



SAVEAIR
Technologies Pvt Ltd



Product Catalogue

Contact For Any Enquiry

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Voltage Monitoring Series SM 501

- Protects against Phase Loss, Phase Reversal & Phase Asymmetry
- Suitable for 3 Phase 3 Wire system
- Selectable Under Voltage / Over Voltage Trip level
- Selectable Time Delay
- Models for Selectable Phase Asymmetry
- LED Indications for Power and Fault conditions
- Voltage Sensing Principle
- 2 C/O Configuration



Ordering Information

Cat. No.	Description
MG53BH	415 VAC, UV / OV & Single Phasing Preventor (SPP) with Selectable ON Delay (0.5 to 15 sec), 2 C/O
MG53BF	415 VAC, UV / OV & SPP with Selectable OFF Delay (0.5 to 15 sec), 2 C/O
MG63BH	220 VAC, UV / OV & SPP with Selectable ON Delay (0.5 to 15 sec), 2 C/O
MG63BF	220 VAC, UV / OV & SPP with Selectable OFF Delay (0.5 to 15 sec), 2 C/O

Voltage Monitoring Series SM 501



Cat. No.		MG53BH	MG53BF	MG63BH	MG63BF
Parameters					
Supply Voltage (⌚)		415 VAC (3 Phase, 3 Wire)		220 VAC (3 Phase, 3 Wire)	
Frequency		50/60 Hz			
Power Consumption (Max.)		10 VA		5 VA	
Trip Settings	Phase Loss	Yes			
	Phase Sequence	Yes			
	Phase Asymmetry	10% (of ⌚)			
	Under Voltage	55% to 95% (of ⌚)			
	Over Voltage	105% to 125% (of⌚)			
	Hysterisis	7 V (± 2 V) of Trip Voltage			
Time Delay	ON Delay	0.5 to 15 s (Selectable)	5 s	0.5 to 15 s (Selectable)	5 s
	Trip Time (OFF Delay)	5 s	0.5 to 15 s (Selectable)	5 s	0.5 to 15 s (Selectable)
Output	Relay Output	2 C/O			
	Contact Rating	5A @ 250 VAC / 28 VDC (Resistive)			
	Electrical Life	1X10 ⁵			
	Mechanical Life	3X10 ⁶			
Utilization Category	AC - 15	Rated Voltage (Ue): 120/240 V, Rated Current (Ie): 3.0/1.5 A			
	DC - 13	Rated Voltage (Ue): 24/125/250 V, Rated Current (Ie): 2.0/0.22/0.1 A			
LED Indication		Separate indications for Power ON, UV and OV; ON: Phase Reverse; BLINK: Phase Asymmetry			
Operating Temperature		-15° C To + 55° C			
Storage Temperature		-25° C To + 70° C			
Humidity (Non Condensing)		95% (Rh)			
Enclosure		Flame Retardant UL 94-V0			
Dimension (W x H x D) (in mm)		36 X 90 X 60			
Weight (unpacked)		120 g			
Mounting		Base / DIN rail			
Degree of Protection		IP 20 for Terminals, IP 40 for Enclosure			
Certification		CE RoHS Compliant			

EMI / EMC

Harmonic Current Emissions	IEC 61000-3-2
ESD	IEC 61000-4-2
Radiated Susceptibility	IEC 61000-4-3
Electrical Fast Transients	IEC 61000-4-4
Surges	IEC 61000-4-5
Conducted Susceptibility	IEC 61000-4-6
Voltage Dips & Interruptions (AC)	IEC 61000-4-11
Conducted Emission	CISPR 14-1
Radiated Emission	CISPR 14-1

Environmental

Cold Heat	IEC 60068-2-1
Dry Heat	IEC 60068-2-2
Vibration	IEC 60068-2-6
Repetitive Shock	IEC 60068-2-27
Non-Repetitive Shock	IEC 60068-2-27

Note: 1) Voltage Setting Accuracy: ± 5 % of Full Scale; Time Setting Accuracy: ± 10 % of Full Scale

2) In the event of Phase Sequence or Phase Loss, OFF Delay is 100 ms

Voltage Monitoring Series SM 501



Ordering Information

Cat. No.	Description
MG53BI	415 VAC, UV / OV & Single Phasing Preventor (SPP) with 65 V Asymmetry, 2 C/O
MG53BO	415 VAC, UV / OV & SPP with 3 min ON Delay & 5s OFF Delay, 2 C/O
MB53BM	415 VAC, UV / OV (110% Fixed) & SPP with Selectable Asymmetry (5% to 17%), 2 C/O
MG53BQ	415 VAC, UV / OV & SPP with 30 V Asymmetry, 3 Sec ON Delay, 2 C/O

Voltage Monitoring Series SM 501



Cat. No.		MG53BI	MG53BO	MB53BM
Parameters				
Supply Voltage (ϕ)		415 VAC (3 Phase, 3 Wire)		
Frequency		50/60 Hz		
Power Consumption (Max.)		10 VA		
Trip Settings	Phase Loss	Yes	Yes	Yes
	Phase Sequence	Yes	Yes	Yes
	Phase Asymmetry	65 V	10%	5% to 17%
	Under Voltage	55% to 95% (of ϕ)	85% (of ϕ) Fixed	80% (of ϕ) Symmetrical
	Over Voltage	105% to 125% (of ϕ)	110% (of ϕ) Fixed	110% Fixed
	Hysteresis	7 V ($\pm$ 2 V) of Trip Voltage	7 V ($\pm$ 2 V) of Trip Voltage	7 V ($\pm$ 2 V) of Input Voltage
Time Delay	ON Delay	5 s	3 min	0.5 to 15 s (Selectable)
	Trip Time (OFF Delay)	5 s	5 s	0.5 to 15 s (Selectable)
Output	Relay Output	2 C/O		
	Contact Rating	5A @ 250 VAC / 28 VDC (Resistive)		
	Electrical Life	1X10 ⁵		
	Mechanical Life	3X10 ⁶		
Utilization Category	AC - 15	Rated Voltage (Ue): 120/240 V, Rated Current (Ie): 3.0/1.5 A		
	DC - 13	Rated Voltage (Ue): 24/125/250 V, Rated Current (Ie): 2.0/0.22/0.1 A		
LED Indication		Separate indications for Power ON, UV and OV; ON: Phase Reverse; BLINK: Phase Asymmetry		
Operating Temperature		-15° C To + 55° C		
Storage Temperature		-25° C To + 70° C		
Humidity (Non Condensing)		95% (Rh)		
Enclosure		Flame Retardant UL 94-V0		
Dimension (W x H x D) (in mm)		36 X 90 X 60		
Weight (unpacked)		120 g		
Mounting		Base / DIN rail		
Degree of Protection		IP 20 for Terminals, IP 40 for Enclosure		
Certification		 		

EMI / EMC

Harmonic Current Emissions	IEC 61000-3-2
ESD	IEC 61000-4-2
Radiated Susceptibility	IEC 61000-4-3
Electrical Fast Transients	IEC 61000-4-4
Surges	IEC 61000-4-5
Conducted Susceptibility	IEC 61000-4-6
Voltage Dips & Interruptions (AC)	IEC 61000-4-11
Conducted Emission	CISPR 14-1
Radiated Emission	CISPR 14-1

Environmental

Cold Heat	IEC 60068-2-1
Dry Heat	IEC 60068-2-2
Vibration	IEC 60068-2-6
Repetitive Shock	IEC 60068-2-27
Non-Repetitive Shock	IEC 60068-2-27

Note: 1) Voltage Setting Accuracy: $\pm$ 5 % of Full Scale; Time Setting Accuracy: $\pm$ 10 % of Full Scale

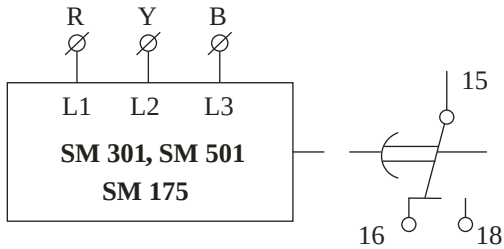
2) In the event of Phase Sequence or Phase Loss, OFF Delay is 100 ms

3) MG53BQ does not detect Phase Sequence Fault

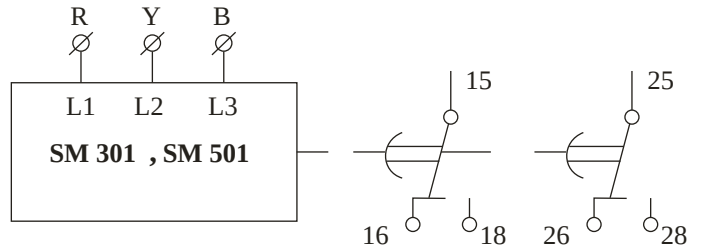


Voltage Monitoring Series

CONNECTION DIAGRAM

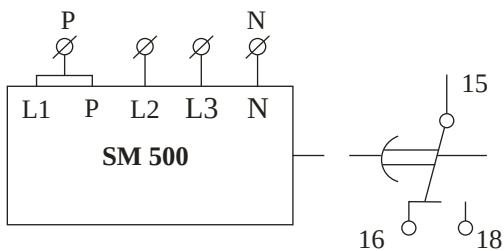


MA51BC, MA51BK, MN21D5, MK21D5, MC21D5
MA21DN, MD21DF, MG21DH, MG21DF, MGD1DR

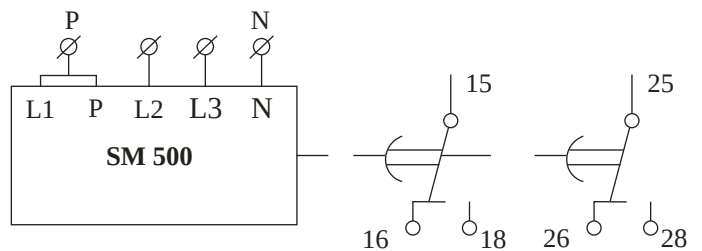


MG53BH, MG53BF, MG63BH, MG63BF
MG53BI, MG53BO, MB53BM, MC21B5

SINGLE PHASE

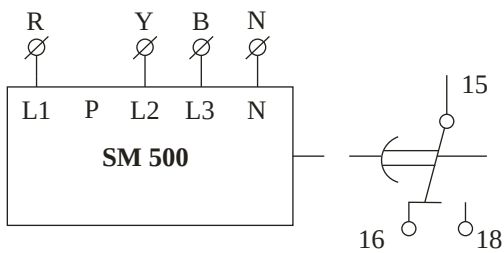


MD71BH, MD71BF, MD71B9

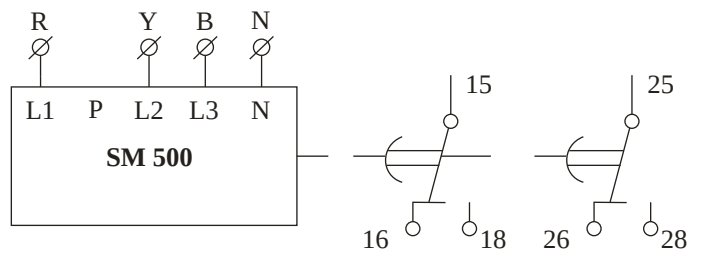


MG73BH, MG73BF, MG73B9

THREE PHASE

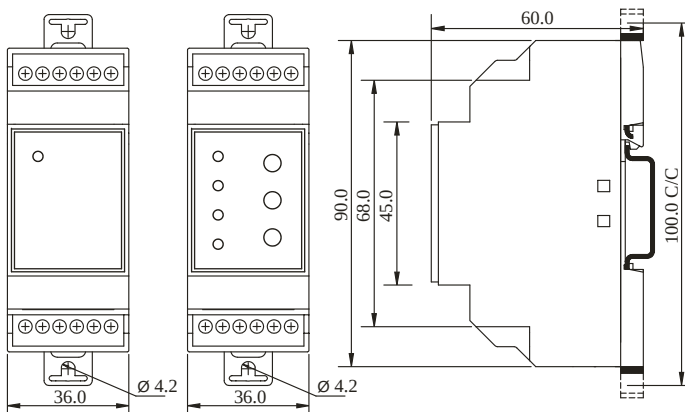


MD71BH, MD71BF, MD71B9



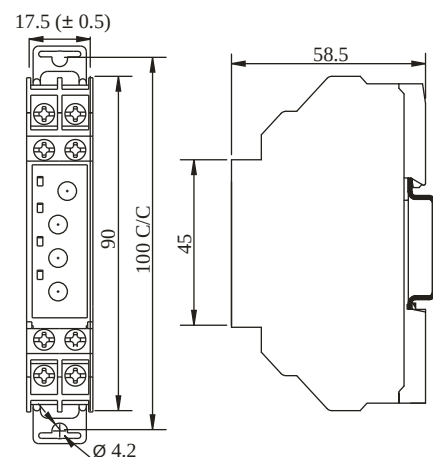
MG73BH, MG73BF, MG73B9, MAC04D0100 (P is not applicable in neutral loss)

MOUNTING DIMENSION (mm)



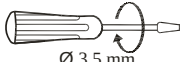
SM 301

SM 500, SM 501

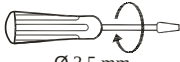


SM 175

TERMINAL TORQUE & CAPACITY

 Ø 3.5 mm	0.54 N.m (5 Lb.in) Terminal Screw - M2.6
	1 x 0.2...3.3 mm ² Solid Wire
AWG	1 x 24 to 12

SM 301, SM 500, SM 501

 Ø 3.5 mm	Torque-0.4 N.m (3.6 Lb.in) Terminal Screw - M3
	1 x 2.5 mm ² Solid/Stranded Wire
AWG	1 x 24 to 12

SM 175

Product Selection Chart: Voltage Monitoring

Cat. No.	3P - 3W	3P - 4W	1 - Phase	Under Voltage	Over Voltage	Phase Loss	Phase Sequence	Phase Asymmetry	Settable ON Delay	Settable OFF Delay	1 C/O Relay Output	2 C/O Relay Output	1 C/O+ 1 C/O Relay Output	Neutral Loss	115 VAC	208 to 480 VAC	240 VAC	415 VAC	145 to 500 VAC	Auxiliary Supply
MAG03D0424 MAG03D0425 MAG03D0426	●	●	●	●	●	●	●	●	●	●	●					●				
DMS110	●	●		●	●	●	●	●	●	●	●			●		●			●	
DMS120	●	●		●	●	●	●	●	●	●			●	●		●			●	
DMA220	●	●		●	●	●	●	●	●	●			●	●		●				●
MN21D5	●					●					●					●				
MK21D5	●					●	●				●					●				
MC21D5	●					●	●	●			●					●				
MA21DN	●					●	●	●		●	●					●				
MD21DF	●			●	●	●	●			●	●					●				
MG21DH	●			●	●	●	●	●	●		●					●				
MG21DF	●			●	●	●	●	●		●	●					●				
MOF1D51	●					●		●			●					●				
MAE03D0200			●	●	●				●	●	●				●		●			
MA51BC	●					●	●	●			●							●		
MA51BK	●					●	●	●			●							●		
MC21B5	●					●	●	●				●						●		
MD71BH		●	●	●	●	●			●		●						●			
MD71BF		●	●	●	●	●				●	●						●			
MD71B9		●	●	●	●	●		●	●		●						●			
MG73BH		●	●	●	●	●	●	●	●			●					●			
MG73BF		●	●	●	●	●	●	●		●		●					●			
MG73BR		●	●	●	●	●	●	●		●		●					●			
MG73B9		●	●	●	●	●	●	●	●			●					●			
MAC04D0100		●		●	●	●	●	●				●		●				●		
MG53BH	●			●	●	●	●	●	●			●						●		
MG53BF	●			●	●	●	●	●		●		●						●		
MG53BT	●			●	●	●	●	●		●		●						●		
MG53BQ	●			●	●	●		●		●		●						●		
MG53BI	●			●	●	●	●	●				●						●		
MG53BO	●			●	●	●	●	●				●						●		
MB53BM	●			●	●	●	●	●	●	●		●						●		

Note: The product can be made available in 120 VAC, 220 VAC, 230 VAC and 400 VAC.