

## 601-CS-D-P1

Monitors a zero-sequence CT for high accuracy ground fault protection

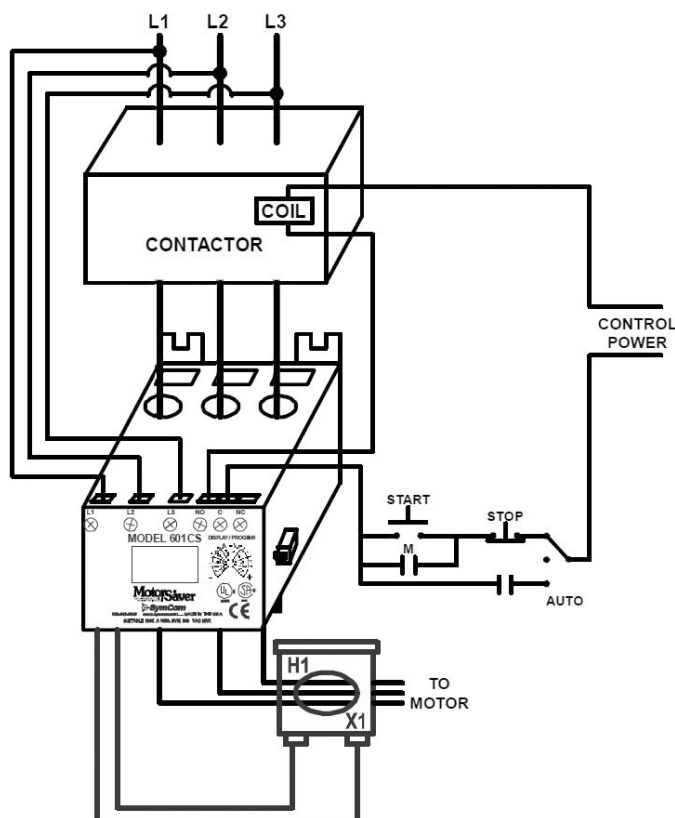


### Description

The 601-CS-D-P1 3-phase power monitor is a fully programmable electronic power monitor designed to monitor 3-phase systems. The 601-CS-D-P1 has a single relay that can be configured as a general purpose network output or to trip on ground faults. The 601-CS-D-P1 monitors ground fault current, phase currents, phase voltages, power factor and frequency. The RS485MS-2W communications module allows the 601-CS-D-P1 to communicate using the Modbus RTU protocol. The Modbus connection can be used to monitor power parameters, setup the device or control the fault relay. A DeviceNet™ communications I/O module (CIO-601CS-DN-P1) is available as well. This CIO module only works with the 601-CS-D-P1 unit. It is used for sending the information from the 601-CS-D-P1 over a DeviceNet™ network. It also provides I/O capabilities and the ability to set the parameters of the 601-CS-D-P1.

Note: This product must be used with an external Zero-Sequence CT for proper operation (not included).

### Wiring Diagram



### Features & Benefits

| FEATURES  | BENEFITS  |
|---|---|
| <b>Built-in display</b>   | Visual indication for programming and viewing real-time parameters for nominal voltage, voltage unbalance, current, current unbalance, ground fault warning, ground fault trip, and ground fault motor acceleration |
| <b>15 Programmable parameters to control the device operation</b> | Allows the user to customize the protection required for their system   |
| <b>2 programmable trip delay timers</b>                           | Program separate trip delay time for motor acceleration and ground fault  |
| <b>Network communications capability</b>                          | Compatible with Modbus RTU and DeviceNet™ protocols with the use of separate communications module  |

### Accessories



#### CIO-601CS-DN-P1 Module

Convenient, cost-effective DeviceNet™ interface device capable of providing discrete control and monitoring of motor starters, drives and other devices over a DeviceNet™ network.

## 601-CS-D-P1

### Specifications

#### Input Characteristics

|                                   |   |
|-----------------------------------|---|
| <b>Line Voltage</b>               | 200-480VAC                                |
| <b>Frequency</b>                  | 50/60Hz                                   |
| <b>Motor Full Load Amp Range</b>  | 0.5-175A (direct) 176-800A (CTs required) |
| <b>Input Ground Fault Current</b> | 0.5-10A                                   |

#### Output Characteristics

|                                     |  |
|-------------------------------------|--|
| <b>Output Contact Rating (SPDT)</b> |  |
| <b>Pilot Duty</b>                   | 480VA @ 240VAC                               |
| <b>General Purpose</b>              | 10A @ 240VAC                                 |
| <b>Expected Life</b>                |  |
| <b>Mechanical</b>                   | 1 x 10 <sup>6</sup> operations               |
| <b>Electrical</b>                   | 1 x 10 <sup>5</sup> operations at rated load |

#### General Characteristics

|                                  |                                       |
|----------------------------------|---------------------------------------|
| <b>Ambient Temperature Range</b> |                                       |
| <b>Operating</b>                 | -20° to 70°C (-4° to 158°F)           |
| <b>Storage</b>                   | -40° to 80°C (-40° to 176°F)          |
| <b>Accuracy at 25° C (77° F)</b> |                                       |
| <b>Voltage</b>                   | +/-1%                                 |
| <b>Current</b>                   | +/-3% (<175A direct)                  |
| <b>GF Current</b>                | +/-3%                                 |
| <b>Repeatability</b>             |                                       |
| <b>Voltage</b>                   | +/-0.5% of nominal voltage            |
| <b>Current</b>                   | +/-1% (<175A direct)                  |
| <b>Maximum Input Power</b>       | 10 W                                  |
| <b>Pollution Degree</b>          | 3                                     |
| <b>Class of Protection</b>       | IP20                                  |
| <b>Relative Humidity</b>         | 10-95%, non-condensing per IEC 68-2-3 |
| <b>Terminal Torque</b>           | 7in.-lbs.                             |

### Standards Passed

|   |   |
|---|---|
| <b>Electrostatic Discharge (ESD)</b>        | IEC 61000-4-2, Level 3, 6kV contact, 8kV air  |
| <b>Radio Frequency Immunity, Conducted</b>  | IEC 61000-4-6, Level 3 10V  |
| <b>Radio Frequency Immunity, Radiated</b>   | IEC 61000-4-3, Level 3, 10 V/m  |
| <b>Fast Transient Burst</b>                 | IEC 61000-4-4, Level 3, 3.5kV input power   |
| <b>Short Circuit Rating</b>                 | 100kA rms, SYM, 600VAC max.   |
| <b>Surge</b>                                |   |
| <b>Immunity IEC</b>                         | IEC 61000-4-5, Level 3, 2kV line-to-line;<br>Level 4, 4kV line-to-ground  |
| <b>ANSI/IEEE</b>                            | C62.41 Surge and Ring Wave Compliance to a level of 6kV line-to-line<br>Meets UL508 (2 x rated V +1000V for 1 minute) |
| <b>High Potential Test</b>                  |   |
| <b>Safety Marks</b>                         |   |
| <b>UL</b>                                   | UL508 (File #E68520)  |
| <b>CE</b>                                   | IEC 60947-1, IEC 60947-5-1  |
| <b>Max Conductor Size (with insulation)</b> | 0.65"   |
| <b>Dimensions</b>                           | <b>H</b> 77.47 mm (3.05"); <b>W</b> 97.79 mm (3.85");<br><b>D</b> 128.27 mm (5.05")                                   |
| <b>Weight</b>                               | 1.2 lbs. (19.2 oz., 544.31 g)   |
| <b>Mounting Method</b>                      | Surface mount (4 - #8 screws) or<br>DIN rail mount  |