

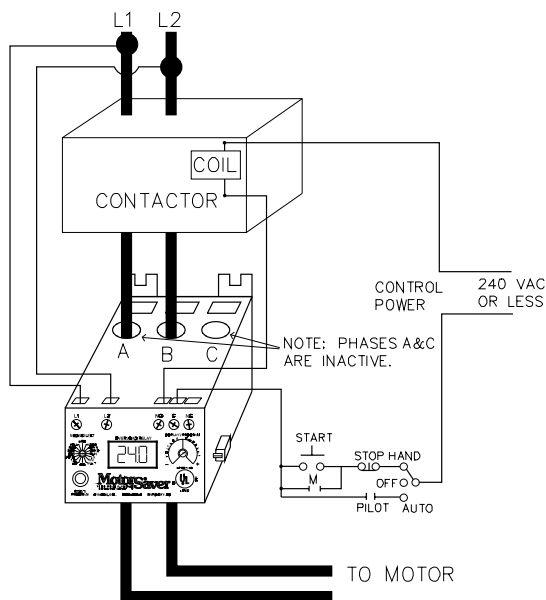
# 777 / 77C SERIES

## Single-Phase Current & Voltage Monitor

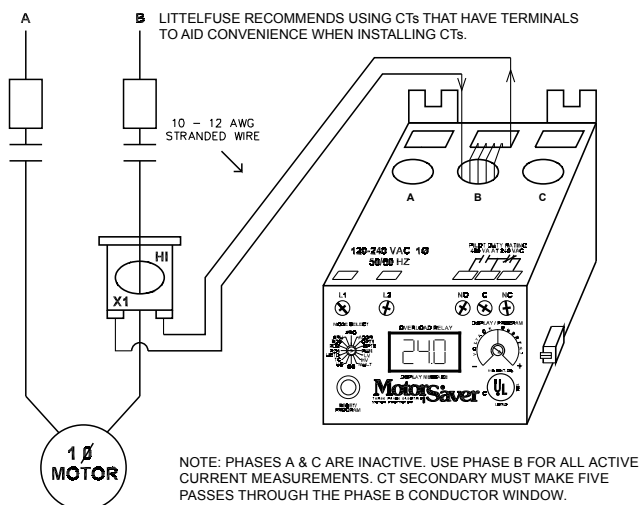


### Wiring Diagram

TYPICAL WIRING DIAGRAM FOR MODEL 77C WITH MOTOR CONTROL



TYPICAL WIRING DIAGRAM FOR MODEL 77C WITH EXTERNAL CT



### Description

The 777/ 77C is a fully programmable electronic overload relay designed to protect any motor drawing 2-800 full load amps (external CTs are required above 90 amps). Common applications include conveyor systems, HVAC equipment, saws and grinders, fan motors, and almost any pumping application.

All of the overload relays provide unsurpassed protection by combining overload, underload, and voltage in one package. For standalone applications, the units incorporate a 3-digit LED display that is used for programming, providing real-time operational information and displaying diagnostic codes to aid in troubleshooting a fault condition. The units also feature a communications port that can be used with communication modules listed in the 777 accessories section to form a Modbus, DeviceNet™, Profibus, or Ethernet network. Up to 99 units can be remotely monitored and controlled from a PC, PLC, or SCADA system, and data logging through a PC with the optional Solutions software. This capability allows for a simple, cost-effective way to meet new requirements for arc-flash safety.

### Features & Benefits

FEATURES	BENEFITS
<b>Built-in display</b>	Visual indication for programming, viewing real-time voltage or current, and last fault code
<b>Programmable voltage and current settings</b>	Allows usage on wide range of systems
<b>3 selectable restart options</b>	Choose from automatic, semi-automatic, or manual to best meet individual application needs
<b>3 programmable restart delay timers</b>	Program separate restart delay time for rapid cycle protection, motor cool down, and dry-well recovery
<b>Remote display compatibility</b>	Increases safety through remote display of real-time data and fault history, without the need to open the cabinet. Aids with arc flash safety regulations
<b>Flexible reset</b>	Reset can be done through pushbutton on relay or remotely with optional 777-MRSW or OL-RESET remote reset kit
<b>Network communications capability</b>	Compatible with Modbus, DeviceNet™, Profibus, or Ethernet using optional communications module

### Ordering Information

MODEL	LINE VOLTAGE	MOTOR FULL AMP RANGE	DESCRIPTION
77C	100-240VAC	2-800A (external CTs required above 90A)	Provides 480VA @ 240VAC output SPDT relay contacts
77C-LR	100-240VAC	1-9A only	Provides 480VA @ 240VAC output SPDT relay contacts
777-HVR-SP	340-480VAC	2-800A (external CTs required above 90A)	Provides 470VA @ 600VAC output SPDT relay contacts. For systems with no control power transformer

# Protection Relays

Motor and Pump Protection - Single-Phase Motor Protection

## 777 / 77C SERIES

### Accessories



**RS485MS-2W Communication Module**  
(for limited Modbus capabilities) Required to enable the Modbus communications function on Model 77X-type products.



**Communication Adapters**  
• **RS485-RS232**—Converter with cable & plug  
• **RS485-USB**—Converter with cable & plug  
• **RS232-USB**—Converter  
Specifications match industry standard.



**RM1000 Remote Monitor**  
The RM1000/777 motor management system combines unsurpassed electronic motor protection and critical, user-friendly, motor monitoring for up to 16 devices.



**RM2000 Remote Monitor**  
The RM2000/777 motor management system combines unsurpassed electronic motor protection and critical, user-friendly, motor monitoring with event storage and real-time clock for date and time stamp.



**Solutions Software: Solutions-M**  
Software features include data logging, real-time data monitoring and fault and event monitoring.



**777-MRSW Manual Remote Reset Kit**  
Allows the 777 line of MotorSaver® and PumpSaver® products to be manually reset without opening the panel door.



**OL-RESET Manual Remote Reset Kit**  
Allows the 777 line of MotorSaver® and PumpSaver® products to be manually reset without opening the panel door.

### Specifications

<b>Frequency</b>	50/60Hz
<b>Functional Characteristics</b>	
<b>TC- Overcurrent Trip Class (77C, 777 non-Plus Series units)</b>	5, 10, 15, 20, 30 (J prefix enables jam protection feature)
<b>Output Characteristics</b>	
<b>Output Contact Rating (SPDT - Form C)</b>	
<b>Pilot duty rating</b>	480VA @ 240VAC, B300
<b>General purpose</b>	10A @ 240VAC
<b>Pilot duty rating for HVR models</b>	470VA @ 600VAC, B600
<b>General Characteristics</b>	
<b>Ambient Temperature Range</b>	
<b>Operating</b>	-20° to 70°C (-4° to 158°F)
<b>Storage</b>	-40° to 80°C (-40° to 176°F)
<b>Accuracy</b>	
<b>Voltage</b>	±1%
<b>Current</b>	±3% (<100 amps direct)
<b>GF Current</b>	±15%
<b>Timing (77C, 777 non-Plus Series units)</b>	5% +1 second
<b>Repeatability</b>	
<b>Voltage</b>	±0.5% of nominal voltage
<b>Current</b>	±1% (<100 amps direct)
<b>Maximum Input Power</b>	10 W
<b>Pollution Degree</b>	3
<b>Class of Protection</b>	IP20
<b>Relative Humidity</b>	10-95%, non-condensing per IEC 68-2-3
<b>Terminal Torque</b>	7 in.-lbs.
<b>Standards Passed</b>	
<b>Electrostatic Discharge (ESD)</b>	IEC 61000-4-2, Level 3, 6kV contact, 8kV air
<b>Radio Frequency Immunity (RFI), Conducted</b>	IEC 61000-4-6, Level 3 10V/m
<b>Radio Frequency Immunity (RFI), Radiated</b>	IEC 61000-4-3, Level 3 10V/m
<b>Fast Transient Burst</b>	IEC 61000-4-4, Level 3, 3.5kV input power
<b>Short Circuit</b>	100kA
<b>Surge</b>	
<b>IEC</b>	61000-4-5, Level 3, 2kV line-to-line; Level 4, 4kV line-to-ground
<b>ANSI/IEEE</b>	C62.41 Surge and Ring Wave Compliance to a level of 6kV line-to-line
<b>Hi-potential Test</b>	Meets UL508 (2 x rated V +1000V for 1 minute)
<b>Vibration</b>	IEC 68-2-6, 10-55Hz, 1mm peak-to-peak, 2 hours, 3 axis
<b>Shock</b>	IEC 68-2-27, 30g, 3 axis, 11ms duration, half-sine pulse
<b>Safety Marks</b>	
<b>UL</b>	UL508, UL1053 (File #E68520)
<b>CE</b>	IEC 60947-1, IEC 60947-5-1
<b>CSA</b>	C22.2
<b>Maximum Conductor Size (with insulation) through 777/77C</b>	0.65"
<b>Dimensions</b>	<b>H</b> 77.47 mm (3.05"); <b>W</b> 97.79 mm (3.85"); <b>D</b> 128.27 mm (5.05")
<b>Weight</b>	1.56 lbs. (24.96 oz., 707.6 g)
<b>Mounting Method</b>	Surface mount (4 - #8 screws) or DIN rail mount

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