

TECHNICAL SPECIFICATION:

Cat. No.:		MG53BH	MG53BF	BP*	MG53BI	MG53BO	MG53BT	MB53BM	MG63BH	MG63BF	MG53BR
Functions		Phase and Voltage Control									
Reference Supply Voltage (中)		3-Phase 3-Wire, 415 VAC						3-Phase 3-Wire, 220 VAC		415 VAC	
Supply Tolerance		-45% to +27% of 中									
Frequency		47 to 63 Hz									
Power Consumption		10VA (Max.)						5VA (Max.)		10VA (Max.)	
Trip Levels	Under Voltage	55% to 95% of 中 (±10 V)			85% Fix (±10V)	-2% to -10% (±5V)	80% Fix Sym. (±10V)	55% to 95% of 中 (±10V)		75% to 95% of 中 (±10V)	
	Over Voltage	105% to 125% of 中 (±10 V)			110% Fix (±10V)	2% to 10% (±5V)	110% Fix (±10V)	105% to 125% of 中 (±10V)			
	Asymmetry	10% ±1%,	10% ±1%,	65V +/-5V	10% ±1%,	10% ±1%,	5% to 17%	10% ±1%,		30V** (±7V)	
	Hysteresis	2.7%±1%	2% ±1%	7V +/-5V	2.7%±1%	2% ±1%	2.7% ±1%	2.7% ±1%		10V (±7V)	
Setting Accuracy		+/-5% of full scale			N.A.	+/-5% of full scale		+/-5% of full scale		N.A.	
Time Delay	On Delay	<0.5 - 15 s	5 s fixed	5 s fixed	3 min fixed	5 s fixed(±1s)	<0.5 - 15 s	<0.5- 15 s	5 s fixed	2.5-3.1 s fixed	
	Off Delay	5 s fixed	<0.5 - 15 s	5 s fixed	5 s fixed	0 - 5 s (±1s)	<0.5 - 15 s	5 s fixed	<0.5-15 s	<0.5 Sec Phase Fail: <100ms	
		Phase Reverse Trip time is < 100 ms. For Non -Inductive loads Phase Fail trip time is <100 ms.									
Time Setting Accuracy		+/-10% of full scale			N.A.	+/-10% of full scale					
LED	Condition/Faults	Indication or Status of LED									
ON (GREEN)	Power ON	Continuous ON									
UV (RED)	Under Voltage	Continuous ON									
OV (RED)	Over Voltage	Continuous ON									
	High Cut OFF	NA				Blinking			N.A.		
ASY/REV (RED)	Phase Asymmetry	Blinking									
	Phase Reverse	Continuous ON						Continuous ON		N.A.	
Relay Output	Contact Arrangement	2 C/O (Minimum load of 5mA is recommended)									
	Contact Rating	5A (Res.) @ 250 VAC / 30 VDC									
	Contact Material	Ag Alloy									
Utilization Category AC-15	Ue Rated Voltage V Ie Rated Current I	120/240V 3.0/1.5A									
Utilization Category DC-13	Ue Rated Voltage V Ie Rated Current I	24/125/250V 2.0/0.22/0.1A									
Mechanical Life Expectancy		3 x 10 ⁶ Operations									
Electrical Life Expectancy		1 x 10 ⁵ Operations									
Operating Temperature		-15°C to +55°C									
Storage Temperature		-25°C to +70°C									
Humidity (Non-Condensing limits)		Max. 95%									
Max. Operating Altitude		2000 m									
Degree of Protection		IP-20 for Terminals ; IP-40 for Housing									
Pollution Degree		Type II									
Housing		Flame Retardant UL 94-V0									
Mounting		Base / Din-Rail (35 mm Symmetrical)									
Dimensions in mm (WxHxD)		36 x 60 x 90									
Weight (Unpacked)		120 g Approx.									
Certifications		CE, RoHS									

* For MG53BP & MG53BI Voltage Asymmetry is 65 Volt **MG53BR voltage asymmetry is 30V. (Voltage Asymmetry is Maximum deviation from average line voltage)

Note: All LEDs should become off in case of Single Phase Loss, 2 Phase Loss & 3 Phase Loss conditions and also if the Asymmetry is >24%.

SUPPLY MONITORING DEVICE

SERIES: SM-501

3-Phase 3-Wire



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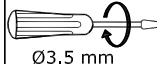

Note :

The technical information provided in this document is correct at the time of going to the press. Product innovation being a continuous process, we reserve the right to alter specifications without any prior notice.

Caution :

- 1) Do not touch the terminals while power is being supplied.
- 2) Tighten terminal screws with the specified torque.
- 3) Always follow instructions stated in product leaflet.
- 4) Before installation, check to ensure that specifications agree with intended application.
- 5) Installation to be done by skilled electrician.
- 6) Suitable dampers should be provided in the event of excessive vibrations.

Terminal Details :

 Ø3.5 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

SUPPLY MONITORING DEVICE

SERIES: SM-501

3-Phase 3-Wire

MAIN FEATURES :

- Monitors own supply.
- Phase Loss detection.
- Phase Reverse detection.
- Adjustable Asymmetry or fixed Asymmetry.
- Adjustable Over & Under voltage trip level.
- Adjustable or fixed On Time delay /Off Time delay.
- DPDT Relay output (5A, Resistive).
- Din rail & base mounting.
- LED indication.

FUNCTION DESCRIPTION :

MG53BH, MG53BF, MG53BP, MG53BI, MG63BH, MG63BF

1. Detects sequence of the three phases.
2. Failure of any of the three phases.
3. Under voltage adjustable from 55% to 95%.
4. Over voltage adjustable from 105% to 125%.
5. Failure due to Asymmetry is fixed at 65V for MG53BP, MG53BI and 10% for remaining other catalogs.

MG53BT

1. Detects sequence of the three phases.
2. Failure of any of three phases.
3. Under voltage adjustable from -2%, -4% -6%, -8%, -10%.
4. Over voltage adjustable from 2%, 4%, 6% 8%, 10%.
5. Failure due to Asymmetry (10% ±1%), Hysteresis (1.3%±1%)

MB53BM

1. Detects sequence of the three phases.
2. Failure of any of the three phases.
3. Under voltage fixed at 80% symmetrical.
4. Over voltage fixed 110%.
5. Failure due to Asymmetry adjustable from 5% to 17%.
6. High Cut OFF 500 V (+/-10V)

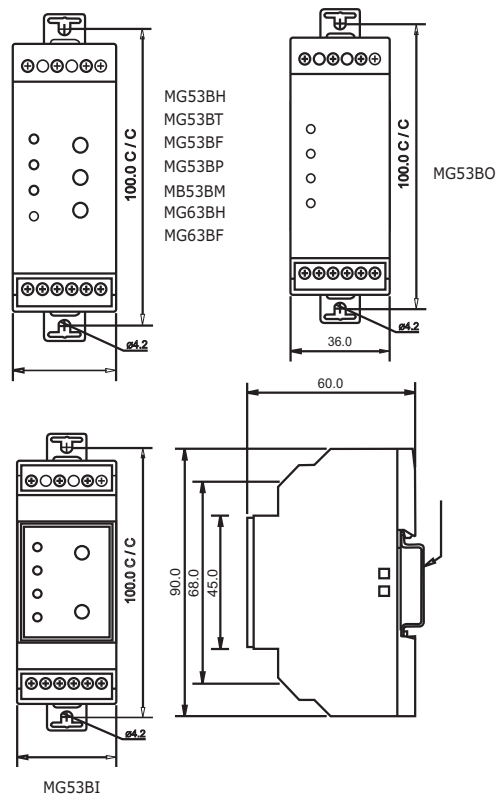
MG53BO

1. Detects sequence of the three phases
2. Failure of any of the three phases.
3. Over voltage fixed at 110%.
4. Under voltage fixed at 85%.
5. Failure due to Asymmetry fixed at 10%.

MG53BR

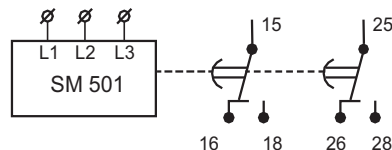
1. Failure of any of the three phases.
2. Under voltage adjustable from 75% to 95%. (Symmetrical)
3. Over voltage adjustable from 105% to 125%. (Symmetrical)
4. Failure due to Asymmetry is fixed at 30V (Max. difference from avg. line voltage)

OVERALL & MOUNTING DIMENSIONS (in mm)



CONNECTION DIAGRAM :

THREE PHASE APPLICATION



Suitability for Use :

These are products with Auto reset and Auto Switch On, hence never use the products for an application involving significant risk to life without ensuring that the system as a whole has been designed to address the risks and that our products are properly rated and installed for the intended use within the entire system or equipment.

CERTIFICATION :

EMI/EMC :

Product	IEC 60255	
Harmonic Current Emission	IEC 61000-3-2	Class A
ESD Immunity	IEC 61000-4-2	Level III
Radiated Susceptibility	IEC 61000-4-3	Level III
Electrical Fast Transients	IEC 61000-4-4	Level IV
Surge Immunity	IEC 61000-4-5	Level IV
Conducted Susceptibility	IEC 61000-4-6	Level III
Voltage Dips, & Interruptions (AC)	IEC 61000-4-11	
Conducted Emission	CISPR 14-1	Class A
Radiated Emission	CISPR 14-1	Class B
Voltage Flickering and Fluctuation	IEC 61000-3-3	Class A

Safety :

Test Voltage between I/P and O/P	IEC 60947-5-1	2kV
Test Voltage between all terminals and enclosure	IEC 60947-5-1	4kV
Impulse Voltage between I/P and O/P	IEC 60947-5-1	Level IV
Single Fault	IEC 61010-1	
Insulation Resistance	UL 508	> 50 kΩ
Leakage Current	UL 508	< 3.5 mA

Environmental :

Cold Heat	IEC 60068-2-1	
Dry Heat	IEC 60068-2-2	
Repetitive Shock	IEC 60068-2-27	40 g, 6 ms
Non-Repetitive Shock	IEC 60068-2-27	30 g, 15 ms