

MONITORING RELAYS



These relays are best suitable for monitoring balanced or unbalanced supplies, either of single phase, 3-phase 3-wire or 3-phase 4 wire loads powered by generators, UPS, stabilizers, inverters, or Mains (by Electricity Boards / Utilities); in AMF panels, PCCs, distribution boards and for power monitoring of individual loads / motors / pumps.



MODELS

**D1 VCR1,
VCT D2, VCF D2, D2 VCT1, D1 VCT1,
S2 VMR 4, S2 VMR 5,
D2 EFR1, F3 EFR 1, OCS D1,
S2 CMR2, S2 CMR3, S2 CMR4, S2 CMR5,
OFS D1, S2 FMR1,
RPT D2, RPF D2, CBCT, CT, F3 ELR 1, F3 FFR 2**

FEATURES

- Fixed/adjustable under/Over trip settings for parameters.
- Fixed/adjustable trip delays and Power On delays
- Built-in or external power supply
- Resetting – Auto or Manual
- Output contacts : 1 CO or 2 CO
- Choice of enclosures (DIN-Rail, Flush)
- Models with Micro-Controller based design
- Use of SMD Technology
- User-friendly LED indications




PROTECTIONS / FUNCTIONS

- Under/over Voltage,
- Under/Over Current
- Under/Over Frequency
- Reverse Power
- Earth Fault/Ground Fault
- Earth leakage

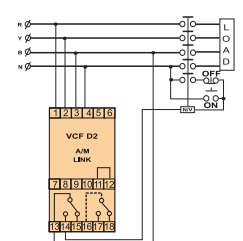
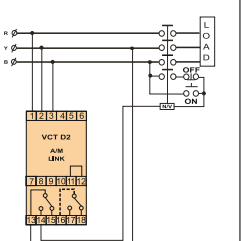
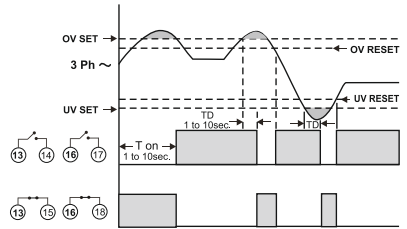
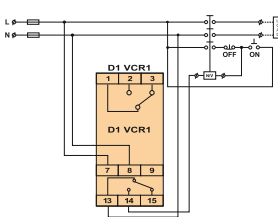
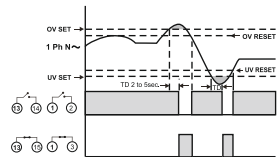
Ordering Instructions

- Product Family Name
- Model Name
- System Supply Voltage & frequency
- Aux. Supply/Control supply voltage
- Current input (1A or 5A)

VOLTAGE MONITORING RELAYS





	D1 VCR1 1 Phase Voltage Monitoring Relay	VCT D2 Voltage Monitoring Relay, 3Ø-3W	VCF D2 Voltage Monitoring Relay, 3Ø-4W
			
	Single Phase Under & Over voltage, Auto Reset, Adjustable under / over voltage settings, 2 CO output relay.	3-Phase 3-Wire Under & Over voltage Auto/Manual Reset, Adjustable under/over voltage settings, adjustable trip delay & ON delay, 2 CO output relay	3-Phase 4-Wire Under & Over voltage Auto/Manual Reset, Adjustable under/over voltage settings, adjustable trip delay & ON delay, 2 CO output relay
System Supply	110/ 220/ 230/ 240 V AC (+ 20%-25%), 50/60 Hz ± 3%	110/240/380/415/440 V AC +20%, - 25% 50/60Hz	
Output Relay Contact	2 CO	2 CO	2 CO
Trip Setting			
Under Voltage	75 - 95% [Variable] of set value	75% - 95% (adjustable)	75% - 95% (adjustable)
Over Voltage	105 - 120% [Variable] of set value	105% -120% (adjustable)	105% -120% (adjustable)
Trip Time Delay	2- 5 Sec (Fixed) (UV/OV)	1-10 secs. (adjustable)	1-10 secs. (adjustable)
Power on Delay		1-10 secs. (adjustable)	1-10 secs. (adjustable)
Reset	Auto Reset	Auto / Manual	Auto / Manual
Weight	180 gms.	450 gms.	450 gms.
Dimensions (mm)			
Overall (L x W x D)	76 x 30.5 x 117.5	76 x 56.5 x 117.5	76 x 56.5 x 117.5
Mounting	68 mm centre to centre / 35 mm rail mounting	67 x 46 / 35 mm rail mounting	67 x 46 / 35 mm rail mounting

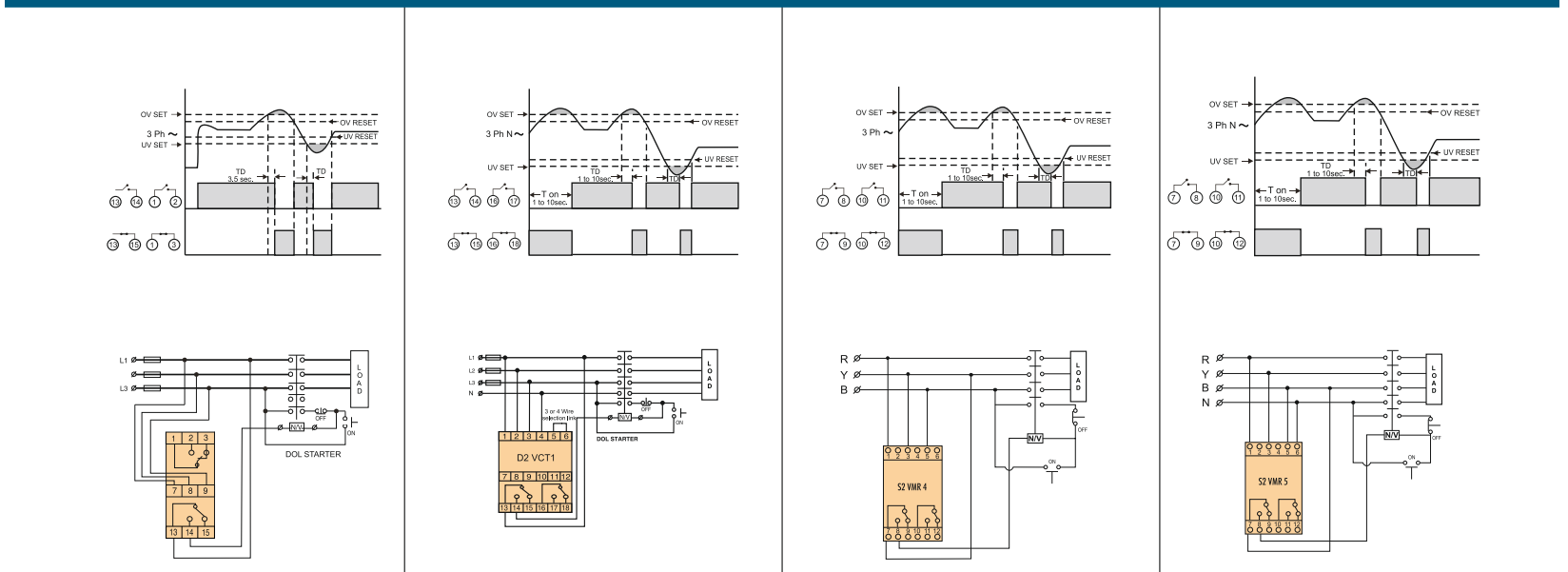
• Wherever not specified
Contact Rating :
5A @ 230 V AC
(resistive)



Relay contact position shown in 'Power off' condition

VOLTAGE MONITORING RELAYS *minilec*[®]

D1 VCT1 Voltage Monitoring Relay, 3Ø-3W	D2 VCT1 Voltage Monitoring Relay	S2 VMR4 Voltage Monitoring Relay, 3Ø-3W	S2 VMR5 Voltage Monitoring Relay, 3Ø-4W																																																																
																																																																			
3-Phase 3-Wire Under & Over Voltage, Auto reset, Adjustable UV/OV settings, fixed trip delay, 2 CO output relay.	3-Phase 3-Wire and 3-Phase 4-Wire (selectable) Under & Over voltage, Microcontroller based design, Auto/Manual Reset, Adjustable under/over voltage settings, Absolute values for UV/OV, adjustable trip delay & ON delay, 2 CO output relay (or selectable 1CO for UV, 1CO for OV) Failsafe-non-failsafe selectable	3-Phase 3-Wire Under & Over voltage, Microcontroller based design, SMD Technology Auto/Manual Reset, Adjustable under/over voltage settings, Absolute values for UV/OV, adjustable trip delay & ON delay, 2 CO output relay (or selectable 1CO for UV, 1CO for OV) Failsafe-non-failsafe selectable	3-Phase 4-Wire Under & Over voltage, Microcontroller based design, SMD Technology, Auto / Manual Reset, Adjustable under/over voltage settings, Absolute values for UV/OV, adjustable trip delay & ON delay, 2 CO output relay (or selectable 1CO for UV, 1CO for OV) Failsafe-non-failsafe selectable																																																																
100-120/220-240/380-440 V AC ± 20%, 48-63 Hz	100-120/220-240/380-440V AC -25%+20%,48-63 Hz	100-120/220-240/380-440V AC -25%+20%,48-63 Hz	100-120/220-240/380-440V AC -25%+20%,48-63 Hz																																																																
2 CO	1 CO + 1 CO / 2 CO	1 CO + 1 CO / 2 CO	1 CO + 1 CO / 2 CO																																																																
75-115 Unit of 100-120 V AC 165-225 Unit of 220-240 V AC 285-425 Unit of 380-440 V AC	<table border="1"> <tr> <td colspan="4">Ph Ph Setting:</td> </tr> <tr> <td>For 380-440V AC</td> <td>285-425V AC (Variable)</td> <td>285 - 425V AC (Variable)</td> <td></td> </tr> <tr> <td>For 220-240V AC</td> <td>165-225V AC (Variable)</td> <td>165-225V AC (Variable)</td> <td></td> </tr> <tr> <td>For 100-120V AC</td> <td>75-115V AC (Variable)</td> <td>75-115V AC (Variable)</td> <td></td> </tr> <tr> <td colspan="4">Ph N Sensing:</td> </tr> <tr> <td>For 380-440V AC</td> <td>165-245V AC (Variable)</td> <td></td> <td>165-245V AC (Variable)</td> </tr> <tr> <td>For 220-240V AC</td> <td>95-135V AC (Variable)</td> <td></td> <td>95-135V AC (Variable)</td> </tr> <tr> <td>For 100-120V AC</td> <td>45-65V AC (Variable)</td> <td></td> <td>45-65V AC (Variable)</td> </tr> <tr> <td colspan="4">Ph Ph Sensing:</td> </tr> <tr> <td>For 380-440V AC</td> <td>400-520V AC (Variable)</td> <td>400-520V AC (Variable)</td> <td></td> </tr> <tr> <td>For 220-240V AC</td> <td>230-290V AC (Variable)</td> <td>230-290V AC (Variable)</td> <td></td> </tr> <tr> <td>For 100-120V AC</td> <td>105-145V AC (Variable)</td> <td>105-145V AC (Variable)</td> <td></td> </tr> <tr> <td colspan="4">Ph N Sensing:</td> </tr> <tr> <td>For 380-440V AC</td> <td>230-310V AC (Variable)</td> <td></td> <td>230-310V AC (Variable)</td> </tr> <tr> <td>For 220-240V AC</td> <td>130-170V AC (Variable)</td> <td></td> <td>130-170V AC (Variable)</td> </tr> <tr> <td>For 100-120V AC</td> <td>60-80V AC (Variable)</td> <td></td> <td>60-80V AC (Variable)</td> </tr> </table>			Ph Ph Setting:				For 380-440V AC	285-425V AC (Variable)	285 - 425V AC (Variable)		For 220-240V AC	165-225V AC (Variable)	165-225V AC (Variable)		For 100-120V AC	75-115V AC (Variable)	75-115V AC (Variable)		Ph N Sensing:				For 380-440V AC	165-245V AC (Variable)		165-245V AC (Variable)	For 220-240V AC	95-135V AC (Variable)		95-135V AC (Variable)	For 100-120V AC	45-65V AC (Variable)		45-65V AC (Variable)	Ph Ph Sensing:				For 380-440V AC	400-520V AC (Variable)	400-520V AC (Variable)		For 220-240V AC	230-290V AC (Variable)	230-290V AC (Variable)		For 100-120V AC	105-145V AC (Variable)	105-145V AC (Variable)		Ph N Sensing:				For 380-440V AC	230-310V AC (Variable)		230-310V AC (Variable)	For 220-240V AC	130-170V AC (Variable)		130-170V AC (Variable)	For 100-120V AC	60-80V AC (Variable)		60-80V AC (Variable)
Ph Ph Setting:																																																																			
For 380-440V AC	285-425V AC (Variable)	285 - 425V AC (Variable)																																																																	
For 220-240V AC	165-225V AC (Variable)	165-225V AC (Variable)																																																																	
For 100-120V AC	75-115V AC (Variable)	75-115V AC (Variable)																																																																	
Ph N Sensing:																																																																			
For 380-440V AC	165-245V AC (Variable)		165-245V AC (Variable)																																																																
For 220-240V AC	95-135V AC (Variable)		95-135V AC (Variable)																																																																
For 100-120V AC	45-65V AC (Variable)		45-65V AC (Variable)																																																																
Ph Ph Sensing:																																																																			
For 380-440V AC	400-520V AC (Variable)	400-520V AC (Variable)																																																																	
For 220-240V AC	230-290V AC (Variable)	230-290V AC (Variable)																																																																	
For 100-120V AC	105-145V AC (Variable)	105-145V AC (Variable)																																																																	
Ph N Sensing:																																																																			
For 380-440V AC	230-310V AC (Variable)		230-310V AC (Variable)																																																																
For 220-240V AC	130-170V AC (Variable)		130-170V AC (Variable)																																																																
For 100-120V AC	60-80V AC (Variable)		60-80V AC (Variable)																																																																
105-145 Unit of 100-120 V AC 230-290 Unit of 220-240 V AC 400-520 Unit of 380-440 V AC																																																																			
3.5±1.5 Sec (UV/OV)	1-10 Sec (Variable) UV/OV/NF	1-10 Sec. (Variable)	1-10 Sec. (Variable)																																																																
Auto Reset	1-10 Sec (Variable)	1-10 Sec (Variable)	1-10 Sec (Variable)																																																																
200 gms. (Approx.)	Auto/ Manual Reset	Auto / Manual Reset	Auto / Manual Reset																																																																
200 gms. (Approx.)	300 gms (Approx.)	110 gms (Approx.)	110 gms (Approx.)																																																																
76 x 30.5 x 117.5	76 X 56.5 X 117.5	90 X 35 X 60	90 X 35 X 60																																																																
68 centre to centre / 35 mm rail mounting	67 x 46 / 35 mm rail mounting	35 mm Rail Mounting	35 mm Rail Mounting																																																																



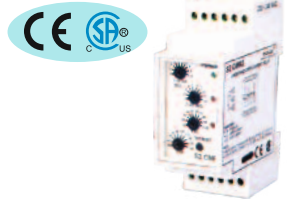
Relay position shown in 'Power off' condition
 Note: S2 Series - RoHS Product available on request.

CURRENT MONITORING RELAYS

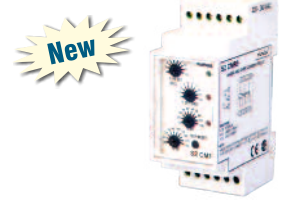
OCS D1 1 Phase Over Current Relay	S2 CMR2 1 Phase Current Monitoring Relay	S2 CMR5 1 Phase Current Monitoring Relay
--------------------------------------	---	---



Single phase over current
Auto reset, Input 1A or 5 A
through CT, Adjustable
over current trip settings,
Adjustable trip delay,
1 CO output relay



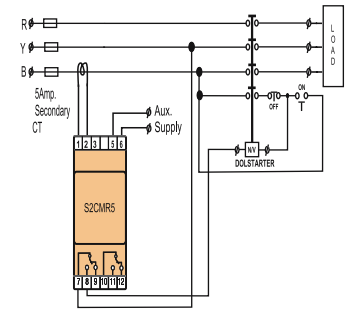
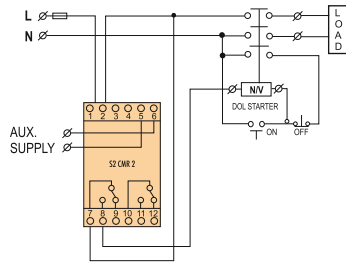
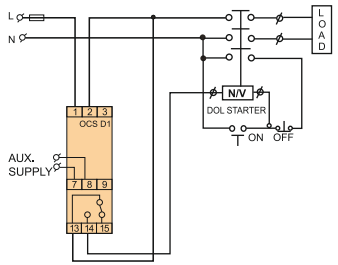
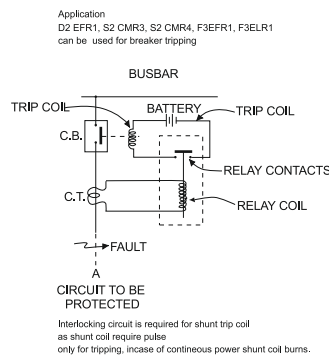
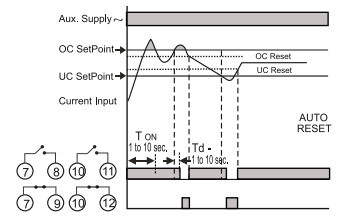
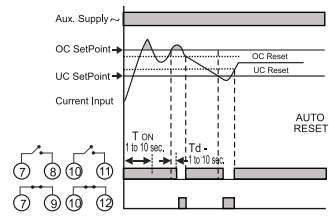
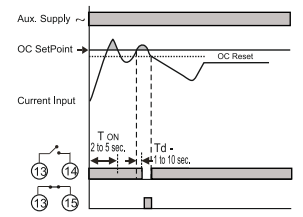
Single phase under & over
current Microcontroller based
design, SMD technology,
Auto/Manual reset, Input 1A or 5
A through CT, Adjustable under /
over current trip settings,
adjustable trip delay & ON delay,
2 CO output relay (or selectable
1CO for UC, 1CO for OC)
Failsafe-non-failsafe mode
selectable



Single phase under & over
current Microcontroller based
design, SMD technology,
Auto/Manual reset, Input 1A/5A
through CT, 250mA/500mA
direct, zero current sensing,
Adjustable under / over current
trip settings, adjustable trip
delay & ON delay, 2 CO output
relay
Failsafe-non-failsafe mode
selectable

<p>Supply Voltage</p> <p><small>Note: Mention specific voltage (Fixed/wide range) in order</small></p> <p>System</p> <p>Auxiliary</p> <p>Ext. Input</p> <p>Output contact</p>	<p>110-120/220-240/380-440 V AC ±20%, 12 V DC/24/30 V DC ±10%</p> <p>1 Amp / 5 Amp (Secondary) CT or 250/500 mA</p> <p>1 CO</p>	<p>100-120 / 220-240 / 415 V AC ±20%, 24 V DC ±10%</p> <p>1 Amp / 5 Amp (Secondary) CT</p> <p>1 CO + 1 CO / 2 CO</p>	<p>100-120 / 220-240 / 380-440 VAC ± 20% 100-120 / 220-240 / 415 VAC ± 20%, 24 VDC ± 20%</p> <p>1 Amp / 5 Amp (Secondary) CT or 250mA/ 500 mA</p> <p>2 CO</p>
<p>Trip setting</p> <p>EF Trip Setting</p> <p>Under Current</p> <p>Over Current</p>	<p>—</p> <p>N.A.</p> <p>50% -140% (adjustable) of CT sec</p>	<p>—</p> <p>10% - 100% (Variable) of Input</p> <p>50% - 140% (Variable) of Input</p>	<p>—</p> <p>10 % - 100% (Variable) of Input</p> <p>50% - 140% (Variable) of Input</p>
<p>Power On Delay</p> <p>Trip Time Delay</p> <p>Resetting</p> <p>Weight</p> <p>Dimensions (mm)</p> <p>Overall (L x W x D)</p> <p>Mounting (L x W)</p>	<p>3.5 secs ± 1.5 sec (fixed)</p> <p>1 - 10 secs (adjustable)</p> <p>Auto</p> <p>250 gms.</p> <p>76 x 30.5 x 117.5</p> <p>68mm centre to centre / 35mm rail Mounting</p>	<p>1-10 Sec. (Adjustable) ± 1 Sec.</p> <p>1-10 Sec. (Adjustable) ± 1 Sec.</p> <p>Auto / Manual</p> <p>140 gms</p> <p>90 X 35 X 60</p> <p>35 mm Rail Mounting</p>	<p>1 - 10 Sec. (Adjustable) ± 1%</p> <p>Auto / Manual</p> <p>140 gms.</p> <p>90 X 35 X 60</p> <p>35 mm Rail Mounting</p>

• Wherever not specified
Contact Rating :
5A @ 230 V AC
(resistive)



Relay contact position shown in 'Power off' condition

Note: S2 Series - RoHS Product available on request.
CCS D2 Model Available on request.

GROUND FAULT MONITORING RELAYS



D2 EFR1/F3 EFR1 Earth Fault Relay	F3 EFR2 Earth Fault Relay	S2 CMR3 Ground Fault Relay	S2 CMR4/F3 ELR 1 Earth Leakage Relay
--------------------------------------	------------------------------	-------------------------------	---



Earth fault/Ground fault monitoring of 3 phase systems
Manual Reset, Input 1A or 5A through CBCT, Adjustable earth fault trip setting, adjustable trip delay, 2 CO relay output



Earth fault/Ground fault monitoring of 3 phase systems
Manual Reset, Input 1A or 5A through CBCT, Adjustable earth fault trip setting, adjustable trip delay, 2 CO relay output

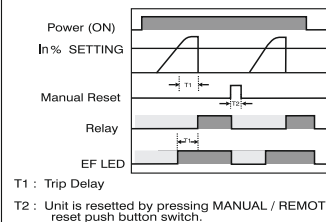
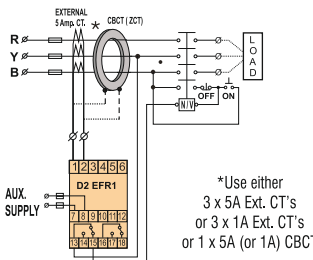
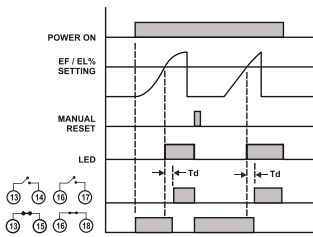


Earth fault/Ground fault monitoring of 3 phase systems, Microcontroller based design, SMD technology, Manual Reset, Input 1A or 5A through CBCT, Adjustable earth fault trip setting, Adjustable trip delay & ON delay, 2 CO relay output
Failsafe-non-failsafe selectable

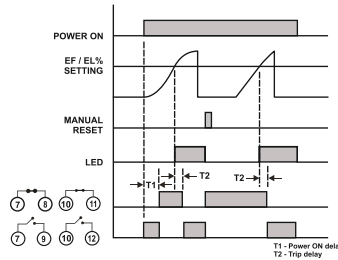
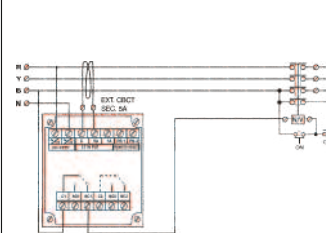


Earth leakage monitoring of 3 phase systems, Microcontroller based design, SMD technology, Manual Reset, Input through CBCT, Adjustable trip setting, Adjustable trip delay & ON delay, 2 CO relay output
Failsafe-non-failsafe selectable

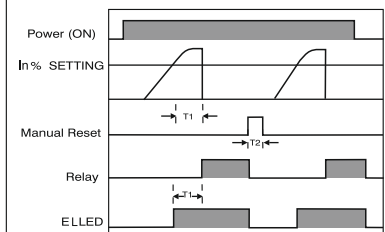
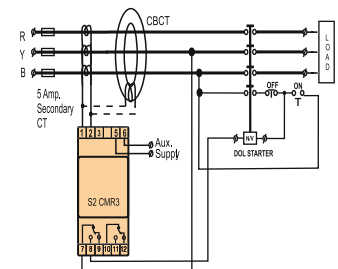
24-30 VDC / 110-240 V AC / DC / 380-440 V AC \pm 20%	24 / 30VDC \pm 10%, 110-240VAC/DC \pm 20% 380 / 415 / 440VAC \pm 20%, 50Hz	100-120/220-240/380-440 V AC \pm 20%, 48-63 Hz 100-120/220 -240 / 415 V AC / 24V DC \pm 20%	100-120/220-240/380-440 V AC \pm 20%, 48-63 Hz 100-110/240 / 415 V AC / 24V DC \pm 20%
1A or 5A (Selectable) CBCT Secondary 1 CO (2 CO) (Pick up on Fault)	1 A / 5 A (Selectable) CBCT Secondary 2 CO	1A or 5A (Selectable) CBCT Secondary 2 CO	300mA CBCT Secondary 2 CO
10% - 100 % (adjustable) of CT sec	5 % - 80% (adjustable) of Rated Current Input	10% - 100% of Rated Current Input (Variable)	10% - 100% of Rated Current Input (Variable)
N.A.	N.A.	N.A.	N.A.
N.A.	N.A.	N.A.	N.A.
N.A.	N.A.	1 - 10 Sec. (Adjustable)	1 - 10 Sec. (Adjustable)
0.1-1.0 / 1-10 Sec. (Adjustable)	0.025 - 10 Sec.	0.1 - 1 Sec. (Adjustable)	0.1 Sec to 1 Sec. (Adjustable)
Manual / Remote (Selectable)	Manual / Remote	Manual	Manual
550gms.	300 gms.	140 gms	140 gms
76 x 56.5 x 117.5 67 x 46 / 35 mm rail Mounting	96 x 96 x 80 90 x 90	90 X 35 X 60 35 mm Rail Mounting	90 X 35 X 60 35 mm Rail Mounting



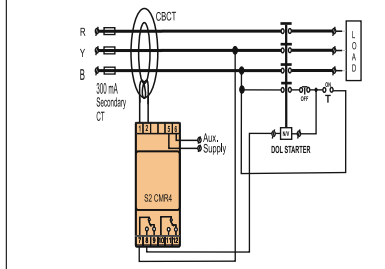
T1 : Trip Delay
T2 : Unit is reset by pressing MANUAL / REMOTE reset push button switch.



T1 : Power ON delay
T2 : Trip delay



T1 : Trip Delay
T2 : Unit is reset by pressing MANUAL / REMOTE reset push button switch.



Contact us for F3ELR1 Connection Diagram.

Relay contact position shown in 'Power off' condition

Note: S2 Series - RoHS Product available on request.

FREQUENCY MONITORING RELAYS

OFS D1

Over Frequency Relay



Single phase over frequency,
Auto reset,
Adjustable over frequency trip
settings,
Adjustable trip delay,
1 CO output relay

S2 FMR1

Frequency Monitoring Relay



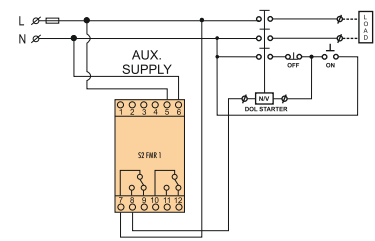
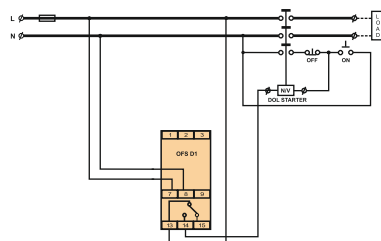
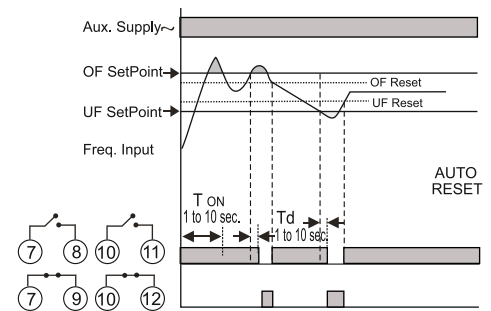
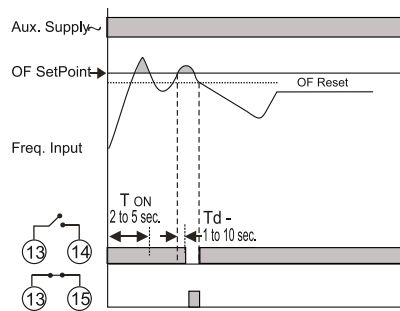
Single phase under & over
frequency, Microcontroller based
design, SMD technology, Auto
reset, Adjustable under/over
frequency trip settings,
Adjustable trip delay & ON delay,
2 CO output relay Failsafe-non-
failsafe mode selectable



Note: Mention specific voltage
(Fixed/wide range) in order

Supply Voltage System	100-120 / 220-240 / 380-440 V AC $\pm 20\%$, 50-60Hz	100-120/220-240/380-440 V AC $\pm 20\%$, 38-72 Hz
Auxiliary	12 / 24 V DC or Built in	In Built
Ext. Input	—	—
Output contact	1 CO	1 CO + 1 CO / 2 CO
Trip setting		
Under Frequency	N.A.	40 Hz - 60 Hz (Variable)
Over Frequency	50 Hz - 70 Hz	50 Hz - 70 Hz (Variable)
Reverse Power	—	—
Power On Delay	3.5 secs. ± 1.5 sec (fixed)	1 - 10 Sec.(Adjustable) ± 1 Sec.
Trip Time Delay	1 - 10 secs. (adjustable)	1 - 10 Sec.(Adjustable) ± 1 Sec.
Resetting	Auto	Auto / Manual
Weight	450 gms.	130 gms
Dimensions (mm)		
Overall (L x W x D)	76 x 30.5 x 117.5	90 X 35 X 60
Mounting (L x W)	68 centre to centre / 35 mm Rail Mounting	35 mm Rail Mounting

- Wherever not specified
Contact Rating :
5A @ 230 V AC
(resistive)



Relay contact position shown in 'Power off' condition

Note: S2 Series - RoHS Product available on request.

POWER MONITORING RELAYS



RPT D2

Reverse Power Relay, (3Ø-3W)



3-phase 3-wire generators reverse power monitoring
Auto/Manual reset,
Reverse power (current) trip settings adjustable,
ON delay and trip delay adjustable,
2 CO output relay

RPF D2

Reverse Power Relay, (3Ø-4W)



Single phase or 3-phase 4-wire generators reverse power monitoring
Auto/Manual reset,
Reverse power (current) trip settings adjustable,
for 3 Ph- Neutral monitoring use three relays,
2 CO output relay

100-120 / 220-240 / 380-440 V AC ±20%

Built-in

5A CT Secondary & R, Y, B

2 CO

—

2% - 20% (adjustable)

1 - 10 secs. (adjustable)

1 - 10 secs. (adjustable)

Auto / Manual

460 gms.

76 x 56.5 x 117.5

67 x 46 / 35 mm Rail Mounting

100-120 / 220-240 / 380-440 V AC ±20%

Built-in

5A CT Secondary & B, Neutral

2 CO

—

2% - 20% (adjustable)

1 - 10 secs. (adjustable)

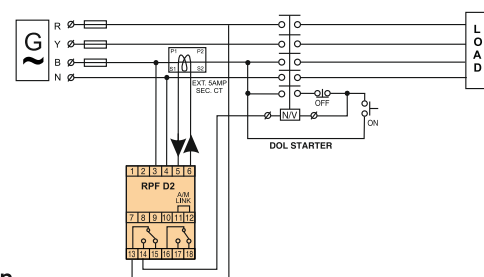
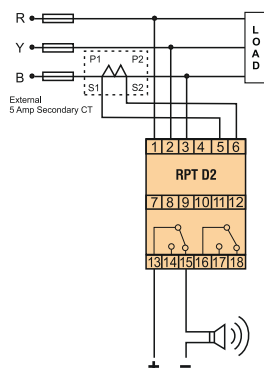
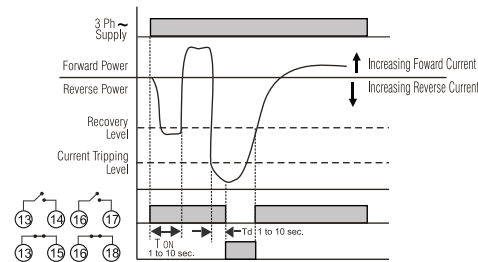
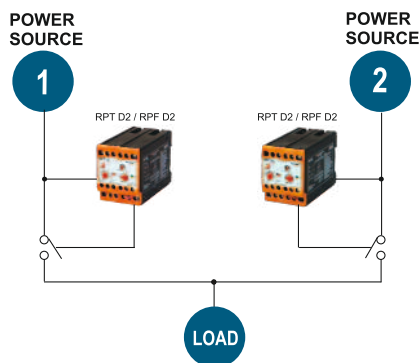
1 - 10 secs. (adjustable)

Auto / Manual

460 gms.

76 x 56.5 x 117.5

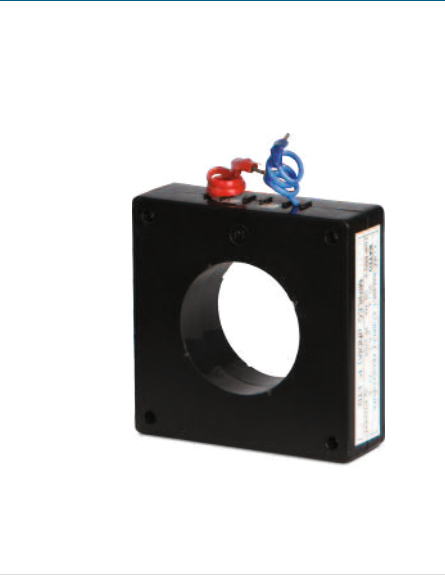
67 x 46 / 35 mm Rail Mounting



Relay contact position shown in 'Power off' condition

CURRENT TRANSFORMERS

ABS Encapsulated Ring / Square Type CBCT	Tape Insulated Ring Type CBCT	Tape Insulated Ring Type Current Transformers	Tape Insulated Ring Type Economy Current Transformers
--	-------------------------------	---	---



Introduction & Application

CORE BALANCE CURRENT TRANSFORMERS (CBCT) is a sensor to sense earth fault current in conjunction with an EARTH FAULT RELAY to protect the system when an EARTH FAULT occurs on one or more phases. The CBCT is mounted externally & load carrying conductors are passed through CBCT. The CBCT inner diameter is large enough to pass all the three bus-bars or the three phase cables, unlike a metering CT where only one bus-bar or cable passes through the CT. As the VECTOR SUM of the three currents at any given time is ZERO, the resultant magnetic field through the core of the CT is zero. This is the healthy situation of the system. If required Neutral also can be passed through CBCT in case of 3 phases, 4 wire system. Ideally Vector Sum will remain zero in case of fault free systems.

In the event of an Earth Fault occurring in any of the phases, the current in that phase rises, inducing a resultant magnetic flux in the CT secondary, energizing the relay & tripping the system.

The current at CBCT secondary will depend on the actual earth fault current level & hence unbalanced loading does not affect the functioning of Earth fault relay.

Salient Features

- All current ratio's are available to match Minilec EFR/ELR.
- Light Weight.
- Compact in size.
- Cost Effective.

General Specifications

- System Voltage - up to 440 V AC
- System Frequency - 50 Hz
- Operating Temperature - 0 - 60°C.
- Humidity - Up to 95% R.H.
- Rated Burden - < 3 VA
- Inner Diameter - 50 / 100 / 120 / 150 / 200 / 220 / 250 / 300 mm or any other customize size as per the requirement.
- Outer Diameter - As per the relay requirement (Primary/ Fault & secondary current) & ID.
- Mounting - for smaller range clamps can be provided for CBCT up to 50 mm ID & for higher range ID of CBCT, external arrangement needs to be done.

Ordering Information

- CT ratio (Primary & Secondary Current).
- Inner Diameter.
- Outer Diameter.
- Type of CBCT - Resin cast or Tape wound or Moulded.
- Minilec Relay Model Name.

Copper Lugs M5 with protective Sleeve. Secondary termination

Range and Specifications

Sr. No	Ratio (A)	Burden (VA)	Class	Dim in (mm)		
				ID	OD	Width
1	50/5	5	5	30	85	50
2	60/5	5	5	30	85	50
3	75/5	5	5	30	85	50
4	100/5	5	1	30	85	50
5	150/5	5	1	30	85	50
6	200/5	10	1	50	100	45
7	250/5	10	1	50	100	45
8	300/5	10	1	50	100	35
9	400/5	15	1	60	105	35
10	500/5	15	1	60	105	35
11	600/5	15	1	60	105	35
12	800/5	15	1	104	138	34
13	1000/5	15	1	104	138	34
14	1200/5	15	1	104	138	34
15	1500/5	15	1	115	160	34
16	1600/5	15	1	115	160	34
17	2000/5	15	1	115	160	34
18	2500/5	15	1	140	185	34
19	3000/5	15	1	140	185	34
20	4000/5	15	1	140	185	34

Range and Specifications

Sr. No	Ratio (A)	Burden (VA)	Class	Dim in (mm)		
				ID	OD	Width
1	50/1	5	5	30	95	60
2	60/1	5	5	30	95	60
3	75/1	5	5	30	95	60
4	100/1	5	1	30	95	60
5	150/1	5	1	30	95	60
6	200/1	10	1	50	110	55
7	250/1	10	1	50	110	55
8	300/1	10	1	50	110	45
9	400/1	15	1	60	115	45
10	500/1	15	1	60	115	45
11	600/1	15	1	60	115	45
12	800/1	15	1	104	148	44
13	1000/1	15	1	104	148	44
14	1200/1	15	1	104	148	44
15	1500/1	15	1	115	170	44
16	1600/1	15	1	115	170	44
17	2000/1	15	1	115	170	44
18	2500/1	15	1	140	195	44
19	3000/1	15	1	140	195	44
20	4000/1	15	1	140	195	44

Copper Lugs M5 with protective Sleeve. Secondary termination

Range and Specifications

Sr. No	Ratio (A)	Class	Dim in (mm)		
			ID	OD	Width
1	50/5	5	35	75	35
2	60/5	5	35	75	35
3	75/5	5	35	75	35
4	100/5	1	38	70	35
5	150/5	1	38	70	35
6	200/5	1	38	100	32
7	250/5	1	38	70	32
8	300/5	1	60	87	30
9	400/5	1	60	87	30
10	500/5	1	70	100	35
11	600/5	1	70	100	35
12	800/5	1	70	100	35

CBCT & CT are also available in cast Resin