# **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**

| BENEFITS  |
|---|
| Visual indication for programming, viewing real-time voltage or current, and last fault code                        |
| Allows use of process power over utility power  |
| Limited Modbus capabilities using RS485MS-2W communications module  |
| Allows separate restart delay time for rapid cycle protection, motor cool down, and dry-well recovery               |
| 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** 

**Line Voltage** 200-480 V ac **Frequency** 50/60 Hz

Motor Full Load Amp Range 2-800 A (external CTs required over 90 A)

**Functional Characteristics** 

**TC- Overcurrent Trip Class** 5, 10, 15, 20, 30 (J prefix enables jam protection feature)

**Output Characteristics** 

**Output Contact Rating (SPDT - Form C)** 

Pilot duty 480 VA @ 240 V ac General Purpose 10 A @ 240 V ac

**General Characteristics** 

**Ambient Temperature Range** 

 Operating
 -40 °C to 70 °C (-40 °F to 158 °F)

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

**Accuracy** 

Measured Horsepower/Kilowatt

 Typical
 ±3 %\*

 Voltage
 ±1 %

**Current** ±3 %(<100 amps direct)

 $\begin{array}{lll} \textbf{GF Current} & & \pm 15 \ \% \\ \textbf{Timing} & & 5 \ \% \ \pm 1 \ \text{second} \end{array}$ 

Repeatability

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

Maximum Input Power10 WPollution Degree3

Class of Protection IP20, NEMA 1 (finger safe)

**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

 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 Rating 100 kA

Surge

IEC 61000-4-5 Level 3, 2 kV line-to-line; Level 4, 4 kV line-to-ground

ANSI/IEEE C62.41 Surge and Ring Wave Compliance to a level of 6 kV line-to-line

Hi-Potential TestMeets UL 508 (2 x rated V + 1000 V for 1 min.)VibrationIEC 68-2-6, 10-55 Hz, 1 mm peak-to-peak, 2 hrs, 3 axisShockIEC 68-2-27, 30 g, 3 axis, 11 ms duration, half-sine pulse

Max. Conductor Size through 777 0.65" with insulation

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

**Weight** 1.3 lbs. (20.8 oz., 589.67 g)

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

## **Certification & Compliance**

| UL  | UL 508, UL 1053            |
|-----|----------------------------|
| CE  | IEC 60947-1, IEC 60947-5-1 |
| CSA | C22.2                      |



<sup>\*</sup>On a well balanced system within recommended current range.

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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)<br>25 - 90: 3 phase (direct)<br>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.

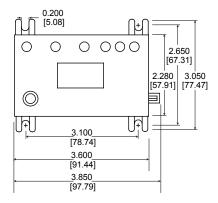
#### **RM1000 Remote Monitor**

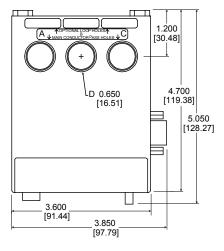
The RM1000/777 motor management system combines unsurpassed electronic motor protection and critical, user-friendly, motor monitoring for up to 16 devices.

#### **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)**

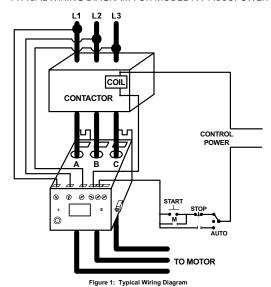




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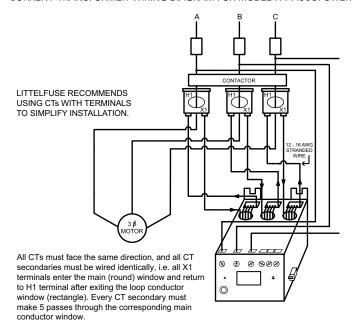
## **Simplified Wiring Diagram**

TYPICAL WIRING DIAGRAM FOR MODEL 777-ACCUPOWER



3. 7. 7. 3. 3. 3.

#### CURRENT TRANSFORMER WIRING DIAGRAM FOR MODEL 777-ACCUPOWER



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