC or NO operation selectable</li> </ul>
<b>Display</b>	3 digits Liquid Crystal Display	3 digits Liquid Crystal Display with backlight
<b>Electrical Connection</b>	3Ø-3 wire, 3Ø-4 wire	1Ø-2 wire, 3Ø-3 wire, 3Ø-4 wire,
<b>CT Setting</b>	---	---
<b>Trip Setting</b>	Under / Over Voltage: 280 to 520V AC L-L (for 3Ø-3 wire system) 160 to 300V AC (for 3Ø-4 wire system) Under / Over Frequency: 45 – 65Hz Voltage Asymmetry: 5.0 – 99.9%	Leakage Current: 10mA - 30A Pre Alarm: 50 - 100% of leakage current setting
<b>Trip Time Setting</b>	Power ON Delay: 2 – 99.9sec Trip Time Delay: 0 – 99.9sec Delay on Release: 0 – 99.9sec Response Time: <200ms	Power ON Delay: 0.5 – 99.9sec Trip time delay: 0 – 99.9sec Delay ON Release: 0 – 99.9sec Response Time: < 30ms (if trip current ≥ 5 x set value) < 50ms (if trip current ≥ 1 x set value)
<b>Hysteresis</b>	Voltage: 1.0 – 99.0V, Frequency: 0.2 – 2Hz, Asymmetry: 2-20%	5-40% of set value
<b>Resolution</b>	Voltage: 1V, Frequency: 0.1Hz	Current: 0.1, 1mA, 0.01A, 0.1A (Depends on trip setting)
<b>Accuracy</b>	Voltage: ±1% of set value, Frequency: ±0.3Hz, Time (Recovery Time, Trip delay, Power on delay) = ±5% of setting ± 200ms	Current: ±5% of Setting, Time delays = ±5% of setting + 100ms
<b>Output Contact</b>	2 x 1C/O (SPDT)	2 x 1C/O (SPDT)
<b>Relay Rating</b>	NO : 5A, 250V AC ; NC : 3A, 250V AC	NO : 5A, 250V AC; NC : 3A, 250V AC
<b>Supply Voltage</b>	Self Powered	230V AC (factory set) / 110V AC / 12-24V DC; ±15%
<b>Frequency</b>	45 - 65Hz	45 - 65Hz
<b>Power Consumption</b>	30VA max.	3VA max
<b>Order Code</b>	900VPR-2-280/520V	900ELR-2-230V, 900ELR-2-110V, 900ELR-2-12/24V DC
<b>Certification</b>	CE	CE
<b>Terminal Connection</b>		

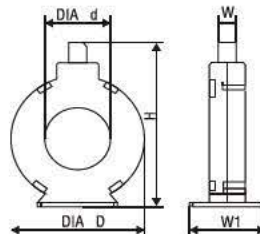
CBCT-35-1 / CBCT-70-1 / CBCT-120-1

CBCT FOR EARTH LEAKAGE RELAY



CBCT TYPE	Dimensions (mm)				
	D	d	H	W	W1
35	64	45	96	13	52.5
70	98	82	131	13	87
120	149	125	184	13	122
STD. TOL.	2 - 3	5 - 6	—	1.5 - 2	—

CT Type ZPC (Zero Phase Current)



900ELR-2	
Order Code	Inner Diameter
CBCT - 35-1	35mm
CBCT - 70-1	70mm
CBCT - 120-1	120mm



900CPR-1



900CPR-3

**1Ø Current Protection Relay**

- Under current, over current protection
- RMS value measurement
- 1Ø with inbuilt CT
- Power ON delay, Trip time delay and Delay on release
- Adjustable switching hysteresis
- One alarm relay with NC or NO operation selectable

3 digits Liquid Crystal Display

1Ø-2 wire

CT Primary: 1A/5A - 999A  
CT Secondary: 1A / 5A (selectable)

Under Current: 0 – 999A  
Over Current: 0.5A – 1.19kA

Power ON Delay: 0.5 – 99.9sec  
Trip time delay: 0 – 99.9sec  
Delay ON Release: 0 – 99.9sec  
Response Time: < 100ms

Current: 0.1 – 99.9A (Depends on CT setting)

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

Current: ±1% of CT Setting ± 2 digits,  
Time (Recovery Time, Trip delay, Power on delay) = ±5% of setting ± 200ms

1C/O (SPDT)

NO : 5A, 250V AC; NC : 3A, 250V AC

230V AC (factory set) / 110V AC; ±15%

45 - 65Hz

12VA max

900CPR-1-230V, 900CPR-1-110V

**3Ø Current Protection Relay**

- Under / Over current monitoring in 1Ø and 3Ø
- Current asymmetry protection (for 3Ø systems only)
- RMS value measurement
- Power ON delay, Trip time delay and Delay on release
- Adjustable switching hysteresis
- One alarm relay with NC or NO operation selectable

3 digits Liquid Crystal Display

1Ø-2 wire, 3Ø-3 wire, 3Ø-4 wire

CT Primary: 1A/5A - 999A  
CT Secondary: 1A / 5A (selectable)

Under Current: 0 – 999A  
Over Current: 0.5A - 1.19kA  
Current Asymmetry: 5.0 – 99.9%

Power ON Delay: 0.5 – 99.9sec  
Trip time delay: 0 – 99.9sec  
Delay ON Release: 0 – 99.9sec  
Response Time: < 200ms

Current: 0.1 – 99.9A (Depends on CT setting)

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

Current: ±1% of CT Setting ± 2 digits,  
Time (Recovery Time, Trip delay, Power on delay) = ±5% of setting ± 200ms

1C/O (SPDT)

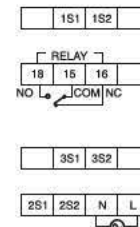
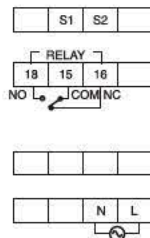
NO : 5A, 250V AC; NC : 3A, 250V AC

230V AC (factory set) / 110V AC; ±15%

45 - 65Hz

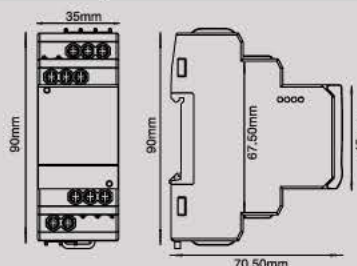
12VA max

900CPR-3-230V, 900CPR-3-110V



**DIMENSIONS**

- 900ELR-2
- 900VPR-2
- 900CPR-1
- 900CPR-3





600VPR

600PSR

**COMMON FEATURES:**

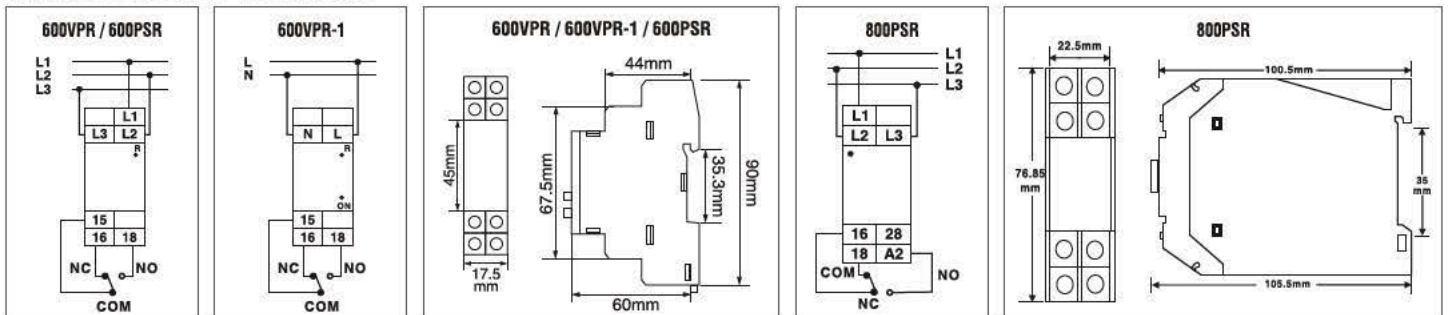
**Mounting :** DIN RAIL Mounting  
**Size:** 17.5 (W) x 90(H) x 60(D)  
**Reset:** Auto reset on removal of fault condition

**LED Indication:**

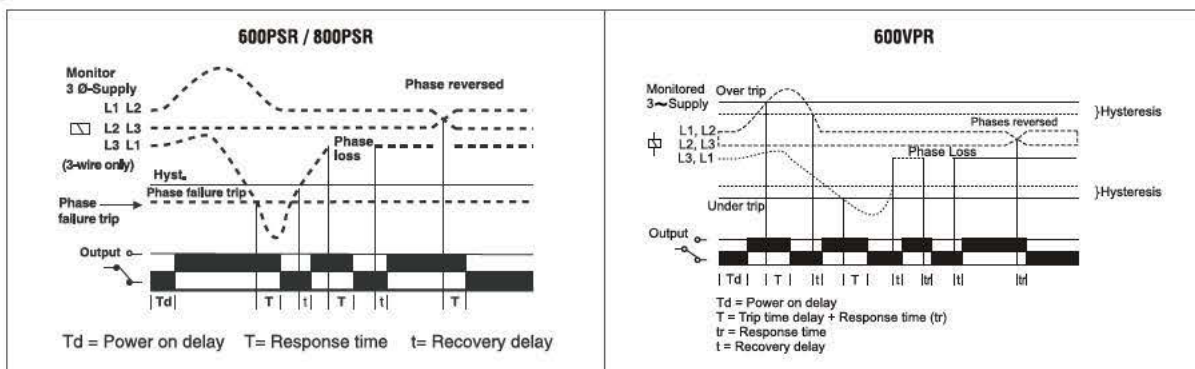
**600PSR:** Relay ON  
**600VPR:** Power ON, Relay ON

Description	Model	Modes	Time Ranges	Accuracy	OUTPUT CONTACTS	Supply Voltage	Order Code	Certification
Voltage Protection Relay	600VPR	<b>600VPR-310/520:</b> Under voltage trip: -2.5% to -25% of 415V AC Over voltage trip: +2.5% to +25% of 415V AC Phase Sequence : Yes	Trip time delay: 0.2 to 10 sec Power On Delay: 400 msec	Trip: ±0.5% of F.S. Time: ±5% of F.S	1 C/O (SPDT) Rating: NO/5A, NC/3A, 250V AC	3Ø/3W <b>600VPR-310/520:</b> 310 to 520V AC(L-L)	600VPR-310/520	CE
		<b>600VPR-170/290:</b> Under voltage trip: -2.5% to -25% of 230V AC Over voltage trip: +2.5% to +25% of 230V AC Phase Sequence : Yes				170 to 290V AC(L-L) AC:(50/60Hz)	600VPR-170/290-CU	CE, UK
Voltage Protection Relay	600VPR-1	<b>600VPR-1-180/300:</b> Under voltage trip: 180 to 234V AC Over voltage trip: 246 to 300V AC	Trip time delay: 0.2 to 10 sec Power On Delay: 200 msec			1Ø/2W <b>600VPR-1-180/300</b> 180 to 300V AC(L-N)	600VPR-1-180/300	CE
Phase Sequence Relay	600PSR	<b>600PSR:</b> Phase Sequence, Phase Missing, Phase Failure Trip: <154V AC (L-L), Phase imbalance: 30V fixed, Hysteresis: 6V	Response Time: 200 msec max. Power On Delay: 200 msec	Trip: ±10V	1 C/O (SPDT) Rating: NO/5A, NC/3A, 250V AC	3Ø/3W <b>600PSR:</b> 154 to 500V AC(L-L)	600PSR	CE
	800PSR	<b>800PSR:</b> Phase Sequence, Phase Missing, Phase Failure Trip: <70% of Nominal Voltage 280V AC, Phase imbalance: 30V fixed, Hysteresis: 6V	Response Time: 100 msec max. Power On Delay: 100 msec			3Ø/3W <b>800PSR:</b> 280 to 528V AC(L-L)	800PSR	---

**Terminal Connections & Dimensions**



**Timing Diagrams**



For more information visit us at [www.selec.com](http://www.selec.com)

**Selec Controls Pvt. Ltd.** (An ISO 9001:2008 Company)

**Factory:**  
 EL-27/1, Electronic Zone,  
 TTC Industrial Area,  
 MIDC, Mahape,  
 Navi Mumbai 400710,  
 INDIA,

**Sales Office:**  
 E-121, Ansa Industrial Estate,  
 Saki Vihar Road, Andheri (E),  
 Mumbai 400 072. INDIA  
 Tel.: +91-22-4039 4200/4202  
 Fax: +91-22-2847 1733  
 Tollfree: 1800 227353 (BSNL/MTNL only)  
 Email: sales@selec.com,

**Selec Controls USA., Inc.:**  
 203 main Street # 205  
 Flemington,  
 NJ 08822, U.S.A.  
 Phone: 908-627-2149,  
 Fax: 732-960-8611,  
 Email: usa@selec.com,  
 Web: www.selecusa.com

**Selec GmbH :**  
 Mollwitzstrasse 2,  
 D-14059, Berlin,  
 Tel: +49 3030111870,  
 Fax.: +49 303011187-77,  
 Email: europe@selec.com  
 Web: www.selec-europe.com

Authorised Agent: