



SymCom's Model 777-LR-HRG-P2 is a fully programmable electronic overload relay that is designed for resistively grounded systems. The 777-LR-HRG-P2 is recommended for monitoring and protecting any 3-phase 200-480VAC motor, used in a high resistance grounded (HRG) system, drawing 91-800 full load amps (external CTs are required). The units provide unsurpassed protection from faulty voltage and current conditions.

The HRG unit uses an external zero-sequence CT to provide an accurate 1-10A range for ground fault current measurements. When the unit is used in an HRG system, equipment damage can be prevented and system availability can be improved. Pair the 777-LR-HRG-P2 with an appropriate SymCom I/O module to provide independent alarm control. The unit can also be connected to one of SymCom's remote monitors for a simple, cost-effective way to meet new requirements for arc-flash safety.

The 777-LR-HRG-P2 incorporates 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 777-LR-HRG-P2 can be used as a stand-alone product or used in a network to communicate with a PC, PLC, SCADA system, or SymCom's Solutions Software with the help of its built-in RS-485 communications port. The 777-LR-HRG-P2, in conjunction with SymCom's CIO modules, supports several communication protocols including Modbus/RTU, Modbus/TCP, DeviceNet™ and Profibus. 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 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 the trip class and linear trip delay are set, the 777-LR-HRG-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-LR-HRG-P2 to optimize restart delay times.

The 777-LR-HRG-P2 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 high resistance ground 3-phase motors from:
 - High voltage
 - Low voltage
 - Voltage unbalance
 - Reverse-phase
 - Overcurrent
 - Undercurrent
 - Current unbalance
 - Single-phase
 - Ground fault, Class II
- Ground fault current alarm/trip
- 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
- UL and ULC listed
- CE compliant
- CSA approved
- Surface or DIN rail mount
- 5-year warranty
- Made in USA

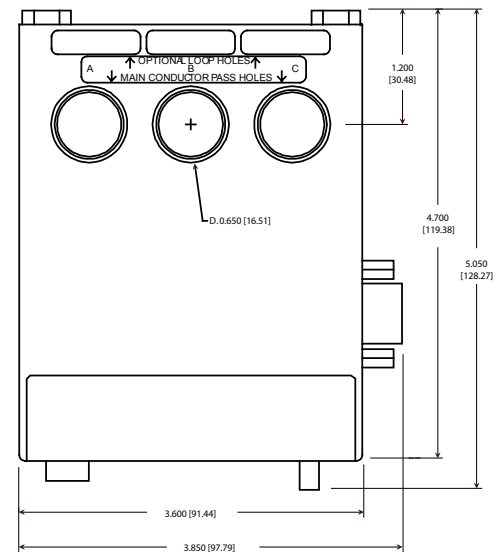
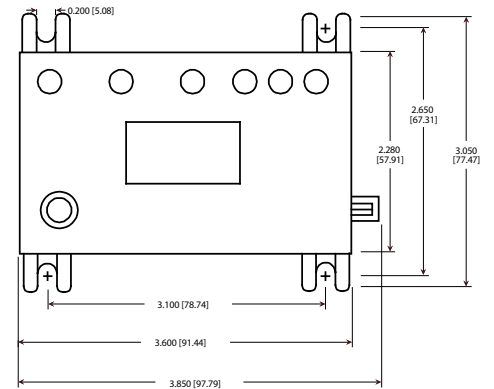
Auxiliary Products:

- 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 OC-Overcurrent Threshold UC-Undercurrent Threshold CUB-Current Unbalance Threshold TC-Overcurrent Trip Class and Linear Overcurrent Trip Delay 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 all undercurrent ADDR-RS485 Address #RF-Number of restarts after all faults except undercurrent COM-Communication setting UCTD-Undercurrent Trip Delay Ground fault inhibit delay GF-Ground Fault Current Threshold	170-524V 172-528V 2-25% or 999 (disabled) 25, 50, 75, 100, 150, 200, 300, 400, 500, 600, 700, 800 10-999 amps, proper looping of the CTs is required 0, 5-999 amps, proper looping of the CTs is required 2-50% or 999 (disabled) 02-60, J02-J60; L00-L60 or oFF 0-999 seconds 2-500 minutes 2-500 minutes, A (automatic) 0, 1, 2, 3, 4, A (automatic) A01-A99 0, 1, oc1, 2, oc2, 3, oc3, 4, oc4, A, ocA (automatic) C00-C07 2-999 seconds (standard) 0 second (default) 1-10A or oFF
Input Characteristics	
Supply Voltage Frequency Motor Full Load Amp Range	200-480VAC 50/60Hz 10-800A (external CTs required)
Output Characteristics	
Output Contact Rating - SPDT (Form C) Pilot Duty General Purpose Expected Life Mechanical Electrical	480VA@240VAC, B300 10A@240VAC 1 x 10 ⁶ operations 1 x 10 ⁵ operations at rated load
General Characteristics	
Operating Temperature Ambient Operating Ambient Storage Accuracy at 25° C (77° F) Voltage Current Timing Ground Fault 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-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) ± 0.5 second ± 15% (<100A) ± 0.5% of nominal voltage ± 1% (<100A direct) 10 W 3 IP20 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 IEC 61000-4-3, Level 3 10 V/m IEC 61000-4-4, Level 3, 3.5 kV input power 100kA 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 3.05 H x 3.85 W x 5.05 D in. (77.47 x 97.79 x 128.27 mm) 1.2 lbs. (544.31 g) Surface mount (4 - #8 screws) or DIN Rail Mount

Enclosure Dimensions



inches (millimeters)

How to order:

Part Number: 777-LR-HRG-P2

SymCom
 222 Disk Drive
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 www.SymCom.com

SSAC
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