INSTALLATION INSTRUCTIONS FOR AMPROBE'S MOTOR GUARD™ MODELS MGX1A-200/400, MGX4A-400/600

BE SURE POWER IS DISCONNECTED PRIOR TO INSTALLATION!
FOLLOW NATIONAL, STATE AND LOCAL CODES!

CONNECTIONS

1. Mount the Motor Guard™ in a convenient location in or near the motor control panel. If the location is wet or dusty, then the Motor Guard™ should be mounted in a NEMA 4 or 12 enclosure.

2. Connect the three lines of the motor's three-phase power to L1, L2 and L3 on Motor Guard's™ terminal strip.

3. Connect the output relay to the circuitry to be controlled (See Figure No. 1).
   a. To control a motor: Connect the normally open contact in series with the magnetic coil of the motor starter as shown in Figure No.1 (a).
   b. To sound an alarm: Connect the normally closed contact in series with the alarm as shown in Figure No. 1 (b).

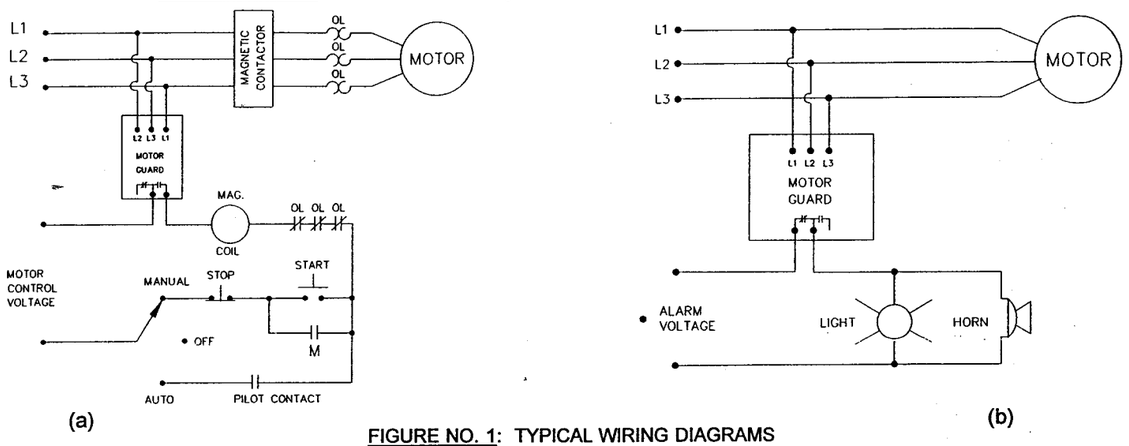

FIGURE NO. 1: TYPICAL WIRING DIAGRAMS

SETTINGS

LINE VOLTAGE ADJUSTMENT: Rotate the LINE VOLTAGE ADJUSTMENT to the nominal three-phase line voltage feeding the motor to be protected.

POWER-UP

Turn on the power to the motor. After the RESTART DELAY, Motor Guard™ will energize its output contacts and the green RUN light will light. If the contacts do not energize and the RUN light does not light, then see the TROUBLESHOOTING Section of these instructions.

Congratulations!!! You have just installed the finest motor protection available!

TROUBLESHOOTING

If the output relay does not energize and the green RUN light does not light after waiting for the RESTART DELAY time, then:

1. Turn off the three-phas power. Swap any two leads: L1-L2, L2-L3 or L3-L1. You have a 50-50 chance of connecting up L1, L2 and L3 correctly the first time. Turn on the three-phase power.

2. If the Motor Guard™ still seems to be malfunctioning, measure the three line-to-line voltages. Calculate the average of the voltages. If the average is outside ±10% of the LINE VOLTAGE ADJUSTMENT, then Motor Guard™ is functioning properly, saving your motor from abnormal power conditions.

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3. If the average of the three line voltages is within ±10%, calculate the voltage unbalance using the NEMA method. To calculate the voltage unbalance, determine the line voltage with the greatest deviation from the average of the three line voltages by subtracting each line voltage from the average. Divide this greatest deviation by the average and multiply by 100 to obtain the per cent voltage unbalance:
% voltage unbalance = (max. deviation / Average of the three voltages) x 100

If the percent voltage unbalance is greater than 4.5% (Model MGX1A) or 5% (Model MGX4A), then Motor Guard™ is functioning properly, saving your motor from abnormal power conditions.

4. If the per cent voltage unbalance is less than 4.5% or 5%, then contact **AMPROBE at (800) 477-8658** and we will be happy to help you.

SPECIFICATIONS	MODEL MGX1A
3-Phase Line Voltage (specify range)	200 or 400 V
Frequency *	50-60 Hz
Operating Points	
Low Voltage (% of set point)	
Trip	90%
Reset	93%
Voltage Unbalance (NEMA)	
Trip	6%
Reset	4.5%
Trip Delay Time	
Low Voltage	4 Seconds
Unbalance & Phasing Faults	2 Seconds
Reset Delay Time	
After a fault	2 Seconds
From a complete power loss	5 Seconds
Output Contact Rating (Pilot Duty)	
SPDT	480 VA @240 VAC
Transient Protection (Internal)	2500 V for 10mSeconds
Repeat Accuracy	
Fixed Conditions	± 0.1%
Power Consumption	5 Watts (Max.)
Weight	14 oz.

SPECIFICATIONS	MODEL MGX4A
3-Phase Line Voltage (specify voltage range)	440-480 or 550-600 VAC
Frequency *	50 - 60 Hz
Operating Points	
Low Voltage (% of set point)	
Trip	90%
Reset	93%
Voltage Unbalance (NEMA)	
Trip	6%
Reset	4.5%
Trip Delay Time	
Low Voltage	4 Seconds
Unbalance & Phasing Faults	2 Seconds
Reset Delay Time	
After a Fault	2 Seconds
After a Complete Power Loss	5 Seconds
Output Contact Rating (SPDT)	470 VA @ 600 VAC (400 or 600V Range)
Transient Protection (Internal)	2500 V for 10 mSeconds
Repeat Accuracy Fixed Conditions	± 0.1%
Power Consumption	5 Watts (Max.)
Weight	1.5 lb.

* Low voltage trip level will be 1 to 2% lower at 50Hz.

For your protection, please use the MotorGuard™ as soon as possible. If damaged, or should the need arise to return your unit, it must be securely wrapped to prevent damage in transit and sent prepaid, via Air Parcel Post insured or UPS where available, to:

Service Division
AMPROBE INSTRUMENT
630 Merrick Road (for UPS)
P.O. Box 329 (for P.P.)
Lynbrook, NY 11563-0329

LIMITED WARRANTY

Seller warrants to the buyer that products furnished will be free from defects in material and workmanship, exclusive of corrosion, for a period of one year from the date of shipment from its factory provided said products have been installed, maintained and operated in conformance with any applicable specifications and recommendations of the Seller. The Seller's liability under this warranty shall be limited to the replacement within the aforesaid time of any defective work or material at the Seller's factory and shall not be liable for any labor or other repair costs made outside the Seller's factory without the written consent of the Seller. The Seller shall be liable for no other damages or losses. The warranty described in this paragraph shall be **IN LIEU OF ANY OTHER WARRANTY EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.**