



INSULATION MONITOR FOR ELECTRICAL MACHINES FailSafe™ TYPE MG600 MODEL MGM600

The FailSafe Type MG600 Model MGM600 Insulation Monitors are intended for use in ships and are designed to meet Lloyds Type Certification and MIL Specification M-24678. The range of insulation resistance covered - 3 Megohm to 0.5 Megohms - was chosen to meet the needs of the marine environment, which is more severe than industrial environments. The monitors provide a visual alarm indication, with contacts for external alarm and other functions and are intended for use with machines to 600 volts AC or DC.

FEATURES:

- ◆ Easy Installation
- ◆ Small footprint DIN Rail mounting
- ◆ Completely automatic in operation
- ◆ Gives early warning of insulation problems
- ◆ Solid state circuitry
- ◆ Low monitoring voltage for personnel safety
- ◆ Integral self-test capability
- ◆ LED local alarm
- ◆ Contacts provided for local alarm and PLC connection
- ◆ Local manual and automatic (optional) reset capability



APPLICATION:

FailSafe Insulation Monitors are designed to provide safe monitoring of electrical insulation integrity in the marine environment. They may be installed to monitor motors in any area of the vessel where electrical machinery may sit idle but must be effective on demand, e.g. the lower platform, deck machinery, standby generators.

FailSafe Insulation Monitors are effective in eliminating grounds on the ship's electrical system before they occur, since most grounds occur when wet motors are started - and FailSafe monitors detect wet motors whilst they are idle, a task beyond the capability of system ground indicators.

FailSafe Insulation Monitors give early warning of insulation degradation, before motors (or generators) with deteriorated insulation are in immediate danger of failing on start up. This allows preventative maintenance to be scheduled when convenient, thus eliminating failure and the need for an emergency replacement or rewind.

The seriousness of the situation can be found by using the three alarm levels provided (3, 1 and 0.5 MΩ), to determine the speed of the insulation deterioration.

Control power requirement is 115, 230 or 440 volts, 50/60 Hz., 3 VA.

ORDERING INFORMATION

- Order FailSafe Model MGM600, as the unit may be used with different control voltages – please specify.
- Installation Kit includes the bracket DIN-MGM, the flashing alarm light FAL-MGM, a Test Resistor and hook-up wire 18 AWG (6 ft. – 1.8m), 10 wire connectors, 5 Ty-wraps and mounting screws to install the unit, self sticking warning and explanatory labels, installation instruction.

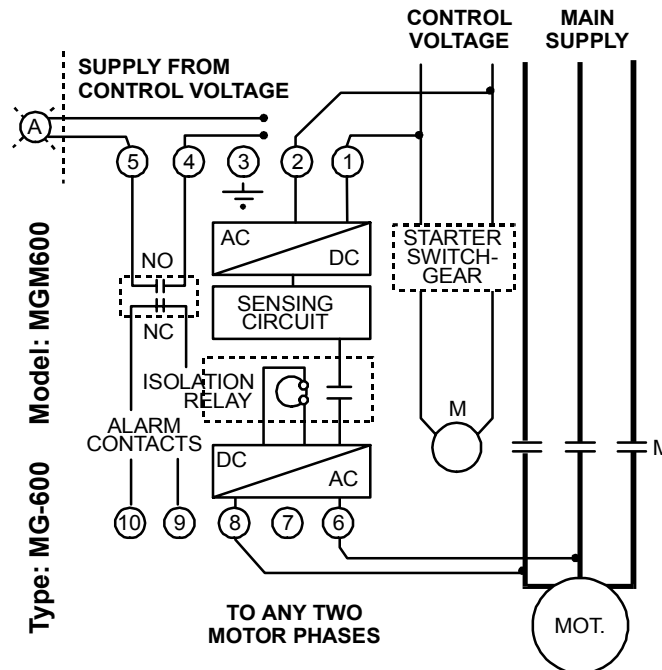
SPECIFICATIONS

Model MGM600

Max. Line Voltage	600 AC/DC
Supply Voltage	115, 230, 440V. AC, 50/60 Hz
Isolation voltage	200 - 600 v. AC/DC
Power Requirements	3 VA
Factory Set point*	3, 1 & 0.5 Megohms
Contact Rating	5 A, 250 V AC resistive
Isolation Time	0.5 milliseconds
Dimensions (mm) WxHxL (in)	45 x 68 x 112 1.77 x 2.67 x 4.4
Weight (kg)/(oz)	0.27/9.5

- *For other set points, consult factory.
- DC and 400Hz control voltages available, consult factory.
- Maximum short circuit current 25 microamps.
- Operating temperature -20°C to +50°C; storage temperature -40°C to +100°C.
- Environment; maximum 95% relative humidity, non-condensing.
- Lloyds, US Coast Guard, UL and CSA Approved.

CONNECTION DIAGRAM - DIRECT ON LINE MOTOR



FailSafe™ MONITOR TYPE MGM600; INSTALLATION

IMPORTANT: READ THE FOLLOWING INSTRUCTIONS BEFORE INSTALLING THE MONITOR!

The FailSafe device continuously monitors the insulation resistance of idle machines to provide early warning of insulation deterioration. It withstands test voltages up to 1000V.

INSTALLATION

1. Disconnect power from the starter unit.
2. Install the mounting bracket close to the enclosure hinges using the screws supplied. Clip the monitor securely to the mounting bracket.
3. If required and regulations permit, install the long life flashing alarm light (supplied) on the starter enclosure front panel close to the hinges and affix the self-adhesive warning label around the lamp.
4. Connect terminals 1 & 2 to the specified control voltage. Connect terminals 6 & 8 to any two phases on the load side of the main contactor. Connect terminal 3 to ground.

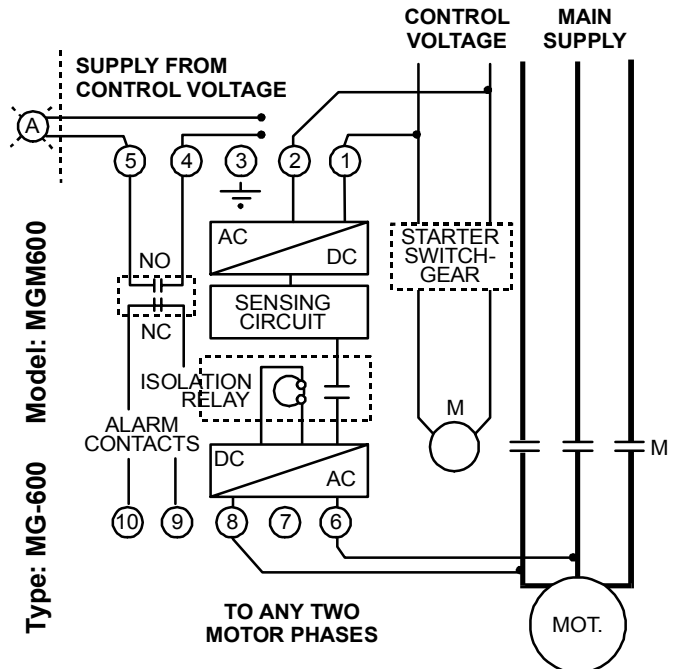
Use terminals 9 & 10 for start prevention (if required) and terminals 4 & 5 for local or remote alarm operation.

INITIAL TEST PROCEDURE

1. Ground one of the motor phases momentarily with the supplied Test Resistor
2. The Red LED should light and the external alarm circuit be activated after a delay of 8 – 10 seconds.
3. Reset the monitor with the RESET button.
4. Repeat the procedure with the other two phases.
5. Start the motor. If the Red LED lights while the motor is running, check connections to terminals 6 & 8.

Monitoring is now automatic and may be verified at any time by pressing the TEST button.

CONNECTION DIAGRAM MODEL MGM600



NB. If the motor is wired for start prevention it will be tripped out by the test.

Alarm level switch: recommended setting is 3 Megohm; however if still in alarm at 0.5 Megohm, call for service!

SPECIFICATIONS

Max. Power	3VA
Control	115/220/440V AC \pm 20% 50/60/400 Hz \pm 10%
Max. Line voltage	600V AC/DC
Measuring voltage	12V
Measuring current	25 μ A max
Isolation time	0.5 milliseconds
Contacts rating	250V 5A AC resistive
Dimensions	4.4" x 1.77" x 2.67" 112 x 45 x 68 mm

Available for DC control and different settings – consult factory

NOTE: DISCONNECT CONTROL POWER FROM THE STARTER ENCLOSURE IF HIGH VOLTAGE INSULATION TEST IS REQUIRED.