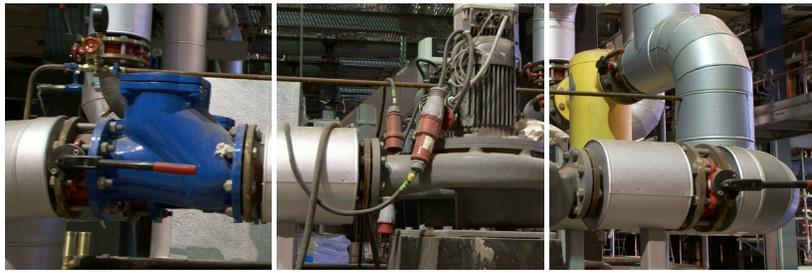


Enhanced Power Monitors



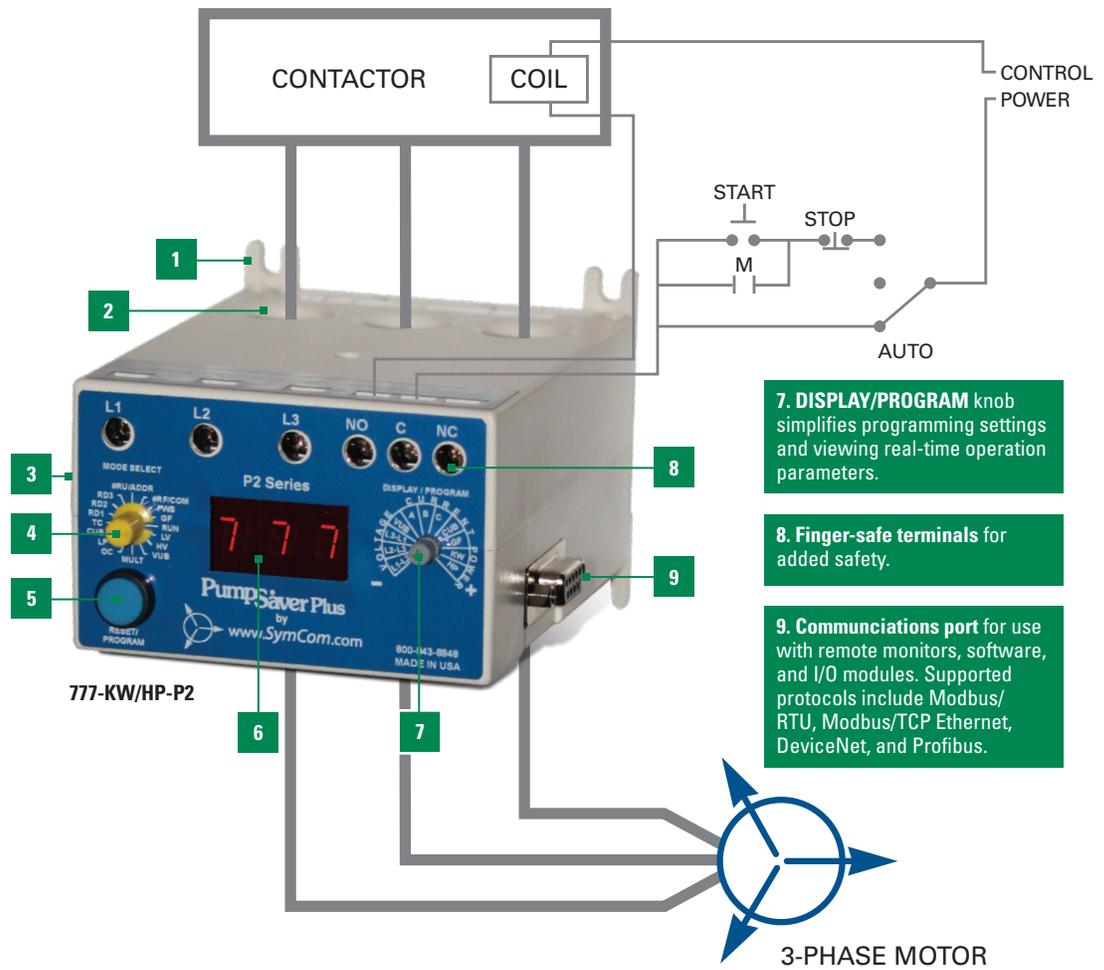
Littelfuse, the industry leader in enhanced power monitors, has been in the business of motor protection for over 35 years! Our products provide the broadest range of motor protection, intuitive user interface and programming, and a wide variety of application specific models for your applications. Our electronic control and protection products shield your equipment investment by reducing downtime, protecting from unexpected voltage and load problems, and reporting when a problem occurs - all of which save time and money.

Our Enhanced Power Monitors monitor line-side voltages to prevent starting equipment while fault conditions exist. Unlike standard

thermal overload relays, which only protect against load-side faults, the model 777 family of enhanced power monitors also act as "smart sensors" for incoming power lines. They protect against many voltage problems, including high voltage, low voltage, voltage unbalance, phase reversal, and single-phasing.

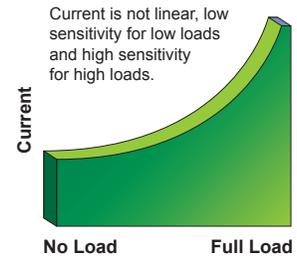
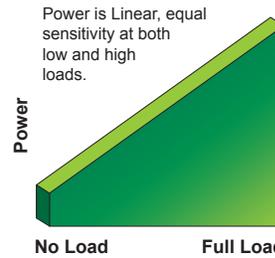
In addition, the 777s offer the same load fault protection features as a standard thermal overload. The loadside faults that the 777s protect against include overcurrent, undercurrent, current unbalance, single phasing, rapid cycling, overpower, underpower, contactor failure, and ground fault.

- 1. DIN rail or surface mountable**, providing flexibility in limited space environments.
- 2. Built-in current transformers (CTs)** provide protection for motors drawing 2-90 Amps. Additional external CTs can provide protection for motors drawing up to 800 Amps.
- 3. Battery port** included so the enhanced overload relay can be programmed with the power off.
- 4. The MODE SELECT** provides an intuitive method of viewing and programming settings.
- 5. Easily reset** a tripped enhanced overload relay with the push of a button.
- 6. LED display** provides programming and diagnostic information, such as line voltages, line currents, and the last fault.



Assembled in USA

What are the advantages of monitoring power (Kilowatts or Horsepower) instead of current (Amps)? Power is linear with load, whereas current is logarithmic and does not change significantly until the pump or motor exceeds approximately 50% capacity. Monitoring power provides faster and more precise underload control regardless of whether the pump or motor is lightly or fully loaded.



Applications:

Littelfuse enhanced power monitors will protect nearly any single-phase or three-phase motor or pump - in almost any application. Although the list is practically endless, some “typical” applications include:

Pump protection:

- Lift Stations
- Booster Stations
- Water Wells
- Storm Water
- Chemical Injections Systems
- Oilfield Pumping
- Coal Bed Methane
- Irrigation Systems

Industrial motor protection:

- Paper Mills
 - Petro-chemical Plants
 - Food Processing Plants
 - Aerators
 - Rock Quarries
 - Cement Plants
 - Industrial Fans
 - HVAC Compressors
 - Augers and Conveyors
 - Grain Elevators
- And many more!

Littelfuse offers several enhanced power monitor models with features for specialized applications. The following models are available for 777-KW/HP-P2 (three-phase) series power monitors and noted 77C-KW/HP-P2 (single-phase) series power monitors:

MODEL	FUNCTIONALITY
-KW/HP-P2	The 777-KW/HP-P2 provides protection for motors from 2-800 full load amps at voltages from 200-480VAC (external CTs required above 90A). All -P2 versions include network programmable features such as pre-trip alarms, and high and low power trip setpoints. The -P2I is backwards compatible with our legacy products, as it supports both 8 bit and 16 bit Modbus memory maps. These models also provide a low-voltage programming feature by way of a 9V battery. The 777-KW/HP-P2 power monitors are typically used to detect dry running of submersible pumps, broken shafts, loose couplings, etc.
-LR-KW/HP	The 777-LR-KW/HP-P2 and 77C-LR-KW/HP are enhanced power monitors designed for use with 1-9 full load amp motors/pumps to ease installation. The 777-LR-KW/HP-P2 can also be used with external CTs for 10-800 full load amps.
-MLR-KW/HP-P2	The 777-MLR-KW/HP-P2 is used in applications that have a 3-15 full load amp range.
-HVR-KW/HP-P2	The 777-HVR-KW/HP-P2 includes a High Voltage Relay and is designed for 340-480VAC applications (typically pumping applications) where a control power transformer is not used on a 480V system to save the cost and extra associated wiring.
-575-KW/HP-P2	The 777-575-KW/HP-P2 has a nominal 480-600VAC range. They are commonly used in Canada and the Northeast US where 575V utility power services are common.
-Accupower	The 777-Accupower calculates motor shaft output power (load power), which can be transmitted via a 4-20 milliamp analog output to an external motor/pump controller where precise load feedback is critical, such as with mag drive pumps.

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