Voltage Monitoring Relays 601-CS-D-P1 Series

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





Description

The 601-CS-D-P1 series is a fully programmable, electronic, three-phase, power monitor designed to monitor three-phase systems. This unit 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, set up the device or control the fault relay. A DeviceNet* communications I/O module (CIO-601CS-DN-P1) is also available. 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.

The 601-CS-D-P1 includes a built-in display that offers a 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.

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

Features & Benefits

FEATURES	BENEFITS
Built-in display	Visual indication for programming and viewing real-time parameters such as nominal voltage, voltage unbalance, current unbalance, ground-fault warning
15 programmable parameters to control operations	Allows the user to customize the protection required for a specific system
Two programmable trip delay timers	Program separate trip delay time for motor acceleration and ground fault
Network communications capability	Compatible with Modbus RTU and DeviceNet* protocols with the use of separate communications module

Applications

• For monitoring a zero-sequence current transformer for ground-fault protection

^{*}DeviceNet is a trademark of its respective owner.



Voltage Monitoring Relays 601-CS-D-P1 Series

Specifications

Input Characteristics

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

Motor Full Load Amp Range 0.5–175 A (direct) 176–800 A (CTs required)

Input Ground Fault Current 0.5–10 A

Functional Characteristics

Output Contact Rating (SPDT) Pilot Duty 480 VA @ 240 V ac

General Purpose 10 A @ 240 V ac

Expected Life

Mechanical 1 x 10⁶ operations

Electrical 1 x 10⁵ operations at rated load

General Characteristics

Ambient Temperature Range

 Operating
 -20° to 70 °C (-4° to 158 °F)

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

Accuracy at 25 °C (77 °F)

Voltage +/-1%

Current +/-3% (<175 A direct)

GF Current +/-3%

Repeatability

Voltage +/-0.5% of nominal voltage **Current** +/-1% (<175 A direct)

Maximum Input Power10 WPollution Degree3Class of ProtectionIP20

Relative Humidity 10–95%, non-condensing per IEC 68-2-3

Terminal Torque 7in.-lbs.

Standards Passed

Electrostatic Discharge (ESD)IEC 61000-4-2, Level 3, 6 kV contact, 8 kV air

Radio Frequency Immunity

Conducted IEC 61000-4-6, Level 3 10 V

Radio Frequency

Immunity, 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 rms, SYM, 600 V ac max.

Surge

Immunity IEC 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

High Potential TestMeets UL508 (2 x rated V +1000V for 1 minute)

Max Conductor Size (with insulation) 0.65"

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

Weight 1.2 lbs. (19.2 oz., 544.31 g)

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

Certification & Compliance

UL	UL508 (File #E68520)
CE	IEC 60947-1, IEC 60947-5-1



Accessories

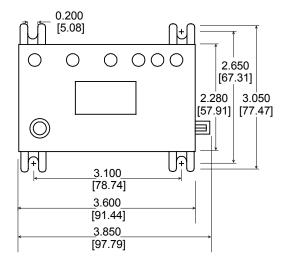
CIO-601CS-DN-P1 Module

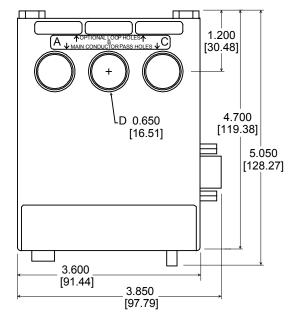
Convenient, cost-effective DeviceNet* interface device capable of providing discrete control and monitoring of motor starters, drives and other devices over a DeviceNet* network.

Ordering Information

MODEL	LINE VOLTAGE	DESCRIPTION
601-CS-D-P1	200-480 V ac	Fully programmable, electronic, three-phase, power monitor designed to monitor three-phase systems.

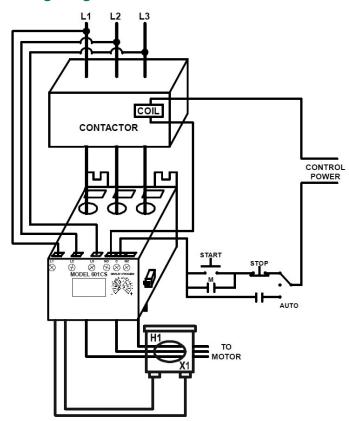
Dimensions Inches (mm)





Voltage Monitoring Relays 601-CS-D-P1 Series

Wiring Diagram



Disclaimer Notice — Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Littelfuse products are not designed for, and may not be used in, all applications. Read complete Disclaimer Notice at www.littelfuse.com/product-disclaimer.

