

- Under voltage, over voltage, under frequency, over frequency, asymmetry, phase failure and phase sequence monitoring in 3 $\emptyset$  system
- RMS measurement
- Power ON delay, Trip time delay and Delay on release
- LED Indication: Relay ON, Power ON
- Adjustable switching hysteresis
- Two separate alarm relays
- Din-Rail Mount



## Voltage Phase Monitor

### SPECIFICATIONS

#### ENVIRONMENTAL SPECIFICATION

<b>DISPLAY</b>	Liquid Crystal Display 3 Digits
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#### INPUT SPECIFICATIONS

##### FUNCTIONS

<b>MEASUREMENTS</b>	Voltage ( $V_{L-N}$ , $F_{L-L}$ ), Frequency, Phase Asymmetry, Phase Failure, Phase Sequence
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<b>TIME SETTING</b>	Power ON delay, Trip time delay and Delay on release
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<b>ALARM INDICATIONS</b>	Trip
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<b>LATCHING</b>	Selectable
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<b>RESET</b>	Auto/Manual reset
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<b>ELECTRICAL CONNECTION</b>	3 $\emptyset$ -3 wire, 3 $\emptyset$ -4 wire
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<b>SUPPLY VOLTAGE</b>	Self powered
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<b>OPERATING RANGE</b>	280 - 520V AC (L-L) 160 - 300V AC (L-N)
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<b>VA RATING</b>	30VA max.
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<b>FREQUENCY</b>	45 - 65Hz
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<b>MEASURING RANGE (RMS Value)</b>	0 - 520V AC (L-L)* 0 - 300V AC (L-N)*
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#### TRIP SETTINGS

<b>UNDER VOLTAGE</b>	280 to 520V AC (L-L) [for 3 $\emptyset$ -3 wire] 160 to 300V AC (L-N) [for 3 $\emptyset$ -4 wire]
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<b>OVER VOLTAGE</b>	280 to 520V AD (L-L) [for 3 $\emptyset$ -3 wire] 160 to 300V AC (L-N) [for 3 $\emptyset$ -4 wire]
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<b>UNDER FREQUENCY</b>	45 - 65Hz
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<b>OVER FREQUENCY</b>	45 - 65Hz
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<b>PHASE FAILURE</b>	Yes
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<b>PHASE SEQUENCE</b>	Yes
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<b>PHASE ASYMMETRY</b>	5.0 - 99.9%
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\* For 3 $\emptyset$ -3W, at least 2 phase must be present

\* For 3 $\emptyset$ -4W, at least 1 phase must be present

#### TRIP TIME SETTINGS

<b>POWER ON DELAY</b>	2 - 99.9 Sec
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<b>TRIP TIME DELAY</b>	0 - 99.9 Sec
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<b>DELAY ON RELEASE</b>	0 - 99.9 Sec
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<b>RESPONSE TIME</b>	<200ms
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#### HYSTERESIS

<b>VOLTAGE</b>	1.0- 99.9V
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<b>FREQUENCY</b>	0.2 - 2Hz
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<b>ASYMMETRY</b>	2 - 20%
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#### RESOLUTION

<b>VOLTAGE</b>	1V
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<b>FREQUENCY</b>	0.1Hz
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#### ACCURACY

<b>VOLTAGE</b>	$\pm 1\%$
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<b>FREQUENCY</b>	$\pm 0.3\text{Hz}$
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<b>TIME (Recovery Time, Trip Delay, Power ON Delay)</b>	$\pm 5\%$ of setting + 200ms
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#### OUTPUT SPECIFICATIONS

<b>NO. OF RELAYS</b>	2
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<b>TYPE OF OUTPUT (Relay 1) (Relay 2)</b>	45 - 65Hz SPDT SPDT
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<b>RELAY RATING</b>	N/O: 5A @ 250V AC N/C: 3A @ 250V AC
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#### LED INDICATION

<b>LED 1 (Green)</b>	Power ON
<b>LED 2 (Red)</b>	Relay 1 (Continuously ON after trip)
<b>LED 3 (Red)</b>	Relay 2 (Continuously ON after trip)

**ENVIRONMENTAL SPECIFICATION**

<b>AMBIENT TEMP.</b>	Operating Temp: 0°C to 50°C Storage Temp: -20°C to +70°
<b>HUMIDITY (Non-condensing)</b>	95% RH
<b>POLLUTION DEGREE</b>	IP50 Faceplate IP30 Housing IP20 Terminals

**MECHANICAL SPECIFICATIONS**

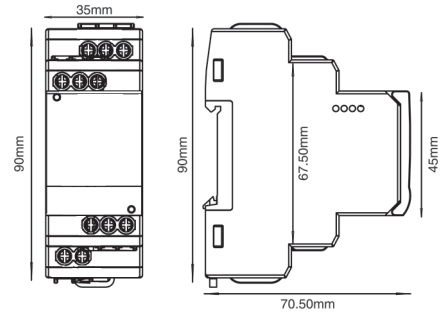
<b>NO. OF PUSH BUTTON</b>	3
<b>SIZE</b>	35mm width
<b>MOUNTING</b>	Din Rail Mount
<b>WEIGHT</b>	135 g
<b>CONDUCTOR CROSS SECTION (SOLID)</b>	1 x (0.5 to 4) Sq. mm

<b>CONDUCTOR CROSS SECTION (SLEEVED)</b>	2 x (0.5 to 1.5) Sq. m
<b>(STANDARD)</b>	1 x 0.5 TO 2.5) Sq. mm
<b>SCREW TIGHTENING TORQUE</b>	0.5 N-M

**EMC**

<b>ELECTRICAL COMPATIBILITY</b>	IEC 61326-1
<b>ESD IMMUNITY IEC 61000-4-2</b>	Level 3
<b>SURGE IMMUNITY IEC 61000-4-5</b>	±2 kV common mode, ±1 kV differential mode
<b>RADIATED SUSCEPTIBILITY IEC 61000-4-3</b>	Level 3, 80 - 1000 MHz
<b>CONDUCTED SUSCEPTIBILITY IEC 61000-4-6</b>	LEVEL 2
<b>VOLTAGE DIPS &amp; INTERRUPTION IEC 6100-4-11</b>	Dips: 0% residual voltage / 1 cycle (Crit B.)  40% residual voltage / 10 cycles 50 Hz / 12 cycles 60 Hz (Crit C)  70% residual voltage / 25 cycles 50 Hz . 30 cycles 60 Hz (Crit C)  Interruptions: 0% residual voltage / 250 cycles 50 Hz / 300 cycles 60 Hz (Crit C)
<b>CONDUCTED EMISSIONS</b>	CISPR-11 & IEC 61000-6-3
<b>RADIATED EMISSIONS</b>	CISPR-22
<b>ELECTRICAL FAST TRANSIENT: IEC 6100-4-4</b>	Level 3

**DIMENSIONS**



**TERMINAL CONNECTIONS**

