3-Phase Current & Voltage Monitor







Description

The 777 unit is a fully-programmable, electronic overload relay designed to protect any motor drawing 2-800 full load A (external CTs are required above 90 A). The 777 (family of products) is used for 3-phase, 200-480 V ac applications, with several specialized units for other voltage ranges and unique applications. Common applications include conveyor systems, HVAC equipment, saws and grinders, fan motors, and almost any pumping application. Some unique applications include use with a Subtrol* equipped Franklin submersible motor to detect high motor temperatures and applications where a fast linear trip is required.

All of the overload relays provide unsurpassed protection by combining overload, voltage, phase loss and reversal, voltage and current unbalance, power monitoring, and underload based on current — all 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 network 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
Built-in display	Visual indication for programming, viewing real-time voltage or current, and last fault code
Programmable voltage and current settings	Allows usage on wide range of systems
3 selectable restart options	Choose from automatic, semi-automatic, or manual to best meet individual application needs
3 programmable restart delay timers	Program separate restart delay time for rapid cycle protection, motor cool down, and dry-well recovery
Remote display compatibility	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
Flexible reset	Reset can be done through a push button on the relay or remotely with optional 777-MRSW or OL-Reset remote reset kit

Applications

- Conveyor systems
- HVAC equipment
- · Saws and grinders
- Fan motors



^{*}Subtrol and DeviceNet are trademarks of their respective owners.

Motor and Pump Protection Relays

777 Series

Specifications

Functional Characteristics

Frequency 50/60 Hz

TC- Overcurrent Trip Class

(777 Plus Series units) 02-60, J02-J60, L00-L60 or Off

TC- Overcurrent Trip Class

(77C, 777 non-Plus Series units) 5, 10, 15, 20, 30 (J prefix enables jam protection feature)

Output Characteristics

Output Contact Rating (SPDT - Form C):

Pilot duty rating480 VA @ 240 V ac, B300General purpose10 A @ 240 V acPilot duty rating for HVR models470 VA @ 600 V ac, B600

General Characteristics

Ambient Temperature Range:

 Operating
 -20 °C to 70 °C (-4 °F to 158 °F)

 Storage
 -40 °C to 80 °C (-40 °F to 176 °F)

Accuracy

Voltage ±1 %

Current ±3 % (<100 amps direct)

GF Current $\pm 15 \%$ Timing (777 Plus Series units) ± 0.5 second Timing (77C, 777 non-Plus Series units) 5 % + 1 second

Repeatability

Voltage $\pm 0.5 \%$ of nominal voltage **Current** $\pm 1 \%$ (<100 amps direct)

Maximum Input Power10 WPollution Degree3Class of ProtectionIP20

Relative Humidity 10–95 %, non-condensing per IEC 68-2-3

Terminal Torque 7 in.-lbs.

Standards Passed

Electrostatic Discharge (ESD)IEC 61000-4-2. Level 3, 6 kV contact, 8 kV air

Radio Frequency Immunity (RFI),

Conducted IEC 61000-4-6, Level 3, 10 V/m

Radio Frequency Immunity (RFI),

Radiated IEC 61000-4-3, Level 3, 10 V/m

Fast Transient Burst IEC 61000-4-4, Level 3, 3.5 kV input power

Short Circuit 100 kA

Surge

IEC61000-4-5, Level 3, 2 kV line-to-line; Level 4, 4 kV line-to-groundANSI/IEEEC62.41 Surge and Ring Wave Compliance to a level of 6 kV line-to-line

Hi-potential Test Meets UL508 (2 x rated V +1000 V for 1 minute)

VibrationIEC 68-2-6, 10-55 Hz, 1 mm peak-to-peak, 2 hours, 3 axisShockIEC 68-2-27, 30g, 3 axis, 11 ms duration, half-sine pulse

Maximum Conductor Size

(with insulation) through 777/77C 0.65"

Dimensions H 77.47 mm (3.05"); **W** 97.79 mm (3.85"); **D** 128.27 mm (5.05")

Weight 1.56 lbs. (24.96 oz., 707.6 g)

Mounting Method Surface mount (4 - #8 screws) or DIN-rail mount



Certification & Compliance

UL	UL508, UL1053 (File #E68520)
CSA	C22.2
CE	IEC 60947-1, IEC 60947-5-1

Ordering Information

MODEL LINE VOLTAGE MOTOR RULL PRANGE DESCRIPTION 777-P2 200-480 V ac Candragor Sequence do box 90 A) 2-800 A (external CTs required above 90 A) Provides low and high power trip*, linear overcurrent trip, and 480 VA @ 240 V ac output SPDT relay contacts. Required above 91 A) 777-HVR-LR-P2 340-480 V ac Candragor Sequence CTs required above 91 A) 2-800 A (external CTs required above 91 A) Provides low and high power trip*, linear overcurrent trip, and 470 V A @ 600 V ac output SPDT relay contacts. Required when a control power transformer (CPT) is not used with a 480 V system contact. Sequired above 90 A) 777-575-LR-P2 500-600 V ac candragor Sequired Above 90 A) 1-800 A (external CTs required above 90 A) Provides low and high power trip*, linear overcurrent trip, and 480 V A @ 240 V ac output SPDT relay contacts. Sequired when a contact Used in Canada and NE USA where 575 V utility power services are common provides low and high power trip*, linear overcurrent trip, and 480 V A @ 240 V ac output SPDT relay contacts. Used in Canada and NE USA where 575 V utility power services are common. Provides low and high power trip*, linear overcurrent trip, and 480 V A @ 240 V ac output SPDT relay contacts. Designed for Medium Voltage applications where only one of the PTs are used 777-BRG-P2 200-480 V ac coutput SPDT relay contacts. Designed for Medium Voltage applications where only one of the PTs are used Description of the PTs are used 777-BRG-P2 500-600 V ac coutput SPDT relay contacts. Segmend for Medium Voltage applications where only one of the PTs are used	Ordering information			
777-HR-P2 200-480 V ac required above 9 A.) 777-HVR-LR-P2 340-480 V ac required above 9 A.) 777-HVR-LR-P2 340-480 V ac required above 9 A.) 777-HVR-LR-P2 340-480 V ac required above 9 A.) 777-F75-P2 500-600 V ac required above 9 A.) 777-F75-BR-P2 500-600 V ac required above 9 A.) 777-BR-P2 500-600	MODEL			DESCRIPTION
777-HVR-P2 340-480 V ac required above 9 A) 2-800 A (external CTs required above 9 A) 1-800 A (external CTs required above 9 DA) 1-800 A (external CTs req	777-P2	200–480 V ac		Provides low and high power trip*, linear overcurrent trip, and 480 VA @ 240 V ac output SPDT relay contacts
777-HVR-HR-P2 340-480 V ac 1-800 A (external CTs required above 9 A) 1 2-800 A (external CTs required above 9 A) 2 2-800 A (external CTs required above 9 A) 2 2-800 A (external CTs required above 9 A) 2 2-800 A (external CTs required above 9 A) 2 2-800 A (external CTs required above 9 A) 2 2-800 A (external CTs required above 9 A) 2 2-800 A (external CTs required above 9 A) 2 2-800 A (external CTs required above 9 A) 2 2-800 A (external CTs required above 9 A) 2 2-800 A (external CTs required above 9 A) 2 2-800 A (external CTs required above 9 A) 2 2-800 A (external CTs required above 9 A) 2 2-800 A (external CTs required above 9 A) 2 2-800 A (external CTs required above 9 A) 2 2-800 A (external CTs required above 9 A) 2 2-800 A (external CTs required above 9 A) 2 2-800 A (external CTs required above 9 A) 2 2-90 A only 2 2-90 A on	777-LR-P2	200-480 V ac		Protects low range motors when wired directly or with 10-800 FLA with use of external CTs
777-575-LR-HRG-P2 200-480 V ac 200-480 V ac 777-575-LR-HRG-P2 200-480 V ac 777-575-LR-HRG-P2 200-480 V ac	777-HVR-P2	340-480 V ac		
required above 90 A) 777-575-LR-P2 500-600 V ac 777-575-LR-P2 500-600 V ac 10-800 A (external CIs required above 9 A) 777-MV-P2 100-240 V ac 10-800 A (external CIs required above 9 A) 777-HRG-P2 777-HRG-P2 200-480 V ac 2-90 A only 2-90 A only 777-575-HRG-P2 777-575-HRG-P	777-HVR-LR-P2	340-480 V ac		
required above 9 A) required	777-575-P2	500-600 V ac		
10-240 V ac 10-240 V ac 10-800 A with external CTs contacts. Designed for Medium Voltage applications where both PTs and CTs are used. Has built in multipliers for 25.5, 50.5, 10.5 Cts. The voltage unblance, single-phase and reverse phase protection can be disabled for applications where only one of the PTs are used Provides low and high power trip*, linear overcurrent trip, and 480 VA @ 240 V ac output SPDT relay contacts. Designed for high resistance grounding systems that incorporate an external zero-sequence CT that correspond with the built in multipliers to detect ground faults Provides low and high power trip*, linear overcurrent trip, and 480 VA @ 240 V ac output SPDT relay contacts. Used in Canada and NE USA where 575V utility power services are common. Designed for high resistance grounding systems that incorporate an external zero-sequence CT that correspond with the built in multipliers to detect ground faults Provides low and high power trip*, linear overcurrent trip, and 480 VA @ 240 V ac output SPDT relay contacts. Used in Canada and NE USA where 575V utility power services are common. Designed for high resistance grounding systems that incorporate an external zero-sequence CT that correspond with the built in multipliers to detect ground faults Provides low and high power trip*, linear overcurrent trip, and 480 VA @ 240 V ac output SPDT relay contacts. Used in Canada and NE USA where 575V utility power services are common. Designed for high resistance grounding systems that incorporate an external zero-sequence CT that correspond with the built in multipliers to detect ground faults Provides low and high power trip*, linear overcurrent trip, and 480 VA @ 240 V ac output SPDT relay contacts. Used in Canada and NE USA where 575V utility power services are common. Designed for high resistance grounding systems that incorporate an external zero-sequence CT that correspond with the built in multipliers to detect ground faults Provides low and high power trip*, linear overcurrent trip, and 480 V	777-575-LR-P2	500–600 V ac	,	
contacts. Designed for high resistance grounding systems that incorporate an external zero-sequence CT that correspond with the built in multipliers to detect ground faults 777-LR-HRG-P2 200–480 V ac 200–480 V ac 2–90 A only 2–90 A (external CTs required above 90 A) 2–800 A (external CTs required above 90 A) 3–80 A (external CTs requir	777-MV-P2	100-240 V ac		contacts. Designed for Medium Voltage applications where both PTs and CTs are used. Has built in multipliers for 25.5, 50.5, 100.5 CTs. The voltage unbalance, single-phase and reverse phase protection can
CTs that correspond with the built in multipliers to detect ground faults Provides low and high power trip*, linear overcurrent trip, and 480 VA @ 240 V ac output SPDT relay contacts. Used in Canada and NE USA where 575V utility power services are common. Designed for high resistance grounding systems that incorporate an external zero-sequence CT that correspond with the built in multipliers to detect ground faults Provides low and high power trip*, linear overcurrent trip, and 480 VA @ 240 V ac output SPDT relay contacts. Used in Canada and NE USA where 575V utility power services are common. Designed for high resistance grounding systems that incorporate an external zero-sequence CT that correspond with the built in multipliers to detect ground faults Provides low and high power trip*, linear overcurrent trip, and 480 VA @ 240 V ac output SPDT relay contacts. Used in Canada and NE USA where 575V utility power services are common. Designed for high resistance grounding systems that incorporate an external zero-sequence CT that correspond with the built in multipliers to detect ground faults Provides low and high power trip*, linear overcurrent trip, and 480 VA @ 240 V ac output SPDT relay contacts. Used in Canada and NE USA where 575V utility power services are common. Designed for high resistance grounding systems that incorporate an external zero-sequence CT that correspond with the built in multipliers to detect ground faults Provides low and high power trip*, linear overcurrent trip, and 480 VA @ 240 V ac output SPDT relay contacts. Also known as shock relay, it is designed for fast linear trip applications. Overcurrent trip delay can be set ranging from less than 500 ms-70 seconds. Low trip delay is ideal in chain drive and drive linkage applications to prevent breaking in overload or jam situations. Other applications include sewage clarifiers, mixers, augers, and conveyors. Longer trip delay is ideal for motor test panels in rewind shops. Also includes adjustable motor acceleration time and overcur	777-HRG-P2	200–480 V ac	2–90 A only	contacts. Designed for high resistance grounding systems that incorporate an external zero-sequence CT
2-90 A only contacts. Used in Canada and NE USA where 575V utility power services are common. Designed for high resistance grounding systems that incorporate an external zero-sequence CT that correspond with the built in multipliers to detect ground faults 777-575-LR-HRG-P2 500-600 V ac 10-800 A with external CTs 200-480 V ac 2-800 A (external CTs required above 90 A) 777-TS 200-480 V ac 2-800 A (external CTs required above 90 A) 777-LR-TS 200-480 V ac 2-800 A (external CTs required above 90 A) 777-LR-TS 200-480 V ac 2-800 A (external CTs required above 90 A) 777-LR-TS 200-480 V ac 2-800 A (external CTs required above 90 A) 777-LR-TS 200-480 V ac 2-800 A (external CTs required above 90 A) 777-LR-TS 200-480 V ac 2-800 A (external CTs required above 90 A) 777-LR-TS 200-480 V ac 2-800 A (external CTs required above 90 A) 777-LR-TS 200-480 V ac 2-800 A (external CTs required above 90 A) 777-LR-TS 200-480 V ac 2-800 A (external CTs required above 90 A) 777-LR-TS 200-480 V ac 2-800 A (external CTs required above 90 A) 777-LR-TS 200-480 V ac 2-800 A (external CTs required above 90 A) 777-LR-TS 200-480 V ac 2-800 A (external CTs required above 90 A) 777-LR-TS 200-480 V ac 2-800 A (external CTs required above 90 A) 777-LR-TS 777-LR-TS 200-480 V ac 2-800 A (external CTs required above 90 A) 777-LR-TS 777-LR-TS 777-LR-TS 777-LR-TS 777-LR-TS 777-LR-TS 777-LR-TS 778-TS 7	777-LR-HRG-P2	200–480 V ac		Overload relays designed for high resistance grounding systems that incorporate an external zero-sequence CTs that correspond with the built in multipliers to detect ground faults
777-575-LR-HRG-P2 10—800 A with external CTs 10—800 A wi	777-575-HRG-P2	500-600 V ac	2–90 A only	contacts. Used in Canada and NE USA where 575V utility power services are common. Designed for high resistance grounding systems that incorporate an external zero-sequence CT that correspond with the built
relay, it is designed for fast linear trip applications. Overcurrent trip delay can be set ranging from less than 500 ms—70 seconds. Low trip delay is ideal in chain drive and drive linkage applications to prevent breaking in overload or jam situations. Other applications include sewage clarifiers, mixers, augers, and conveyors. Longer trip delay is ideal for motor test panels in rewind shops. Also includes adjustable motor acceleration time and overcurrent trip delay time when the faster linear trip mode is used 777-TS 200—480 V ac 2—800 A (external CTs required above 90 A) Provides 480 VA @ 240 V ac output SPDT relay contacts. For use with Subtrol** equipped Franklin submersible motors to detect high motor temperatures Provides 480 VA @ 240 V ac output SPDT relay contacts. For use with Subtrol** equipped Franklin submersible motors to detect high motor temperatures Provides 480 VA @ 240 V ac output SPDT relay contacts. For use with Subtrol** equipped Franklin submersible motors to detect high motor temperatures Provides 480 VA @ 240 V ac output SPDT relay contacts. For use with Subtrol** equipped Franklin submersible motors to detect high motor temperatures Provides 480 VA @ 240 V ac output SPDT relay contacts. For use with Subtrol** equipped Franklin submersible motors to detect high motor temperatures		500–600 V ac		contacts. Used in Canada and NE USA where 575V utility power services are common. Designed for high resistance grounding systems that incorporate an external zero-sequence CT that correspond with the built
777-LR-TS 200-480 V ac required above 90 A) submersible motors to detect high motor temperatures Provides 480 VA @ 240 V ac output SPDT relay contacts. For use with Subtrol** equipped Franklin submersible motors to detect high motor temperatures 777-F75-TS 500-600 V ac 2-800 A (external CTs) Provides 480 VA @ 240 V ac output SPDT relay contacts. For use with Subtrol** equipped Franklin	777-FT	200–480 V ac		relay, it is designed for fast linear trip applications. Overcurrent trip delay can be set ranging from less than 500 ms–70 seconds. Low trip delay is ideal in chain drive and drive linkage applications to prevent breaking in overload or jam situations. Other applications include sewage clarifiers, mixers, augers, and conveyors. Longer trip delay is ideal for motor test panels in rewind shops. Also includes adjustable motor acceleration
submersible motors to detect high motor temperatures 277 575 TS	777-TS	200–480 V ac		
	777-LR-TS	200-480 V ac	1–9 A only	
	777-575-TS	500-600 V ac		



^{*} Network programmable only
**Subtrol is a trademark of its respective owner.

Accessories

RS485MS-2W Communication Module

(for limited Modbus capabilities) Required to enable the Modbus communications function on Model 77X-type products.

CIO-MB/CIO-120-MB Communication Module

Modbus-RTU interfaces capable of providing discrete control and monitoring of an overload relay over a Modbus network.

CIO-DN-P/CIO-120-DN-P Communication Module

DeviceNet* interfaces capable of providing discrete control and monitoring of motor starters, drives and other devices over a DeviceNet* network.

CIO-777-PR Communication Module

Profibus interface capable of providing discrete control and monitoring of motor starters, drives and other devices over a Profibus network.

CIO-EN (non-POE) Communication Module

Modbus-TCP and Modbus-RTU interface capable of providing discrete control and monitoring of an overload relay over a Modbus network.

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.

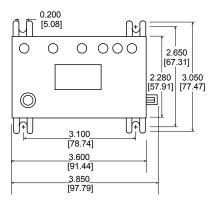
777-MRSW Manual Remote Reset Kit

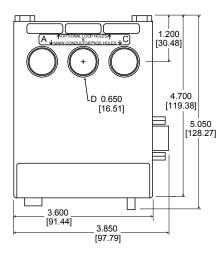
Allows the 777 line of MotorSaver® and PumpSaver® products to be manually reset without opening the panel door.

OL-Reset Manual Remote Reset Kit

Allows the 777 line of MotorSaver® and PumpSaver® products to be manually reset without opening the panel door.

Dimensions Inches (mm)



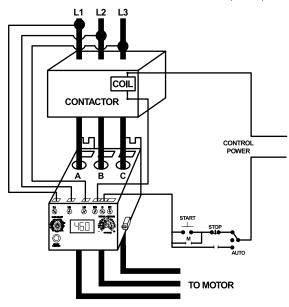




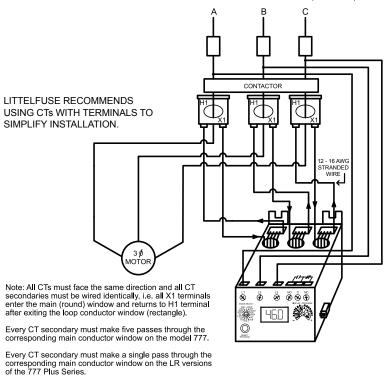
^{*}DeviceNet is a trademark of its respective owner.

Wiring Diagram

TYPICAL WIRING DIAGRAM FOR MODEL 777 (2-90 A)



CURRENT TRANSFORMER WIRING DIAGRAM FOR MODEL 777 (80-800 A)



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3-Phase Current & Voltage Monitor







Description

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FEATURES	BENEFITS
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Programmable voltage and current settings	Allows usage on wide range of systems
3 selectable restart options	Choose from automatic, semi-automatic, or manual to best meet individual application needs
3 programmable restart delay timers	Program separate restart delay time for rapid cycle protection, motor cool down, and dry-well recovery
Remote display compatibility	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
Flexible reset	Reset can be done through a push button on the relay or remotely with optional 777-MRSW or OL-Reset remote reset kit

Applications

- Conveyor systems
- HVAC equipment
- · Saws and grinders
- Fan motors



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Motor and Pump Protection Relays

777 Series

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Output Contact Rating (SPDT - Form C):

Pilot duty rating480 VA @ 240 V ac, B300General purpose10 A @ 240 V acPilot duty rating for HVR models470 VA @ 600 V ac, B600

General Characteristics

Ambient Temperature Range:

 Operating
 -20 °C to 70 °C (-4 °F to 158 °F)

 Storage
 -40 °C to 80 °C (-40 °F to 176 °F)

Accuracy

Voltage ±1 %

Current ±3 % (<100 amps direct)

GF Current $\pm 15 \%$ Timing (777 Plus Series units) ± 0.5 second Timing (77C, 777 non-Plus Series units) 5 % + 1 second

Repeatability

Voltage $\pm 0.5 \%$ of nominal voltage **Current** $\pm 1 \%$ (<100 amps direct)

Maximum Input Power10 WPollution Degree3Class of ProtectionIP20

Relative Humidity 10–95 %, non-condensing per IEC 68-2-3

Terminal Torque 7 in.-lbs.

Standards Passed

Electrostatic Discharge (ESD)IEC 61000-4-2. Level 3, 6 kV contact, 8 kV air

Radio Frequency Immunity (RFI),

Conducted IEC 61000-4-6, Level 3, 10 V/m

Radio Frequency Immunity (RFI),

Radiated IEC 61000-4-3, Level 3, 10 V/m

Fast Transient Burst IEC 61000-4-4, Level 3, 3.5 kV input power

Short Circuit 100 kA

Surge

IEC61000-4-5, Level 3, 2 kV line-to-line; Level 4, 4 kV line-to-groundANSI/IEEEC62.41 Surge and Ring Wave Compliance to a level of 6 kV line-to-line

Hi-potential Test Meets UL508 (2 x rated V +1000 V for 1 minute)

VibrationIEC 68-2-6, 10-55 Hz, 1 mm peak-to-peak, 2 hours, 3 axisShockIEC 68-2-27, 30g, 3 axis, 11 ms duration, half-sine pulse

Maximum Conductor Size

(with insulation) through 777/77C 0.65"

Dimensions H 77.47 mm (3.05"); **W** 97.79 mm (3.85"); **D** 128.27 mm (5.05")

Weight 1.56 lbs. (24.96 oz., 707.6 g)

Mounting Method Surface mount (4 - #8 screws) or DIN-rail mount



Certification & Compliance

UL	UL508, UL1053 (File #E68520)
CSA	C22.2
CE	IEC 60947-1, IEC 60947-5-1

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777-HVR-HR-P2 340-480 V ac 1-800 A (external CTs required above 9 A) 1 2-800 A (external CTs required above 9 A) 2 2-800 A (external CTs required above 9 A) 2 2-800 A (external CTs required above 9 A) 2 2-800 A (external CTs required above 9 A) 2 2-800 A (external CTs required above 9 A) 2 2-800 A (external CTs required above 9 A) 2 2-800 A (external CTs required above 9 A) 2 2-800 A (external CTs required above 9 A) 2 2-800 A (external CTs required above 9 A) 2 2-800 A (external CTs required above 9 A) 2 2-800 A (external CTs required above 9 A) 2 2-800 A (external CTs required above 9 A) 2 2-800 A (external CTs required above 9 A) 2 2-800 A (external CTs required above 9 A) 2 2-800 A (external CTs required above 9 A) 2 2-800 A (external CTs required above 9 A) 2 2-800 A (external CTs required above 9 A) 2 2-90 A only 2 2-90 A on	777-LR-P2	200-480 V ac		Protects low range motors when wired directly or with 10-800 FLA with use of external CTs
777-575-LR-HRG-P2 200-480 V ac 200-480 V ac 777-575-LR-HRG-P2 200-480 V ac 777-575-LR-HRG-P2 200-480 V ac	777-HVR-P2	340-480 V ac		
required above 90 A) 777-575-LR-P2 500-600 V ac 777-575-LR-P2 500-600 V ac 10-800 A (external CIs required above 9 A) 777-MV-P2 100-240 V ac 10-800 A (external CIs required above 9 A) 777-HRG-P2 777-HRG-P2 200-480 V ac 2-90 A only 2-90 A only 777-575-HRG-P2 777-575-HRG-P	777-HVR-LR-P2	340-480 V ac		
required above 9 A) required	777-575-P2	500-600 V ac		
10-240 V ac 10-240 V ac 10-800 A with external CTs contacts. Designed for Medium Voltage applications where both PTs and CTs are used. Has built in multipliers for 25.5, 50.5, 10.5 Cts. The voltage unblance, single-phase and reverse phase protection can be disabled for applications where only one of the PTs are used Provides low and high power trip*, linear overcurrent trip, and 480 VA @ 240 V ac output SPDT relay contacts. Designed for high resistance grounding systems that incorporate an external zero-sequence CT that correspond with the built in multipliers to detect ground faults Provides low and high power trip*, linear overcurrent trip, and 480 VA @ 240 V ac output SPDT relay contacts. Used in Canada and NE USA where 575V utility power services are common. Designed for high resistance grounding systems that incorporate an external zero-sequence CT that correspond with the built in multipliers to detect ground faults Provides low and high power trip*, linear overcurrent trip, and 480 VA @ 240 V ac output SPDT relay contacts. Used in Canada and NE USA where 575V utility power services are common. Designed for high resistance grounding systems that incorporate an external zero-sequence CT that correspond with the built in multipliers to detect ground faults Provides low and high power trip*, linear overcurrent trip, and 480 VA @ 240 V ac output SPDT relay contacts. Used in Canada and NE USA where 575V utility power services are common. Designed for high resistance grounding systems that incorporate an external zero-sequence CT that correspond with the built in multipliers to detect ground faults Provides low and high power trip*, linear overcurrent trip, and 480 VA @ 240 V ac output SPDT relay contacts. Used in Canada and NE USA where 575V utility power services are common. Designed for high resistance grounding systems that incorporate an external zero-sequence CT that correspond with the built in multipliers to detect ground faults Provides low and high power trip*, linear overcurrent trip, and 480 V	777-575-LR-P2	500–600 V ac	,	
contacts. Designed for high resistance grounding systems that incorporate an external zero-sequence CT that correspond with the built in multipliers to detect ground faults 777-LR-HRG-P2 200–480 V ac 200–480 V ac 2–90 A only 2–90 A (external CTs required above 90 A) 2–800 A (external CTs required above 90 A) 3–80 A (external CTs requir	777-MV-P2	100-240 V ac		contacts. Designed for Medium Voltage applications where both PTs and CTs are used. Has built in multipliers for 25.5, 50.5, 100.5 CTs. The voltage unbalance, single-phase and reverse phase protection can
CTs that correspond with the built in multipliers to detect ground faults Provides low and high power trip*, linear overcurrent trip, and 480 VA @ 240 V ac output SPDT relay contacts. Used in Canada and NE USA where 575V utility power services are common. Designed for high resistance grounding systems that incorporate an external zero-sequence CT that correspond with the built in multipliers to detect ground faults Provides low and high power trip*, linear overcurrent trip, and 480 VA @ 240 V ac output SPDT relay contacts. Used in Canada and NE USA where 575V utility power services are common. Designed for high resistance grounding systems that incorporate an external zero-sequence CT that correspond with the built in multipliers to detect ground faults Provides low and high power trip*, linear overcurrent trip, and 480 VA @ 240 V ac output SPDT relay contacts. Used in Canada and NE USA where 575V utility power services are common. Designed for high resistance grounding systems that incorporate an external zero-sequence CT that correspond with the built in multipliers to detect ground faults Provides low and high power trip*, linear overcurrent trip, and 480 VA @ 240 V ac output SPDT relay contacts. Used in Canada and NE USA where 575V utility power services are common. Designed for high resistance grounding systems that incorporate an external zero-sequence CT that correspond with the built in multipliers to detect ground faults Provides low and high power trip*, linear overcurrent trip, and 480 VA @ 240 V ac output SPDT relay contacts. Also known as shock relay, it is designed for fast linear trip applications. Overcurrent trip delay can be set ranging from less than 500 ms-70 seconds. Low trip delay is ideal in chain drive and drive linkage applications to prevent breaking in overload or jam situations. Other applications include sewage clarifiers, mixers, augers, and conveyors. Longer trip delay is ideal for motor test panels in rewind shops. Also includes adjustable motor acceleration time and overcur	777-HRG-P2	200–480 V ac	2–90 A only	contacts. Designed for high resistance grounding systems that incorporate an external zero-sequence CT
2-90 A only contacts. Used in Canada and NE USA where 575V utility power services are common. Designed for high resistance grounding systems that incorporate an external zero-sequence CT that correspond with the built in multipliers to detect ground faults 777-575-LR-HRG-P2 500-600 V ac 10-800 A with external CTs 200-480 V ac 2-800 A (external CTs required above 90 A) 777-TS 200-480 V ac 2-800 A (external CTs required above 90 A) 777-LR-TS 200-480 V ac 2-800 A (external CTs required above 90 A) 777-LR-TS 200-480 V ac 2-800 A (external CTs required above 90 A) 777-LR-TS 200-480 V ac 2-800 A (external CTs required above 90 A) 777-LR-TS 200-480 V ac 2-800 A (external CTs required above 90 A) 777-LR-TS 200-480 V ac 2-800 A (external CTs required above 90 A) 777-LR-TS 200-480 V ac 2-800 A (external CTs required above 90 A) 777-LR-TS 200-480 V ac 2-800 A (external CTs required above 90 A) 777-LR-TS 200-480 V ac 2-800 A (external CTs required above 90 A) 777-LR-TS 200-480 V ac 2-800 A (external CTs required above 90 A) 777-LR-TS 200-480 V ac 2-800 A (external CTs required above 90 A) 777-LR-TS 200-480 V ac 2-800 A (external CTs required above 90 A) 777-LR-TS 200-480 V ac 2-800 A (external CTs required above 90 A) 777-LR-TS 777-LR-TS 200-480 V ac 2-800 A (external CTs required above 90 A) 777-LR-TS 777-LR-TS 777-LR-TS 777-LR-TS 777-LR-TS 777-LR-TS 777-LR-TS 778-TS 7	777-LR-HRG-P2	200–480 V ac		Overload relays designed for high resistance grounding systems that incorporate an external zero-sequence CTs that correspond with the built in multipliers to detect ground faults
777-575-LR-HRG-P2 10—800 A with external CTs 10—800 A wi	777-575-HRG-P2	500-600 V ac	2–90 A only	contacts. Used in Canada and NE USA where 575V utility power services are common. Designed for high resistance grounding systems that incorporate an external zero-sequence CT that correspond with the built
relay, it is designed for fast linear trip applications. Overcurrent trip delay can be set ranging from less than 500 ms—70 seconds. Low trip delay is ideal in chain drive and drive linkage applications to prevent breaking in overload or jam situations. Other applications include sewage clarifiers, mixers, augers, and conveyors. Longer trip delay is ideal for motor test panels in rewind shops. Also includes adjustable motor acceleration time and overcurrent trip delay time when the faster linear trip mode is used 777-TS 200—480 V ac 2—800 A (external CTs required above 90 A) Provides 480 VA @ 240 V ac output SPDT relay contacts. For use with Subtrol** equipped Franklin submersible motors to detect high motor temperatures Provides 480 VA @ 240 V ac output SPDT relay contacts. For use with Subtrol** equipped Franklin submersible motors to detect high motor temperatures Provides 480 VA @ 240 V ac output SPDT relay contacts. For use with Subtrol** equipped Franklin submersible motors to detect high motor temperatures Provides 480 VA @ 240 V ac output SPDT relay contacts. For use with Subtrol** equipped Franklin submersible motors to detect high motor temperatures Provides 480 VA @ 240 V ac output SPDT relay contacts. For use with Subtrol** equipped Franklin submersible motors to detect high motor temperatures		500–600 V ac		contacts. Used in Canada and NE USA where 575V utility power services are common. Designed for high resistance grounding systems that incorporate an external zero-sequence CT that correspond with the built
777-LR-TS 200-480 V ac required above 90 A) submersible motors to detect high motor temperatures Provides 480 VA @ 240 V ac output SPDT relay contacts. For use with Subtrol** equipped Franklin submersible motors to detect high motor temperatures 777-F75-TS 500-600 V ac 2-800 A (external CTs) Provides 480 VA @ 240 V ac output SPDT relay contacts. For use with Subtrol** equipped Franklin	777-FT	200–480 V ac		relay, it is designed for fast linear trip applications. Overcurrent trip delay can be set ranging from less than 500 ms–70 seconds. Low trip delay is ideal in chain drive and drive linkage applications to prevent breaking in overload or jam situations. Other applications include sewage clarifiers, mixers, augers, and conveyors. Longer trip delay is ideal for motor test panels in rewind shops. Also includes adjustable motor acceleration
submersible motors to detect high motor temperatures 277 575 TS	777-TS	200–480 V ac		
	777-LR-TS	200-480 V ac	1–9 A only	
	777-575-TS	500-600 V ac		



^{*} Network programmable only
**Subtrol is a trademark of its respective owner.

Accessories

RS485MS-2W Communication Module

(for limited Modbus capabilities) Required to enable the Modbus communications function on Model 77X-type products.

CIO-MB/CIO-120-MB Communication Module

Modbus-RTU interfaces capable of providing discrete control and monitoring of an overload relay over a Modbus network.

CIO-DN-P/CIO-120-DN-P Communication Module

DeviceNet* interfaces capable of providing discrete control and monitoring of motor starters, drives and other devices over a DeviceNet* network.

CIO-777-PR Communication Module

Profibus interface capable of providing discrete control and monitoring of motor starters, drives and other devices over a Profibus network.

CIO-EN (non-POE) Communication Module

Modbus-TCP and Modbus-RTU interface capable of providing discrete control and monitoring of an overload relay over a Modbus network.

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.

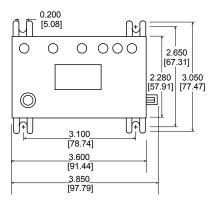
777-MRSW Manual Remote Reset Kit

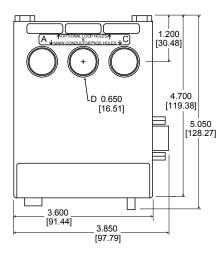
Allows the 777 line of MotorSaver® and PumpSaver® products to be manually reset without opening the panel door.

OL-Reset Manual Remote Reset Kit

Allows the 777 line of MotorSaver® and PumpSaver® products to be manually reset without opening the panel door.

Dimensions Inches (mm)



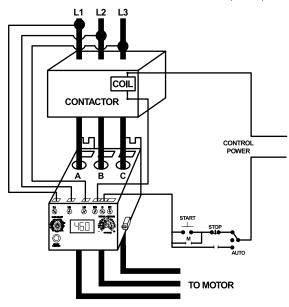




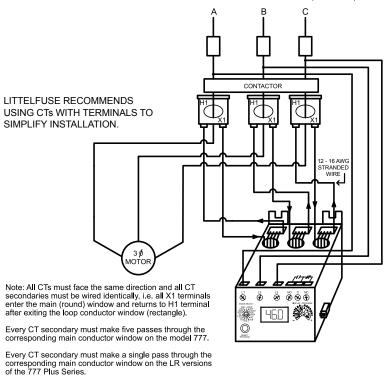
^{*}DeviceNet is a trademark of its respective owner.

Wiring Diagram

TYPICAL WIRING DIAGRAM FOR MODEL 777 (2-90 A)



CURRENT TRANSFORMER WIRING DIAGRAM FOR MODEL 777 (80-800 A)



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