

## Features

Liquid crystal display.

LED's indicate mode of operation, fault status, communication status, and run status.

Easily mounted on the front of a panel and rated for environmental protection.

Can be mounted up to 4000 feet from the motor starter.

Second communication port is standard.



**MotorSaver**  
THREE-PHASE ELECTRIC  
MOTOR PROTECTOR

**Model  
RM-2000**

•  
**Engineered  
Protection**

•  
**Motor  
Management**

The **RM-2000** is a motor monitoring device to be used in conjunction with SymCom's Model 777. The RM-2000/777 motor management system combines unsurpassed electronic motor protection and critical, user friendly motor monitoring.

The RM-2000 has membrane keypad controls which allow both monitoring and control of a 777 MotorSaver® through a RS485 network using Modbus RTU protocol. A second communication port is standard and allows monitoring and control of up to 99 RM-2000 devices from a computer with Solutions Software installed, a PLC, DCS, or SCADA system. The RM-2000 is environmentally protected and is easily mounted on the front of a panel or MCC.

*A liquid crystal display informs users of the following motor information:*

- Average current, individual line currents, and current unbalance
- Current to ground
- Average voltage, line-line voltages, and voltage unbalance
- Instantaneous power
- Power factor
- Last four faults
- All parameters programmed into 777 MotorSaver®
- Remaining restart delay times

*The RM-2000 is also equipped with a real-time clock, which allows access to the following motor management information:*

- Total motor run-time (re-settable)
- Time and date of last four faults, along with voltage and current at time of trip
- Time and date of last 10 motor starts
- Total number of motor restarts (re-settable)
- Minimum time between any two starts with time and date (re-settable)
- Run-time since last start (re-settable)
- KWH consumed (re-settable)
- KVAR's consumed (re-settable)

**The RM-2000 is available  
with a variety of options  
including:**

- Two form – C (SPDT) auxiliary relays – individually programmable for numerous functions (Option 1)
- Analog output available – 0-20mA, 4-20mA, 0-5VDC, or 0-10VDC (Option 2)
- Analog/digital input – several available configurations, consult factory (Option 3)
- Call the factory for additional options.



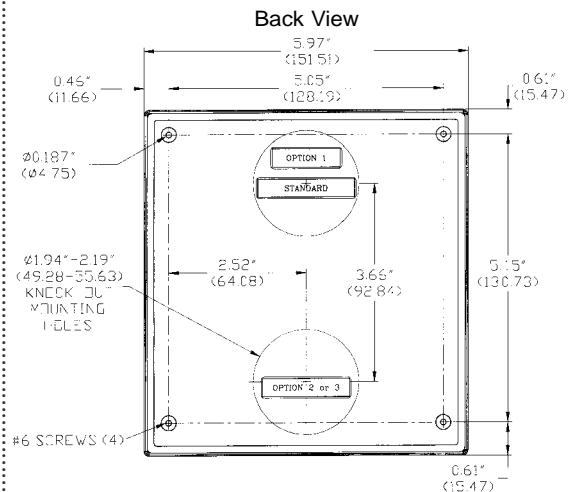
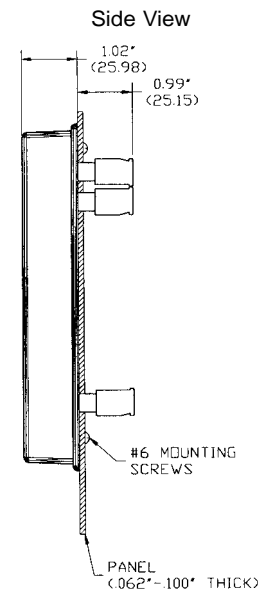
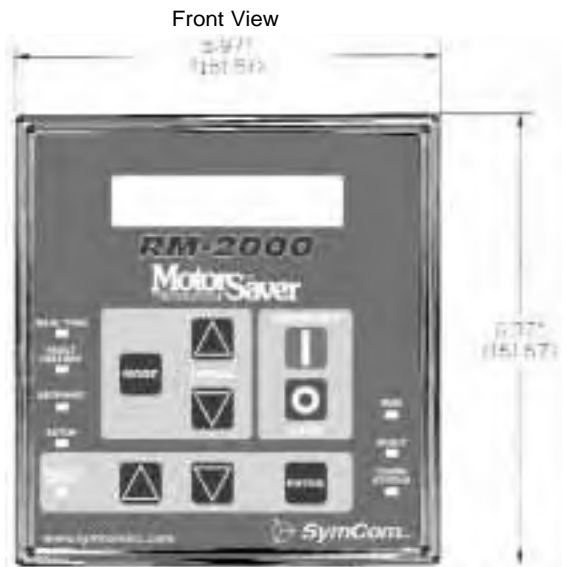
# MotorSaver<sup>®</sup>

THREE-PHASE ELECTRIC MOTOR PROTECTOR

## Model RM-2000

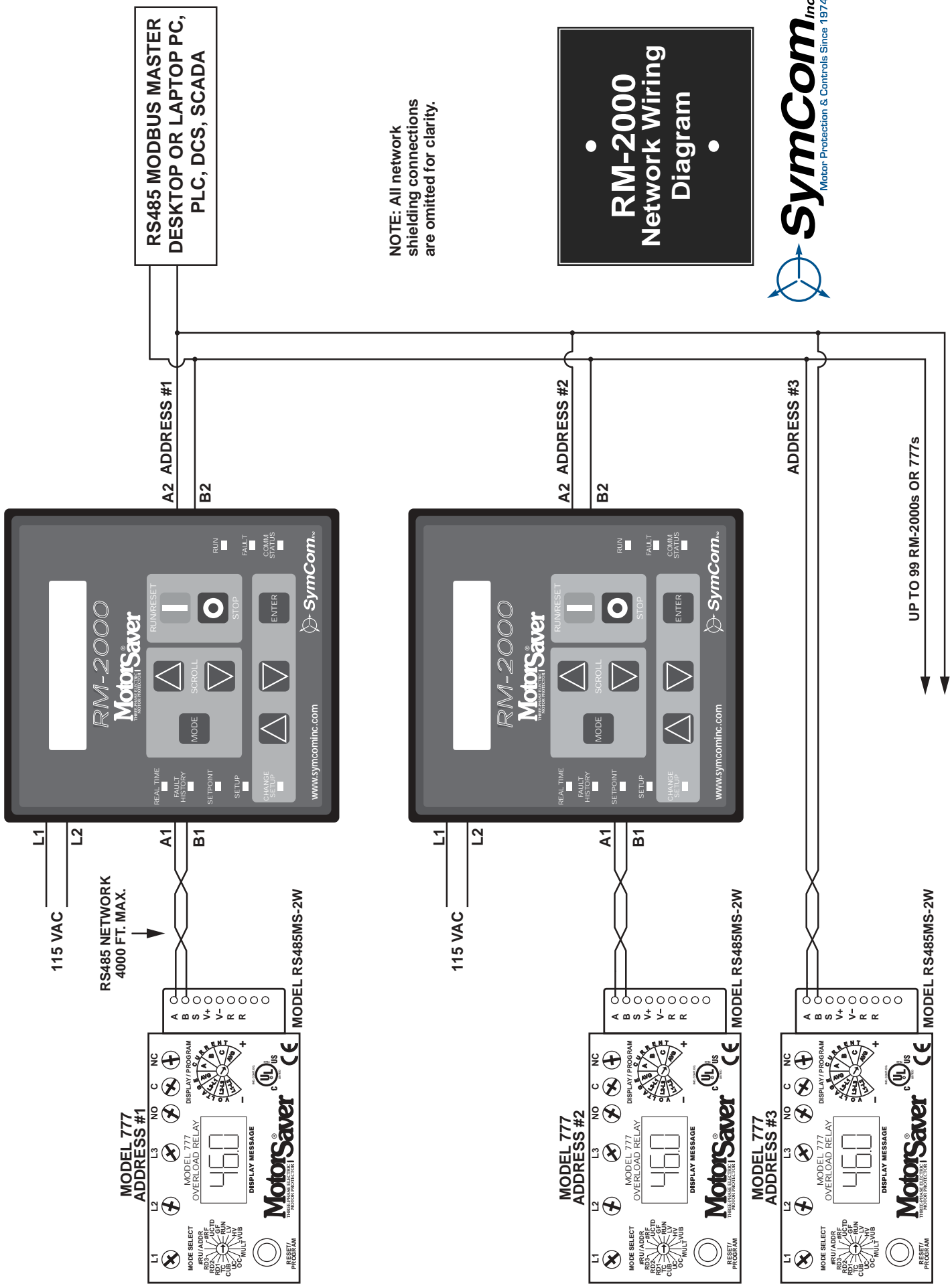
### Specifications

<b>Control Voltage</b> .....	115 VAC ±10%; 50-60 Hz
<b>Transient Protection (Internal)</b> .....	2500 V for 10 ms
<b>Power Consumption</b> .....	3 Watts (max.)
<b>Communication</b> .....	<b>1 Port for MS 777</b> <b>1 Port for PC, PLC, etc.</b>
Baud Rate .....	9600 .....300-28800
Setup .....	Even Parity .....None, Odd, or Even
	1 Stop Bit .....Parity 1 or 2 Stop Bits
Protocol .....	Modbus RTU .....Modbus RTU
Serial Interface .....	RS485MS-2W .....RS485MS-2W
Available Addresses .....	01 .....A01-A99
<b>Real-time Clock</b>	
Battery Back-up Life .....	10 years @ 25°C without external power
Last fault memory .....	Stores up to 4 faults with time and date stamp, includes voltages and currents at time of trip
<b>Output Relays (Option 1)</b> .....	Consult Factory for Function of Relays
Configuration .....	Two Independent Electro-Mechanical Form C (SPDT)
Contact Material .....	Silver/Tin Oxide
Pilot Duty Rating .....	240 VA @ 120 VAC
General Purpose Rating .....	5 A @ 120 VAC
<b>Analog Output (Option 2)</b>	
Types .....	0-20 mA, 4-20 mA, 0-5 VDC, 0-10 VDC (specify with order, for others consult factory)
Output Signal.....	KW, PF, Amps, or Volts (Software Selectable)
Maximum Load	
0-20 mA .....	400 Ω max.
4-20 mA .....	400 Ω max.
0-10 VDC .....	2 kΩ min.
0-5 VDC .....	2 kΩ min.
Accuracy .....	± 3% @ 25°C
Isolation .....	1 kVrms
<b>Analog/Digital Inputs (Option 3)</b> .....	Consult Factory
<b>Environment</b>	
Class of Protection .....	NEMA 3R
Ambient Operating Temperature .....	-20° to 70°C
Ambient Storage Temperature .....	-30° to 70°C
Humidity .....	Up to 85%, non-condensing
<b>Enclosure</b>	
Dimensions .....	6" W x 6 3/8" H x 1 1/16" D
Weight .....	1.2 lbs.
Material .....	Black polycarbonate
<b>Display</b> .....	Liquid Crystal with extended temp. range
Size .....	2 rows x 20 characters
Lighting .....	LED Back-Light
<b>Keypad</b> .....	Eight 0.5" stainless steel dome buttons for tactile feedback
Mechanical Life .....	50,000 actuations
Overlay Material .....	Polyester
UV Exposure without degradation .....	2000 hrs
<b>Terminal</b> .....	Depluggable terminal block



SymCom warrants its microcontroller based products against defects in material or workmanship for a period of five (5) years from the date of manufacture. All other products manufactured by SymCom shall be warranted against defects in material and workmanship for a period of two (2) years from the date of manufacture. For complete information on warranty, liability, terms, returns, and cancellations, please refer to the SymCom Terms and Conditions of Sale document.





**RM-2000  
Network Wiring  
Diagram**

