



The Model 777-HVR-KW/HP-P2 Series is a family of fully programmable electronic power monitors. They are designed to monitor and protect any 3-phase 340-480VAC motor drawing 2-800 full load amps (external CTs are required above 90 amps). This unit's Form C contacts are pilot duty rated at 470VA@600VAC for applications where a control power transformer (CPT) is used on a 480V system. This feature saves the cost and extra wiring associated with a CPT. They provide unsurpassed protection from faulty voltage, underload and overload conditions. The 777-HVR-KW/HP-P2 can be used in a variety of 3-phase applications and features a low power trip point (adjustable on the unit) that is desirable any time the current vs. load characteristic is non-linear or has little change. In general, this applies to small slow speed motors, small centrifugal motors and fractional horsepower motors. Low power protection can be used any time in place of undercurrent protection. The power monitor displays kilowatts and horsepower on the face of the unit.

The 777-HVR-KW/HP-P2 Series units can be used as a stand-alone product or the RS-485 communications port can be used to form a network to communicate with a PC, PLC or SCADA system. The 777-HVR-KW/HP-P2 units can be used with CIO modules produced by SymCom for several types of communication protocols. Up to 99 model 777-HVR-KW/HP-P2 units can be networked together and monitored and controlled by SymCom's Solutions software. The units can also be connected to SymCom's remote monitors for a simple, cost-effective way to meet new requirements for arc-flash safety.

The 777-HVR-KW/HP-P2 Series 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 unit's many features include enhanced trip classes beyond the NEMA standard trip classes. The settable trip class range is 2-60, with or without jam protection, and a secondary linear trip delay can be set with a range of 0-60 seconds. If both trip class and linear trip delay are set, the 777-KW/HP-P2 will follow the faster trip time. Another feature is the automatic dry-well recovery timer that allows the unit to automatically select a restart delay based on the last cycle's run time. This allows the 777-HVR-KW-HP-P2 to optimize restart delay times.

The units can be pre-programmed with a 9-volt battery prior to actual installation. This can save a lot of time during initial installations and avoid subsequent service calls when commissioning new projects.

### Features:

- Protects 3-phase motors from:
  - High voltage
  - Low voltage
  - Voltage unbalance
  - Reverse-phase
  - Overcurrent
  - Underload (low power)
  - Current unbalance
  - Single-phase
- Network programmable
- Programmable with 9-volt battery prior to installation
- Automatic reset with three separate restart delay timers, or manual reset
- Tamper guard
- RS-485 communications port (communications module sold separately)
- 3-digit LED diagnostic display
- Last fault memory
- 5-year warranty
- Made in USA
- UL and ULC listed
- CE compliant
- CSA approved
- Surface or DIN rail mount

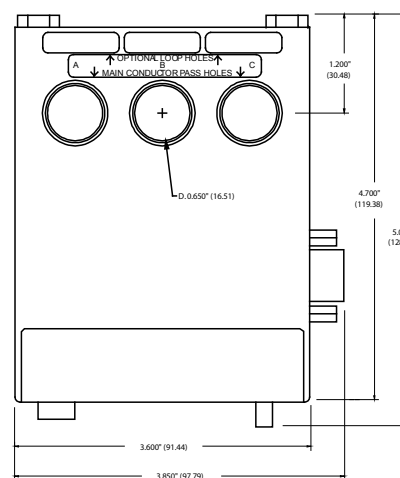
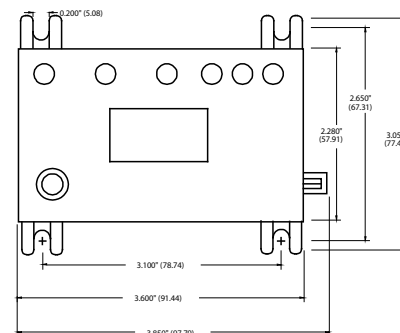
### AUXILIARY PRODUCTS:

- Remote Displays (RM-1000/RM-2000)
- Communication Modules
- Remote Manual Reset Kit
- Solutions Software

# Specifications

Functional Specifications	
Programmable Operating Points LV-Low Voltage Threshold HV-High Voltage Threshold VUB-Voltage Unbalance Threshold MULT-# of Conductors or CT Ratio (xxx:5) OC-Overcurrent Threshold PWS- Power Scale  LP - Low Power  CUB- Current Unbalance Threshold TC- Overcurrent Trip Class RD1- Rapid Cycle Timer RD2- Restart Delay After All Faults Except Undercurrent (motor cool-down timer) RD3- Restart Delay After Undercurrent (dry-well recovery timer) #RU- Number of Restarts After Undercurrent ADDR- R5485 Address COM- Communication setting #RF-Number of Restarts After All Faults Except Undercurrent UC1D- Undercurrent Trip Delay ** GF- Ground Fault Current Threshold	340-523V 341-528V 2-25% or 999 (disabled) 1-10, 100, 150, 200, 300, 400, 500, 600, 700, 800 (20-100A) + MULT of 80-140% of CT Primary 1 = 0.01-0.99kW      5 = 0.01-1.32hp 2 = 1.00-9.95kW      6 = 1.34-13.3hp 3 = 10.0-99.5kW      7 = 13.4-133hp 4 = 100-650kW      8 = 134-871hp 0.01-650kW or 0.01-871hp or 0 (off); LP setting is dependent on PWS setting. PWS setpoint must be programmed prior to LP 2-50% or 999 (disable) 2-60, J2-J60, L00-L60, oFF 0-999 seconds 2-500 minutes  2-500 minutes, A (Automatic)  0, 1, 2, 3, 4, A (Automatic) A01-A99 C00-C07 0, 1, oc1, 2, oc2, 3, oc3, 4, oc4, A, ocA (Automatic) 5 seconds (default) (3-20A) + MULT or 12-40% of CT Primary or oFF
Input Characteristics	
Supply Voltage 777-KW/HP-P2 Frequency Motor Full Load Amp Range	340-480VAC 50/60Hz 2-20A, (looped conductors required); 20-90A (direct); 80-800A (external CTs required)
Output Characteristics	
Output Contact Rating - SPDT (Form C) Pilot Duty Expected Life Mechanical Electrical	470VA@600VAC, B600  1 x 10 <sup>6</sup> operations 1 x 10 <sup>5</sup> operations at rated load
General Characteristics	
Operating Temperature Ambient Operating Ambient Storage Accuracy Voltage Current Timing Power Repeatability Voltage Current Maximum Input Power Pollution Degree Class of Protection Relative Humidity Terminal Torque Standards Passed Electrostatic Discharge (ESD) Radio Frequency Immunity (RFI), Conducted Radio Frequency Immunity (RFI), Radiated Fast Transient Burst Short Circuit Surge IEC ANSI/IEEE Hi-potential Test Vibration Shock Safety Marks UL CE Max Conductor Size through 777-HVR-KW/HP-P2 Dimensions Weight Mounting Method	-20° to 70° C (-4° to 158° F) -40° to 80° C (-40° to 176° F)  ± 1% ± 3% (<100A direct) ± 15% 5% ± 1 second  ± 0.5% of nominal voltage ± 1% (<100A direct) 10 W 3 IP20, NEMA 1 10-95%, non-condensing per IEC 68-2-3 7 in.-lbs.  IEC 61000-4-2, Level 3, 6kV contact, 8kV air IEC 61000-4-6, Level 3 10V/m IEC 61000-4-3, Level 3 10 V/m IEC 61000-4-4, Level 3, 3.5 kV input power  61000-4-5 Level 3, 2kV line-to-line; Level 4, 4kV line-to-ground C62.41 Surge and Ring Wave Compliance to a level of 6kV line-to-line Meets UL508 (2 x rated V + 1000V for 1 minute) IEC 68-2-6, 10-55Hz, 1mm peak-to-peak, 2 hours, 3 axis IEC 68-2-27, 30g, 3 axis, 11ms duration, half-sine pulse  UL508, UL1053 IEC 60947-1, IEC 60947-5-1 0.65" with insulation 3.1" H x 3.6" W x 5.1" D 1.2 lbs. Surface mount (4 - #8 screws) or DIN Rail Mount

# Enclosure Dimensions



\*\* network adjustable only

## How to order:

Part Number: 777-HVR-KW/HP-P2



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...your electronic control & protection specialists

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