

# Motor and Pump Protection Relays

## 777-ACCUPOWER

3-Phase Current & Voltage Monitor



## Description

The 777 AccuPower is a fully-programmable, 3-phase motor and pump protection relay. It allows for entry of motor hp rating, full-load amperes, efficiency, and power factors, and will then accurately calculate motor output power. The 777 AccuPower relay is most useful with mag-drive pumps or process applications where the process power is desired over the utility power. Voltage, current, and power measurements can be displayed as well as fault information and setpoints. The built-in display simplifies troubleshooting and allows the user to easily and precisely configure setpoints.

The 777 AccuPower can be used with the optional COM 4-20 output communication module to give an analog signal proportional to output shaft power. Other optional accessories include the RS485MS-2W comms module; the RM1000 remote monitor; and the RM2000 remote monitor. See the accessories products for complete information.

## Features & Benefits

FEATURES	BENEFITS
<b>Built-in display</b>	Visual indication for programming, viewing real-time voltage or current, and last fault code
<b>Motor output power measurement</b>	Allows use of process power over utility power
<b>Network communications capability</b>	Limited Modbus capabilities using RS485MS-2W communications module
<b>3 programmable restart delay timers</b>	Allows 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. Aids with arc-flash safety regulations

## Applications

- For use with mag-drive pumps or process applications where the process power is desired over the utility power

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### Specifications

#### Input Characteristics

<b>Line Voltage</b>	200-480 V ac
<b>Frequency</b>	50/60 Hz
<b>Motor Full Load Amp Range</b>	2-800 A (external CTs required over 90 A)

#### Functional Characteristics

<b>TC- Overcurrent Trip Class</b>	5, 10, 15, 20, 30 (J prefix enables jam protection feature)
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#### Output Characteristics

<b>Output Contact Rating (SPDT - Form C)</b>	
<b>Pilot duty</b>	480 VA @ 240 V ac
<b>General Purpose</b>	10 A @ 240 V ac

#### General Characteristics

<b>Ambient Temperature Range</b>	
<b>Operating</b>	-40 °C to 70 °C (-40 °F to 158 °F)
<b>Storage</b>	-40 °C to 80 °C (-40 °F to 176 °F)

#### Accuracy

<b>Measured Horsepower/Kilowatt</b>	
<b>Typical</b>	±3 %*
<b>Voltage</b>	±1 %
<b>Current</b>	±3 % (<100 amps direct)
<b>GF Current</b>	±15 %
<b>Timing</b>	5 % ±1 second

#### Repeatability

<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, NEMA 1 (finger safe)
<b>Relative Humidity</b>	10-95 %, non-condensing per IEC 68-2-3
<b>Terminal Torque</b>	7 in.-lbs.

#### Standards Passed

<b>Electrostatic Discharge</b>	(ESD) IEC 61000-4-2, Level 3, 6 kV contact, 8 kV air
<b>Radio Frequency Immunity (RFI)</b>	
<b>Conducted</b>	IEC 61000-4-6, Level 3 10 V/m
<b>Radiated</b>	IEC 61000-4-3, Level 3 10 V/m
<b>Fast Transient Burst</b>	IEC 61000-4-4, Level 3, 3.5 kV input power
<b>Short Circuit Rating</b>	100 kA

#### Surge

<b>IEC</b>	61000-4-5 Level 3, 2 kV line-to-line; Level 4, 4 kV line-to-ground
<b>ANSI/IEEE</b>	C62.41 Surge and Ring Wave Compliance to a level of 6 kV line-to-line
<b>Hi-Potential Test</b>	Meets UL 508 (2 x rated V + 1000 V for 1 min.)
<b>Vibration</b>	IEC 68-2-6, 10-55 Hz, 1 mm peak-to-peak, 2 hrs, 3 axis
<b>Shock</b>	IEC 68-2-27, 30 g, 3 axis, 11 ms duration, half-sine pulse
<b>Max. Conductor Size through 777</b>	0.65" with insulation
<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>	1.3 lbs. (20.8 oz., 589.67 g)
<b>Mounting Method</b>	Surface mount (4 - #8 screws) or DIN-rail mount

\*On a well balanced system within recommended current range.

### Certification & Compliance

<b>UL</b>	UL 508, UL 1053
<b>CE</b>	IEC 60947-1, IEC 60947-5-1
<b>CSA</b>	C22.2

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### Ordering Information

MODEL	LINE VOLTAGE	MOTOR FULL AMP RANGE
777-ACCUPOWER	190 - 480 V ac	2 - 25: 3 phase (looped conductors required) 25 - 90: 3 phase (direct) 80 - 800: 3 phase (external CTs)

### Accessories

#### RS485MS-2W Communication Module

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

#### COM 4-20 Output Communication Module

This module allows communication to a PLC with an analog input and no Modbus input.

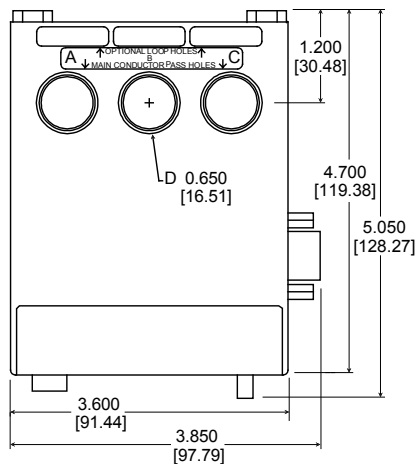
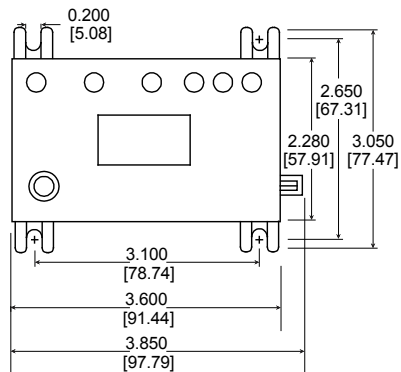
#### RM1000 Remote Monitor

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.

### Dimensions Inches (mm)



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### Simplified Wiring Diagram

TYPICAL WIRING DIAGRAM FOR MODEL 777-ACCUPOWER

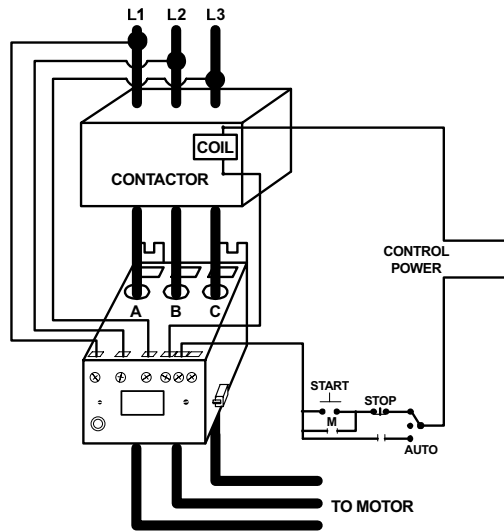
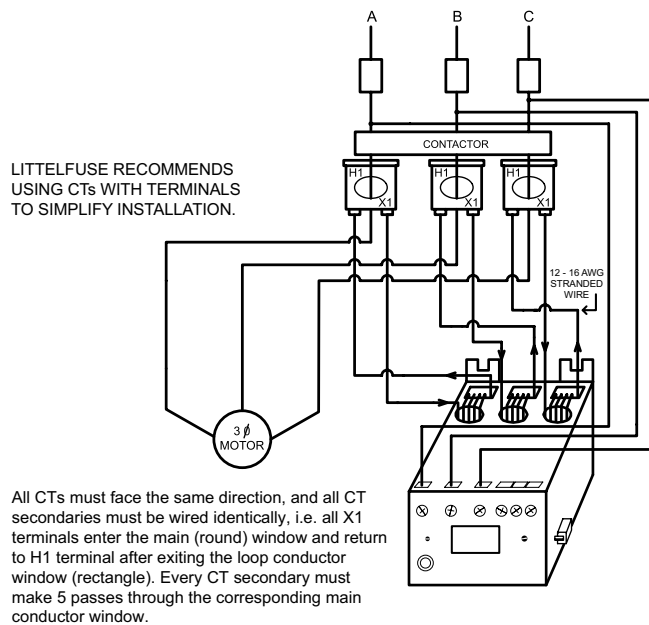


Figure 1: Typical Wiring Diagram

CURRENT TRANSFORMER WIRING DIAGRAM FOR MODEL 777-ACCUPOWER



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