



These relays are suitable for monitoring incoming 3-phase supply from Mains (Electricity distribution line). Being independent of load, they can be used for any HP/KW rating of load.

MODELS

**VSP D1, VSP D2, VPG D1
P1 PFS2,
S2 VMR1, S2 VMR2, S2 VMR3, S2 VMR6
D1 HLS1, HLV D2, ALV D2, VMR D2, VST D1,
D1 VMR1, D2 VMR1, D2 VMR2,
S1 VMR7**

FEATURES

- Fixed/adjustable unbalance settings
- Fixed/adjustable under-voltage/over-voltage settings
- Fixed/adjustable trip delays
- Built-in or external power supply
- Resetting Auto or Manual
- Output contacts : 1 CO or 2 CO
- Choice of enclosures (DIN-Rail, Plug-in)
- Models with Micro-Controller based design
- Use of SMD Technology
- User-friendly LED indications

PROTECTIONS / FUNCTIONS

- Phase Failure (Phase Loss / Single Phasing),
- Phase sequence reversal,
- Voltage Unbalance,
- Under Voltage,
- Over Voltage



Ordering Instructions

- ✓ Product Family Name
- ✓ Model Name
- ✓ System Supply Voltage & Frequency
- ✓ Aux. Supply / Control supply voltage

PHASE FAILURE RELAYS

VSP D1
Phase Failure Relay



Phase Failure, Unbalance, Phase Sequence, Auto Reset, Fixed Unbalance Setting, 1 CO output Relay

VSP D2
Phase Failure Relay



Phase Failure, Unbalance, Phase Sequence, Auto / Manual / Remote Reset, Adjustable Unbalance setting, 2 CO output relay

S1 VMR7
Phase Sequence Relay

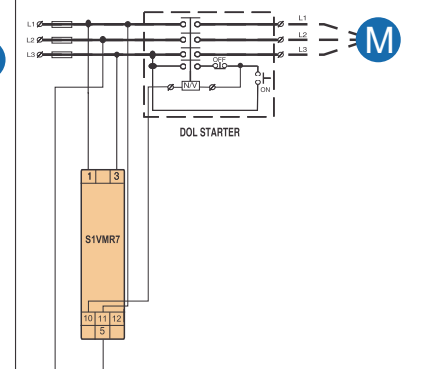
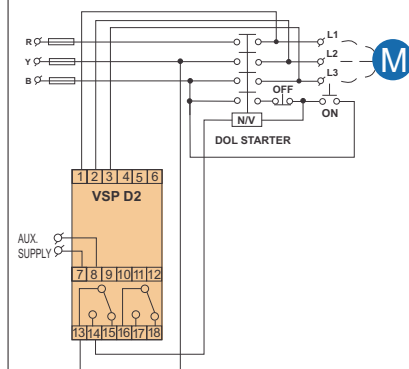
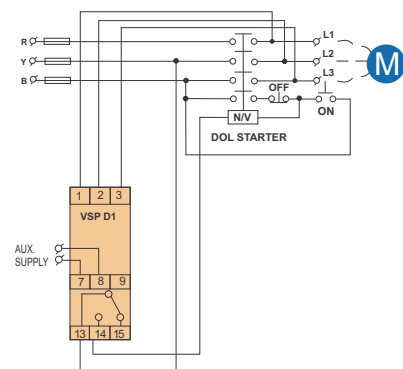
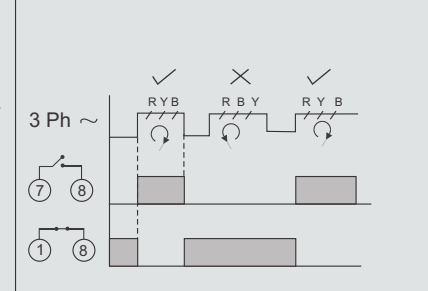
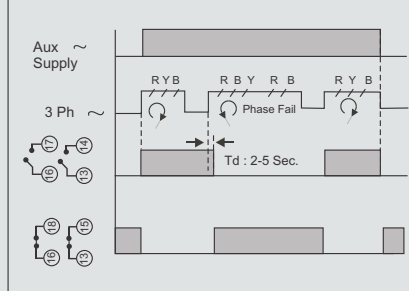
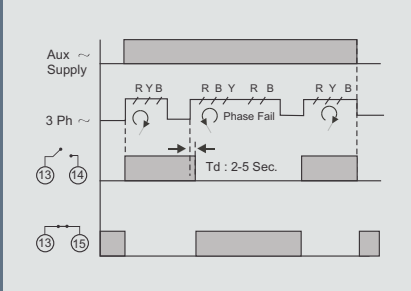


Phase Sequence, Auto Reset, 1 CO output relay



Supply Voltage System	100-120/220-240/380-440 V AC $\pm 20\%$ 50 / 60 Hz	100-120/220-240/380-440 V AC $\pm 20\%$ 50 / 60 Hz	380 – 440 VAC, $\pm 20\%$, 3PH-3 Wire
Auxiliary	100-120/220-240/380-440 V AC $\pm 20\%$	100-120/220-240/380-440V AC $\pm 20\%$	Built-in from 3-Phase
Output Contacts	1 CO	2 CO	1 CO
Trip Setting (Volts)			
Phase Sequence	Yes	Yes	Yes
Phase Unbalance	40 V ± 6 V (fixed)	30 V to 70 V ± 6 V (adjustable)	-
Trip Time Delay			
On Phase Failure/Unbalance	3.5 sec. ± 1.5 sec.	3.5 sec. ± 1.5 sec.	Instant
For level sensing	N.A.	N.A.	N.A.
Resetting Mode	Auto	Auto / Manual / Remote	Auto Reset
Weight	320 gms.	400 gms.	90 gms. (Approx.)
Dimensions (mm)			
Overall (L x W x D)	76 x 30.5 x 117.5	76 x 56.5 x 117.5	90 x 18 x 60 (Approx.)
Mounting (L x W)	68 centre to centre / 35 mm rail Mounting	67 x 46 \square / 35 mm rail Mounting	35 mm rail Mounting

- Wherever not specified Contact Rating : 5A @ 230 V AC (resistive)
- * Available on request.



Relay contact position shown in 'Power off' condition

VPG D1



Single phasing, reverse phasing, unbalanced supply, Auto reset, 1 CO output contact
Suitable for any HP/kW rating submersible pumps
Low water level guard for dry running protection

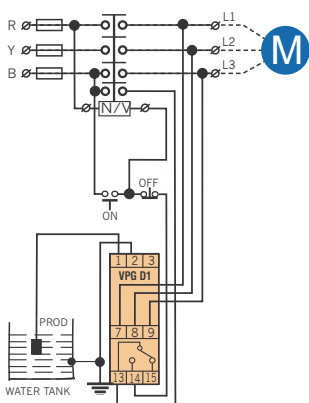
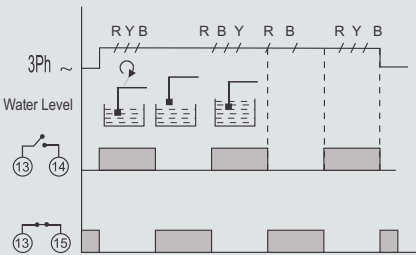
415VAC \pm 20%, 50 Hz \pm 3%

Built-in
1 CO

Yes
40 V \pm 6 V

3.5 Sec \pm 1.5 Sec
3.5 Sec \pm 1.5 Sec
Auto Reset
300 gms.

76 x 30.5 x 117.5
68 centre to centre / Panel Mounting & 35 mm rail Mounting



P1 PFS2 Phase Failure Relay



Phase Failure, Unbalance, Phase Sequence, Auto Reset, fixed unbalance setting, 1 CO output relay

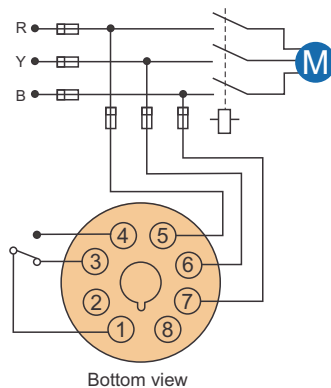
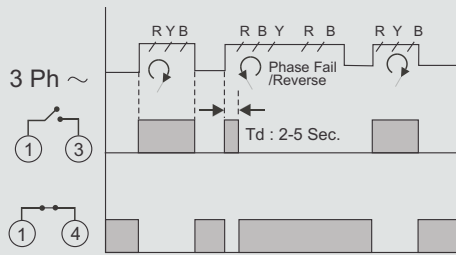
110 / 240 / 380 / 415 V AC \pm 10%, 50 / 60 Hz

Built-in
1 CO

Yes
40V \pm 6V (fixed)

3.5 sec. \pm 1.5 sec.
N.A.
Auto
175 gms.

50 x40 x 80
8 - Pin Plug-in



Bottom view

S2 VMR1 Phase Failure Relay



RoHS



Microcontroller design, SMD Technology, Phase Failure, Unbalance, Phase Sequence Auto/Manual Reset, Adjustable Unbalance setting, 2 CO output relay

100-120 / 220-240 / 380-440V AC, -25+20%, 48-63 Hz

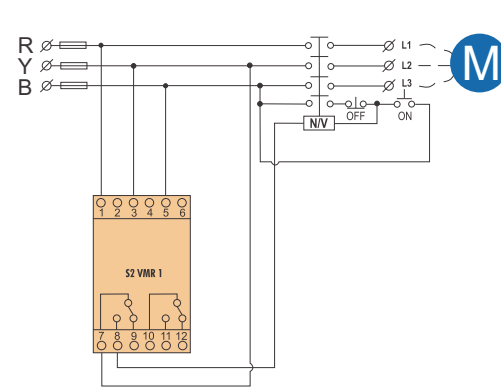
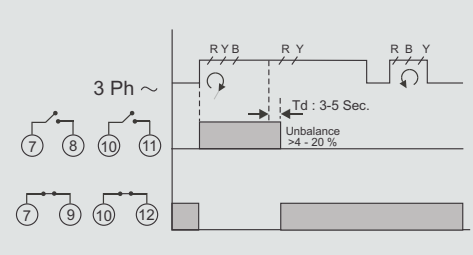
Built In
2 CO

Yes
4 % TO 20 % (Variable) \pm 5% of full scale.

4 Sec \pm 1 Sec / RP-Instant
N.A.

Auto/ Manual Reset (Selectable by Front Push Button)
100 gms (Approx.)

90 X 35 X 60
35 mm Rail Mounting



Relay contact position shown in 'Power off' condition

PHASE FAILURE RELAYS

S2 VMR2

Phase Failure Relay



Microcontroller design, SMD Technology, Phase Failure, Unbalance, Phase Sequence, under voltage, Over Voltage, Auto reset, Fixed Unbalance setting, Fixed UV/OV settings, 2 CO output relay

HLV D2

Phase Failure with UV / OV Relay



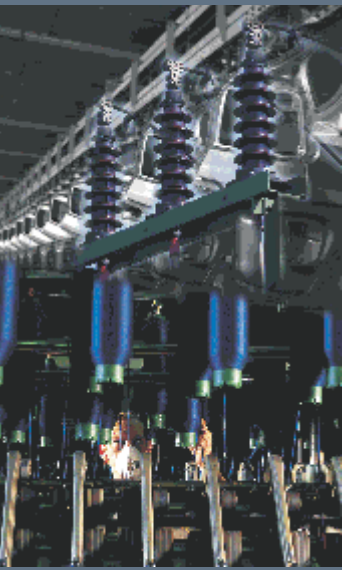
Phase Failure, Unbalance, Phase Sequence, under voltage, Over Voltage, Manual reset, Fixed Unbalance setting, Adjustable UV/OV settings, 2 CO output relay

ALV D2

Phase Failure with UV / OV Relay

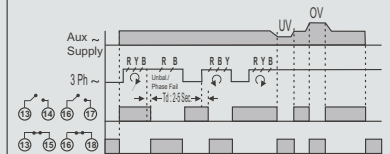
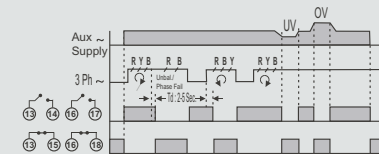
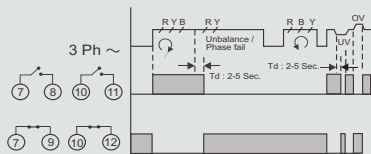


Phase Failure, Unbalance, Phase Sequence, under voltage, Over Voltage Auto Reset, Fixed Unbalance setting, Adjustable UV/OV settings, 2 CO output relay



Supply Voltage	100-110-120 / 220-230-240 / 380-415-440V AC -25+20%, 48-63 Hz, Selectable by Front Knob	110 / 240 / 380 / 415 / 440 V AC ±20% 50 / 60 Hz	110 / 240 / 380 / 415 / 440 V AC ±20% 50 / 60 Hz
System			
Auxiliary	Built In (from 3 Phase)	110 V (Fixed) or (220 - 230 - 240) or (380 - 415 - 440) V AC ±20% selectable	
Output Contacts	2 CO	2 CO	2 CO
Trip Setting (Volts)			
Phase Sequence	Yes	Yes	Yes
Phase Unbalance	10% (Fixed) ± 10%	40 V ± 6 V (fixed)	40 V ± 6 V (fixed)
Under Voltage	For 380-440V AC For 220-240V AC For 100-120V AC	80% to 95% (adjustable)	80% to 95% (adjustable)
Over Voltage	For 380-440V AC For 220-240V AC For 100-120V AC	105% to 120% (adjustable)	105% to 120% (adjustable)
Trip Time Delay			
On Phase Failure	2 - 5 Sec. (Fixed) / RP-Instant	3.5 secs. ± 1.5 sec	3.5 secs. ± 1.5 sec
On UV/OV		Less than 2 secs. for OV & 2 - 5 secs for UV	Less than 2 secs.
Resetting Mode	Auto Reset	Manual / Remote	Auto Reset
Weight	100 gms (Approx.)	430 gms.	400 gms.
Dimensions (mm)			
Overall (L x W x D)	90 X 35 X 60	76 x 56.5 x 117.5	76x 56.5 x 117.5
Mounting (L x W)	35 mm Rail Mounting	67 x 46 / 35 mm rail Mounting	67 x 46 / 35 mm rail Mounting

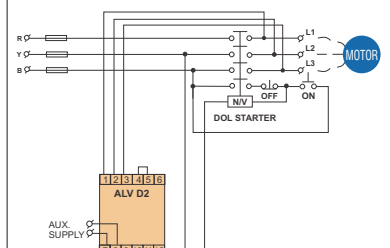
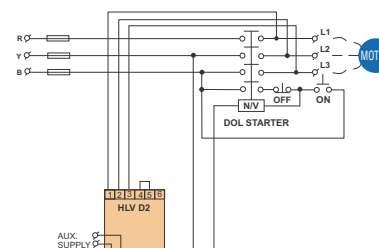
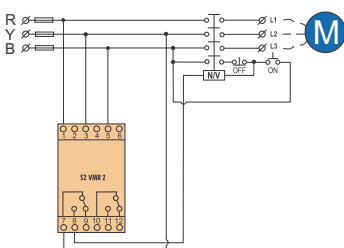
- Wherever not specified Contact Rating : 5A @ 230 V AC (resistive)
- * CE marked products available on request.



S2 VMR6






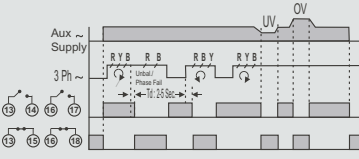
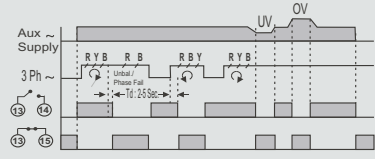
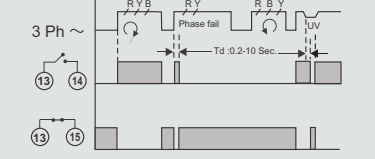
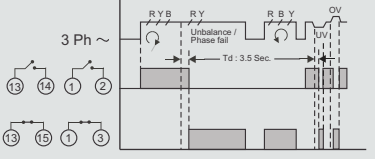
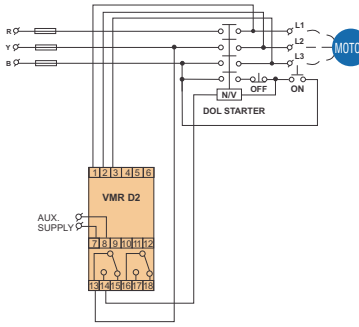
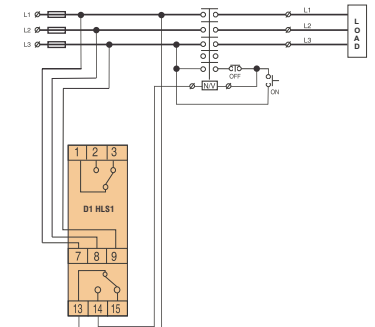
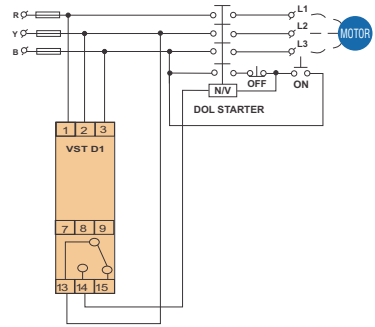
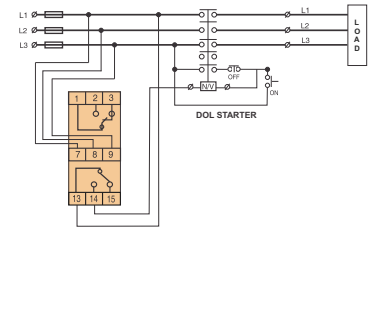


Microcontroller design, SMD Technology, Phase Failure, Unbalance, Phase Sequence, Under Voltage, Over Voltage, Neutral Failure, Auto Reset, Adjustable OV/UV settings, 2 CO output relay. System supply voltage 415 V AC



Relay contact position shown in 'Power off' condition

PHASE FAILURE RELAYS

VMR D2 Phase Failure with UV / OV Relay	D1 HL S1 Phase Failure with UV / OV Relay	VST D1 Phase Failure with Under Voltage	D1 VMR1 Phase Failure with UV / OV Relay
 <p>Phase Failure, Unbalance, Phase Sequence, under voltage, Over Voltage, Auto Reset, Fixed Unbalance setting, Adjustable UV/OV settings, 2 CO output relay</p>	 <p>Phase Failure, Unbalance, Phase Sequence, under voltage, Over Voltage, Auto reset, Fixed Unbalance setting, Fixed UV/OV settings, 2 CO output relay</p>	 <p>Phase Failure, Phase Sequence, under voltage, Auto Reset, Adjustable trip delay, Adjustable UV setting, 1 CO output relay Selectable range of supply voltage</p>	 <p>Phase Failure, Unbalance, Phase sequence, Under & Over voltage, Auto Reset, fixed unbalance setting, Adjustable UV/OV settings, fixed trip delay, 2 CO output relay</p>
110/220/230/240/380/415/440 V AC $\pm 20\%$ 50/60 Hz	100-110-120/220-230-240/380-415-440V AC $\pm 20, -25\%$, 48-63 Hz, Selectable by Front Knob	240 / 415 / 575 V AC 3 Phase ($\pm 15\%$ selectable)	100-120/220-240/380-440 VAC $\pm 20\%$, 3Ph-3Wire
2 CO	2 CO	1 CO	2 CO
Yes	Yes	Yes	Yes
94 V ± 6 V (fixed)	10% (Fixed)	N.A.	10% (fixed)
80% to 95% (adjustable)	75% of system supply (Fixed)	80% of V set	285-425V AC [Variable] 165-225V AC [Variable] 75-115V AC [Variable]
105% to 120% (adjustable)	120% of system supply (Fixed)	N.A.	400-520V AC [Variable] 230-290V AC [Variable] 105-140V AC [Variable]
3.5 secs. ± 1.5 sec	3.5 ± 1.5 secs. [Fixed]	0.2 - 10 secs. (variable)	3.5 secs ± 1.5 sec.
Less than 2 secs.	Less than 2 secs.	0.2 - 10 secs. (same for UV & SP)	3.5 secs ± 1.5 sec.
Auto Reset	Auto	Auto	Auto
400 gms.	200 gms.	300 gms.	430 gms.
76x 56.5 x 117.5	76 x 30.5 x 117.5	76 x 30.5 x 117.5	76 x 30.5 x 117.5
67 x 46  / 35 mm rail Mounting	68 centre to centre / 35 mm rail Mounting	68 centre to centre / 35 mm rail Mounting	68 centre to centre / 35 mm rail Mounting
			
			

Relay contact position shown in 'Power off' condition

PHASE FAILURE RELAYS



D2 VMR 1 Phase Failure with UV / OV (3Ø-3W)



Suitable for 3 Ph-3W system,
Microcontroller design,
Absolute values of UV/OV settings,
Phase Failure, Unbalance, Phase
Sequence, under voltage, Over Voltage,
Auto/Manual reset, Adjustable settings
for Unbalance, UV/OV and trip delays,
2 CO output relay

D2 VMR 2 Phase Failure with UV / OV (3Ø-4W)



Suitable for 3 Ph-4W system,
Microcontroller design,
Absolute values of UV/OV settings
Phase Failure, Unbalance, Phase
Sequence, under voltage, Over Voltage
Auto/Manual reset, Adjustable settings for
Unbalance, UV/OV and trip delays,
2 CO output relay

S2 VMR 3 Phase Failure with UV / OV Relay



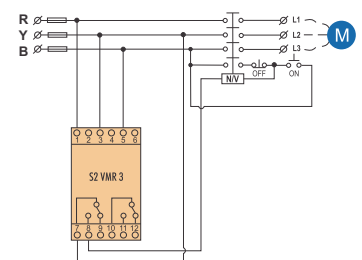
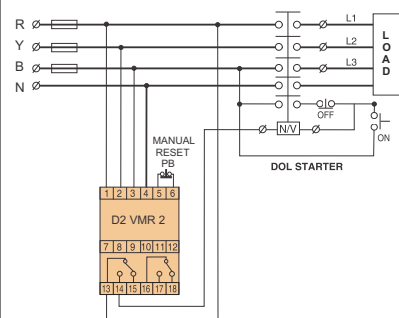
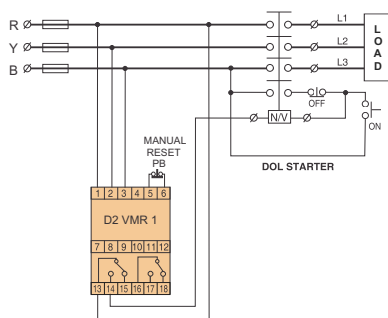
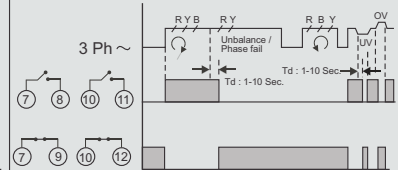
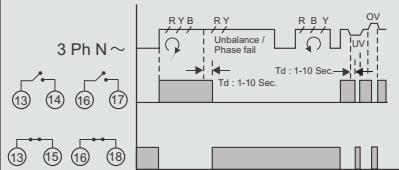
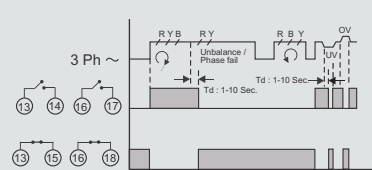
RoHS



Microcontroller design,
SMD Technology,
Absolute values of UV/OV settings,
Phase Failure, Unbalance, Phase
Sequence, under voltage, Over Voltage
Auto/Manual reset, Adjustable settings
for Unbalance, UV/OV and trip delays,
2 CO output relay

Supply Voltage			
System	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
Auxiliary	Built In (from 3 Phases)	Built In (from 3 Phases)	Built In (from 3 Phases)
Output Contacts	2 CO	2 CO	2 CO
Trip Setting (Volts)			
Phase Sequence	YES	YES	YES
Phase Unbalance	4 % - 20 % [Variable]	4 % - 20 % [Variable]	4 % - 20 % [Variable]
Under Voltage	For 380-440V AC 285-425V AC [Variable] For 220-240V AC 165-225V AC [Variable] For 100-120V AC 75-115V AC [Variable]	165-245V AC [Variable] 95-135V AC [Variable] 45-65V AC [Variable]	285-425V AC [Variable] 165-225V AC [Variable] 75-115V AC [Variable]
Over Voltage	For 380-440V AC 400-520V AC [Variable] For 220-240V AC 230-290V AC [Variable] For 100-120V AC 105-145V AC [Variable]	230-310V AC [Variable] 130-170V AC [Variable] 60-80V AC [Variable]	400-520V AC [Variable] 230-290V AC [Variable] 105-145V AC [Variable]
Trip Time Delay			
On Phase Sequence	Instant	Instant	Instant
On SP/UV/OV	1 To 10 Sec [Variable]	1 To 10 Sec [Variable]	1 To 10 Sec [Variable]
Resetting Mode	Auto/ Manual Reset (External NC Push Buttons)	Auto/ External Manual Reset (External NC Push Buttons)	Auto/ Manual Reset [Selectable]
Weight	300 gms.	300 gms.	110 gms (Approx.)
Dimensions (mm)			
Overall (L x W x D)	76 X 56.5 X 117.5	76 X 56.5 X 117.5	90 X 35 X 60
Mounting (L x W)	67 x 46 / 35 mm rail Mounting	67 x 46 / 35 mm rail Mounting	35 mm Rail Mounting

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



Relay position shown in 'Power off' condition