INSTALLATION INSTRUCTIONS

Revision B1
Rapid City, SD, USA, 04/2010

MotorSaver®
ELECTRONIC MOTOR CONTROL & PROTECTION

MODELS 201-100-SP
201-200-SP
201-200-SP-T-9



II-201-SP-B

www.SymCom.com
...your electronic control & protection specialists

222 Disk Drive Rapid City, SD 57701
(800) 843-8848 www.symcom.com

DANGER!

HAZARDOUS VOLTAGES MAY BE PRESENT DURING INSTALLATION.
Electrical shock can cause death or serious injury.
Installation should be done by qualified personnel following all national, state and local electrical codes.

BE SURE POWER IS DISCONNECTED PRIOR TO INSTALLATION!
FOLLOW NATIONAL, STATE AND LOCAL CODES.
READ THESE INSTRUCTIONS ENTIRELY BEFORE INSTALLATION.

SymCom's MotorSaver® Models 201-XXX-SP and 201-200-SP-T-9 are voltage monitors designed to protect single-phase motors regardless of size. They can be used on 95-120VAC (201-100-SP) or 190-240VAC (201-200-SP and 201-200-SP-T-9) motors to prevent damage caused by low voltage. High voltage detection is included only on the 201-200-SP-T-9 model.

CONNECTIONS

1. Locate a convenient location in or near the motor control panel. If the location is wet or dusty, the MotorSaver® should be mounted in a NEMA 4 or 12 enclosure.

2. Mount an 8-pin socket to the motor control back panel (SymCom P/N OT08-PC, sold separately, is required for UL rating).

3. Connect L1 and L2 (terminals 3 and 4 for Model 201-XXX-SP and terminals 6 and 7 for Model 201-200-SP-T-9) to the LINE SIDE of the motor starter as shown in Figures 1 and 2.

4. Connect the output relay to the circuitry to be controlled. For motor control, connect the normally open contact in series with the magnetic coil of the motor starter as shown in Figures 1 and 2. For alarm operation, connect the normally closed contact in series with the control circuit (terminals 1 and 2).

5. Plug the MotorSaver® into the socket.

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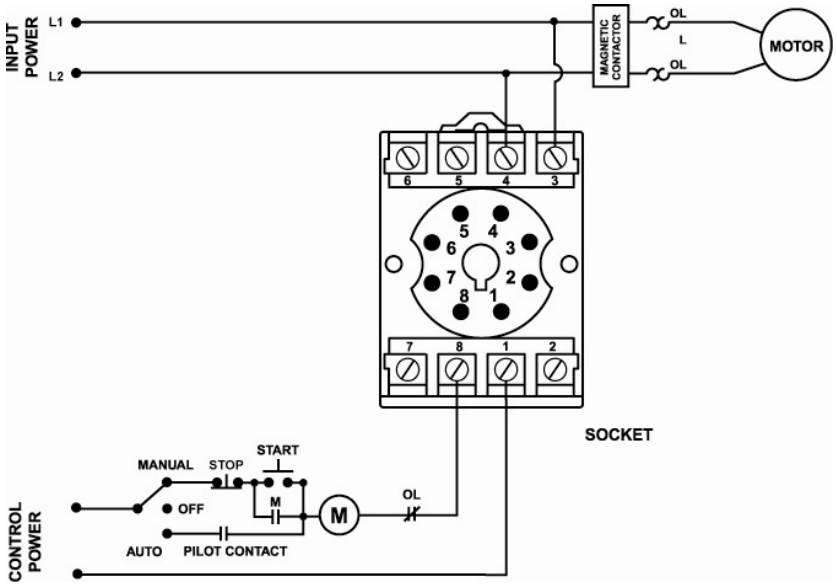


Figure 1: Typical Wiring Diagram for 201-100-SP, 201-200-SP

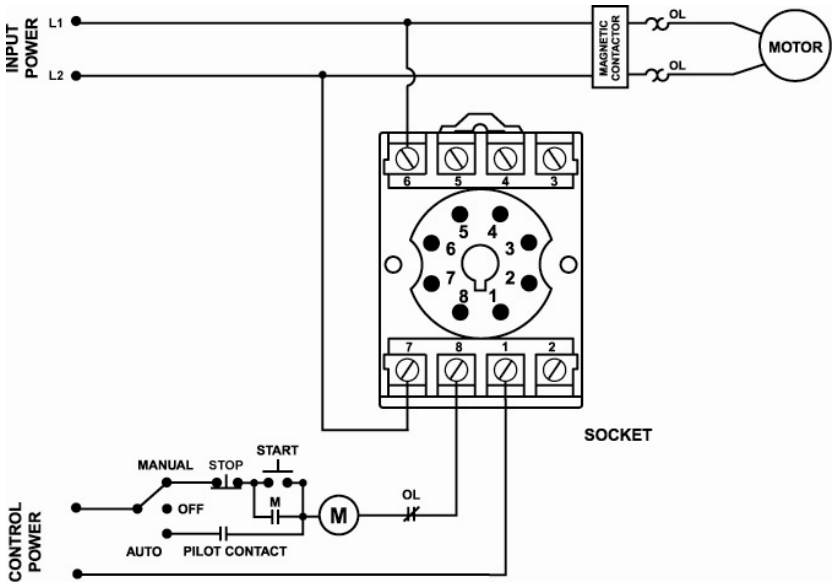


Figure 2: Typical Wiring Diagram for 201-200-SP-T-9

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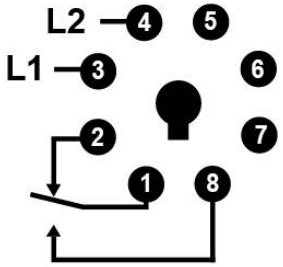


Figure 3: Pin-Out for 201-100-SP and 201-200-SP

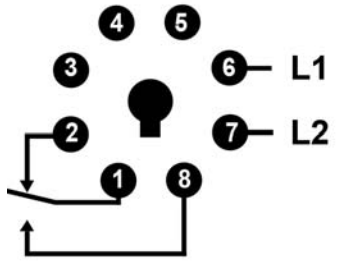


Figure 4: Pin-Out for 201-200-SP-T-9

SETTINGS

Rotate the LINE VOLTAGE ADJUSTMENT knob to the nominal line voltage feeding the motor to be protected.

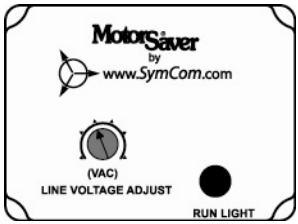


Figure 5: Adjustable Settings

OPERATION

After applying power to the MotorSaver®, the green RUN light will blink during the restart delay. After the restart delay time has expired, the MotorSaver® will energize its output contacts (open the normally closed and close the normally open contacts) and the RUN light will turn solid green.

If the contacts do not energize and the RUN light does not turn solid green, see the TROUBLESHOOTING section.

INDICATOR LIGHT	STATUS
GREEN	RUN
 GREEN	RESTART DELAY
RED	LOW VOLTAGE
 RED	HIGH VOLTAGE (201-200-SP-T-9 ONLY)

Table 1: Diagnostic Indicator Lights

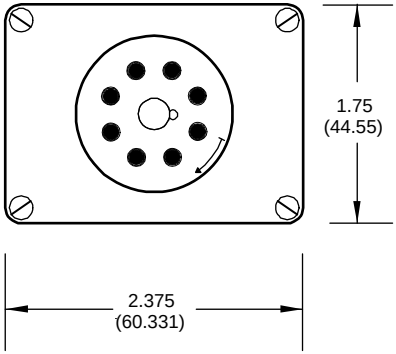
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TROUBLESHOOTING

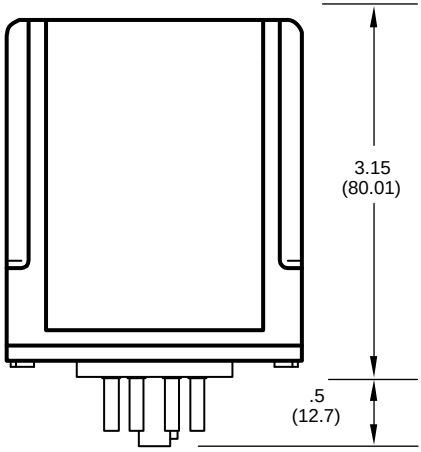
SYMPTOM	LIGHT PATTERN	SOLUTION
No lights are on - the unit seems completely dead	**N/A**	Verify input power is connected to terminals as shown in Figures 1 and 2. If the voltage is below the specified operating voltage, the MotorSaver® does not have enough power to operate its internal electronics. If the voltage is correct, call SymCom at (800) 843-8848 or (605) 348-5580.
Red light is blinking in this pattern (201-200-SP-T-9 ONLY)	 **RED**	The voltage is high. If the voltage is 7% above the line voltage adjustment setting, the MotorSaver® is functioning properly. If the voltage is within 7%, call SymCom at (800) 843-8848 or (605) 348-5580.
Red light is on steady	**RED**	The voltage is low. If the voltage is 7% below the line voltage adjustment setting, the MotorSaver® is functioning properly. If the voltage is within 7%, call SymCom at (800) 843-8848 or (605) 348-5580.
Green light blinks and motor is not running	 **GREEN**	The MotorSaver® is timing through the restart delay and will energize its contacts when finished
Green light is on steady, but motor does not start	**GREEN**	The MotorSaver® is in run mode. Ensure other control devices are allowing the motor to start. Check control circuit for loose wires or malfunctioning switches.

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DIMENSIONS



BOTTOM



SIDE

NOTE: Use of the OT08-PC or RB08-PC octal socket, manufactured by Custom Connector Corp., is required for the MotorSaver to qualify as a UL Listed device. The OT08-PC is 35mm DIN rail compatible.

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MOTORSAVER® 201-XXX-SP SPECIFICATIONS

Functional Characteristics	
Low Voltage	
Trip	90% of setting
Reset	93% of setting
High Voltage (201-200-SP-T-9 ONLY)	
Trip	110% of setting
Reset	107% of setting
Trip Delay	
High/Low Voltage	4 seconds
Restart Delay	2 seconds
Input Characteristics	
Line Supply Voltage	
201-100-SP	95-120VAC
201-200-SP	190-240VAC
201-200-SP-T-9	190-240VAC
Frequency	50/60Hz
Output Characteristics	
Output Contact Rating	
Pilot Duty	480VA @ 240VAC
General Purpose	10A @ 240VAC
General Characteristics	
Environmental	
Ambient Operating Temperature[1]	-40° to 70°C (-40° to 158°F)
Relative Humidity	10-95%, non-condensing per IEC 68-2-3
Maximum Input Power	5 W
Standards Passed	
Electrostatic Discharge (ESD)	IEC 61000-4-2, Level 3, 6kV contact, 8kV air
Radio Frequency Immunity, Radiated	150 MHz, 10V/m
Fast Transient Burst	IEC 61000-4-4, Level 4, 4kV input power and controls
Surge Immunity	
IEC	IEC 61000-4-5, Level 4, 4kV line-to-line; Level 4, 4kV line-to-ground
ANSI/IEEE	C62.41 Surge and Ring Wave Compliance to a level of 6kV line-to-line
Hi-Potential Test	Meets UL508 (2 x rated V +1000 V for 1 minute)
Safety Marks	
UL listed (OT08 octal socket required)	UL508 (File #E68520)
CE	IEC 60947-6-2
Dimensions	1.750” H x 2.375” W x 4.125” D (with socket)
Weight	9 oz.
Enclosure	Polycarbonate
Mounting Method	Plugs into OT08 Socket
Wire Gauge	12-22 AWG Solid or Stranded
Terminal Torque for P/N OT08 Socket	12 in. - lb

[1] The ambient air temperature is the air temperature directly surrounding the product.

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