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Current Transformers (CTs)

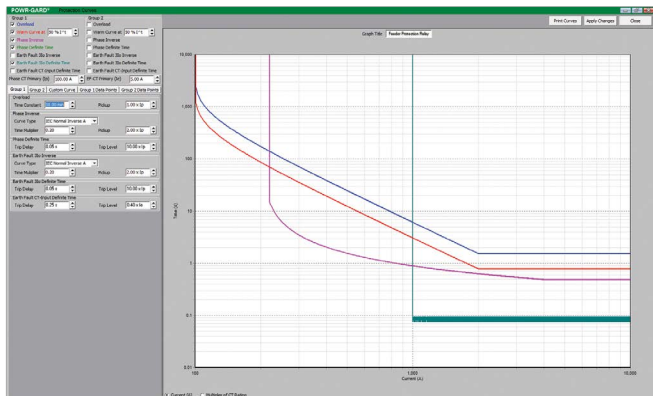
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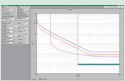






For More Information...
on Retrofits, Panel Mount Adapters
and more accessories, visit
[Littelfuse.com/relayaccessories](https://www.littelfuse.com/relayaccessories)

SOFTWARE









Protection Relays and Alarm Systems are supplied with free software. The software simplifies programming and allows the user to save setpoint files and reuse them for similar applications.






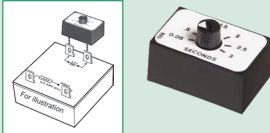
The software gives the ability to change parameters and see the impact on the protection time current curves. It also allows another device curve to be entered to view simple coordination.

SOFTWARE		
Product	Features	Accessory For
<p>Solutions-M Relay Interface Software</p> 	<p>Provides the ability to configure and monitor Modbus networks. The features include data logging, real-time data monitoring and fault and event monitoring. Devices can be added and configured manually or the software can scan an existing network to identify devices which can be used as is or reconfigured by the user. Setpoints for each device can be uploaded and downloaded for easy monitoring and reconfiguration.</p>	<p>RS485 TCP/IP networks MotorSaver and PumpSaver Devices</p>
<p>SE-COMM-RIS Relay Interface Software</p> 	<p>Provides remote access to metering, control, data logging, and programming features. Setpoints can be accessed individually, downloaded as a file, and protective curves can be plotted. Metered data can be observed or logged for later study.</p>	<p>FPU-32 MPS FPS MPU-32</p>
<p>SE-FLASH Firmware Update Utility</p> 	<p>Used to update relay firmware to add new features.</p>	<p>FPU-32 MPS EL731 FPS MPU-32</p>
<p>SE-MON330 Relay Interface Software</p> 	<p>Used to receive data from the SE-330. It displays relay set points and measured values, and features data logging of information at a selectable interval.</p>	<p>SE-330 SE-330HV SE-330AU</p>
<p>VMPU Virtual Motor Protection Relay</p> 	<p>Allows the user to scroll through the MPU-32 Motor Protection Relay menu.</p>	<p>MPU-32</p>
<p>VMPS Virtual Motor Protection System</p> 	<p>Allows the user to scroll through the MPS Motor Protection System menu.</p>	<p>MPS</p>
<p>VFPU Virtual Feeder Protection Relay</p> 	<p>Allows the user to scroll through the FPU-32 Feeder Protection Relay menu.</p>	<p>FPU-32</p>
<p>MPU-32 Tutorial MPU-32 Online Self-Training Tutorial</p> 	<p>Online Self-Training tutorial for MPU-32 programming.</p>	<p>MPU-32</p>





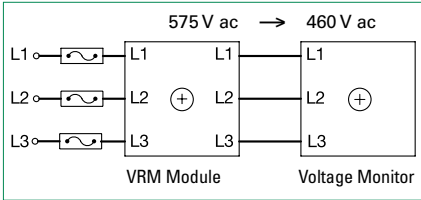
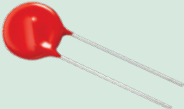
ELECTRICAL

ELECTRICAL ACCESSORIES																																			
Product	Features	Accessory For																																	
<p>PGA-1100.0010 Diode Logic Unit</p> 	<p>Used in installations with more than one breaker and more than one Littelfuse Arc-Flash Relay. It separates the trip paths, so the breakers can be tripped independently from each other.</p> <p>For full datasheet, see pg. 81</p>	<p>PGR-8800 D0920 AF0500 D1000 AF0100</p>																																	
<p>P1004-XX-(X) Versa-Pot</p> <table border="1"> <thead> <tr> <th>PART NUMBER</th> <th>WITH WIRE LEADS</th> <th>VALUE</th> </tr> </thead> <tbody> <tr><td>P1004-199</td><td></td><td>50 kΩ</td></tr> <tr><td>P1004-174</td><td></td><td>100 kΩ</td></tr> <tr><td>P1004-175</td><td></td><td>200 kΩ</td></tr> <tr><td>P1004-95</td><td>P1004-95-X</td><td>100 kΩ</td></tr> <tr><td>P1004-17</td><td></td><td>500 kΩ</td></tr> <tr><td>P1004-16</td><td>P1004-16-X</td><td>1M Ω</td></tr> <tr><td>P1004-15</td><td></td><td>1.5M Ω</td></tr> <tr><td>P1004-14</td><td></td><td>2M Ω</td></tr> <tr><td>P1004-12</td><td>P1004-12-X</td><td>3M Ω</td></tr> <tr><td>P1004-13</td><td></td><td>5M Ω</td></tr> </tbody> </table> 	PART NUMBER	WITH WIRE LEADS	VALUE	P1004-199		50 kΩ	P1004-174		100 kΩ	P1004-175		200 kΩ	P1004-95	P1004-95-X	100 kΩ	P1004-17		500 kΩ	P1004-16	P1004-16-X	1M Ω	P1004-15		1.5M Ω	P1004-14		2M Ω	P1004-12	P1004-12-X	3M Ω	P1004-13		5M Ω	<p>Panel mountable, industrial potentiometer recommended for remote time delay adjustment. The shaft is slotted for screwdriver adjustment and serrated for slip-proof finger adjustment. Accepts Versa-Knob or Lock Shaft. May be ordered with two 8 in (20.3 cm) wires soldered to pot (clockwise increase) and female quick connect terminals on other ends by adding suffix -X to end of part number.</p> <p>Specifications Rating 0.25 W at 55 °C Taper Linear Shaft Rotation 300° ±5° Tolerance ±10 % Shaft Diameter 0.25 in</p>	<p>P1004-95 & P1004-95-X: Consult individual datasheet for compatibility</p> <p>P1004-174 & P1004-175: PHS Series</p> <p>P1004-16 & P1004-16-X: Series: ERDM ERDI ERD3 TRB TRM TRS TS1 TS6</p> <p>P1004-15, P1004-14, P1004-13, P1004-12, & P1004-12-X: Series: ORB ORM ORS TAC1 THD7 TRB TRM TRS TS1 TS2 TS4 TS6 TSD7 TSU2000</p>
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<p>P0700-7 Versa-Knob</p> 	<p>Versa-Knob is designed for 0.25 in (6.35 mm) shaft of Versa-Pot. Semi-gloss industrial black finish.</p>	<p>P1004-XX-(X)</p>																																	
<p>P0700-8 Lock Shaft</p> 	<p>Fits 0.25 in (6.35 mm) potentiometer shafts. Locks by tightening nut onto four tapered/slotted fingers. Pressure on the shaft locks control against mis-adjustment. Nickel plated brass finish.</p>	<p>P1004-XX-(X)</p>																																	
<p>P1004-9 P1004-10 P1004-31 Mini-Pot</p> <table border="1"> <thead> <tr> <th>PART NUMBER</th> <th>VALUE</th> </tr> </thead> <tbody> <tr><td>P1004-9</td><td>500kΩ</td></tr> <tr><td>P1004-10</td><td>1MΩ</td></tr> <tr><td>P1004-31</td><td>3MΩ</td></tr> </tbody> </table> 	PART NUMBER	VALUE	P1004-9	500kΩ	P1004-10	1MΩ	P1004-31	3MΩ	<p>A high quality, industrial potentiometer for remote time delay adjustment. The shaft extends through the timer's center hole for easy panel mounting. Use mini-mount bracket for standup mounting of timer. Adjustment by screwdriver or mini-knob. May be ordered with two 3 in (7.6 cm) wires soldered to pot (clockwise increase) and female quick connect terminals on other ends by adding suffix -X to end of part number.</p> <p>Specifications Rating 0.25 W at 55 °C Taper Linear Shaft Rotation 300° ±5° Tolerance ±10 % Shaft Diameter 0.125 in (3.2 mm)</p>	<p>Series: TAC1 TS1 TS2 TS4 TS6 TS7 TSU2000</p>																									
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<p>P0700-21 Mini-Knob</p> 	<p>Mini-Knob is designed for 0.125 in (3.2 mm) shaft of Mini-Pot. Semi-gloss industrial black finish.</p>	<p>P1004-9 P1004-10 P1004-31</p>																																	








ELECTRICAL



ELECTRICAL ACCESSORIES																																																																										
Product		Features		Accessory For																																																																						
<p>P0200-19 Heat Sink Compound 2 grams</p>  <p>P0200-20 Heat Sink Compound 100 grams</p> 		<p>Single package/container of heat sink compound consisting of primarily zinc oxide and having a 12 month shelf life (EOD date on the label). P0200-19 mounts one high current, plated 2 x 2 in (50.8 x 50.8 mm) timer or flasher. P0200-20 mounts 50+ units.</p>		<p>Any 2 x 2 in (50.8 x 50.8 mm) plated timer or flasher.</p>																																																																						
<p>P1015-18 Quick Connect Screw Adaptor</p> 		<p>Screw adaptor terminal designed for use with all modules with 0.25 in (6.35 mm) male quick connect terminals. Screw terminal accepts ring or spade terminals.</p>		<p>Modules with 0.25 in (6.35 mm) male quick connect terminals. Consult the individual datasheet to determine compatibility.</p>																																																																						
<p>P1015-13 P1015-64 P1015-14 Female Quick Connect Terminals</p> 		<p>These 0.25 in (6.35 mm) female terminals are constructed with an insulator barrel to provide strain relief.</p>		<p>Consult individual datasheet to determine compatibility.</p>																																																																						
<p>P0400 Time Adjustment Dials</p> 		<p>Dials for use with remote Versa-Pot and panel mounted Mini-Pot. Reverse screen printed on clear plastic to avoid damage to printed image.</p>		<p>P1004-9 P1004-10 P1004-12 P1004-13 P1004-16 P1004-31 P1004-95</p>																																																																						
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<p>VTPXX VTP</p> 		<p>The VTP Series mounts on modules with in-line adjustment terminals. Rated at 0.25 W at 55 °C. Available in resistance values from 5 kΩ to 5 MΩ</p>		<p>Series: TAC1 THD7 THDM TS1 TS2 TS4 TS6 TS7</p>																																																																						
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ELECTRICAL

ELECTRICAL ACCESSORIES																	
Product		Features					Accessory For										
<p>LPSM003ZXID Indicating Fuse Holder</p> <p>LPSM003Z Non-indicating Fuse Holder</p> 		<p>Littelfuse POWR-SAFE Dead Front holders provide optimum protection to personnel for Class CC and Midget-Style fuses. 600 V ac/dc</p>					<p>Class CC and Midget-Style fuses</p>										
<p>OKLK002.T Midget Fuse (2 Amp)</p> 		<p>10 x 38 fast acting, high-interrupting capacity, current-limiting type fuse. 600 V ac/500 V dc</p>					FH3P	LPSM003ZXID	LPSM003Z								
<p>VRM6048 Voltage Monitor Accessory Module</p> 		<p>The VRM6048 accessory module allows the voltage monitor to monitor a 3-phase 550 to 600 V ac Line.</p> <p>Adjustment If the measured line voltage is 575 V ac, connect as shown and adjust/select the voltage monitor for 460 V ac operation.</p> <p>Package Molded housing with encapsulated circuitry</p> <p>Mounting Surface mount with one #10 (M5 x 0.8) plastic screw. May be DIN-rail mounted using P1023-20 Adaptor.</p> <p>Termination Screw terminals with captive wire clamps for up to No.12 AWG wire.</p> <p>Operating Storage Humidity Voltage</p> <table border="1"> <tr> <td>Input</td> <td>Output*</td> </tr> <tr> <td>600 V ac</td> <td>480 V ac</td> </tr> <tr> <td>575 V ac</td> <td>460 V ac</td> </tr> <tr> <td>550 V ac</td> <td>440 V ac</td> </tr> </table> <p>*The VRM6048 must be connected as shown. If the voltage monitor is disconnected, the VRM output voltage equals the input voltage.</p>					Input	Output*	600 V ac	480 V ac	575 V ac	460 V ac	550 V ac	440 V ac	<p>Series:</p> <p>PLM PLR PLS TVM TVW (manufactured after December 2003)</p>		
Input	Output*																
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<p>VRM6048 Voltage Monitor Accessory Module</p> 																	
<p>V150LA10AP LA Varistor</p> 		<p>The V150LA10AP, a transient voltage surge suppressor, is a radial leaded varistors (MOVs) that is designed to be operated continuously across ac power lines. This UL Recognized varistor requires very little mounting space.</p>					<p>Any of our products that operate below 150 V ac or 200 V dc.</p>										
PRODUCT	MAX. OPERATING VOLTAGE		MAX IMPULSE CURRENT 80.20 μs CURRENT WAVE (A)	VARISTOR VOLTAGE AT 1MA DC TEST CURRENT		PEAK CLAMPING VOLTAGE WITH 80.20 μs WAVE		CAPACITANCE	DISC DIAMETER SIZE (MM)								
	AC (V)	DC (V)		MIN. (V)	MAX. (V)	V _C (V)	1 _{PK} (A)										
V150LA10AP	150	200	4500	216	264	395	50	800	14								










GR MODULES, HIGH-TENSION COUPLERS, & RELAY TESTERS
















GROUND-REFERENCE MODULES		
Product	Features	Accessory For
SE-GRM024 Ground Reference Module 	Connects the SE-601 relay to an ungrounded 24 V dc bus.	SE-601
SE-GRM048 Ground Reference Module 	Connects the SE-601 relay to an ungrounded 48 V dc bus.	SE-601
SE-GRM125 Ground Reference Module 	Connects the SE-601 relay to an ungrounded 125 V dc bus.	SE-601
SE-GRM250 Ground Reference Module 	Connects the SE-601 relay to an ungrounded 250 V dc bus.	SE-601
SE-GRM500 Ground Reference Module 	Connects the SE-601 relay to an ungrounded 500 V dc bus.	SE-601
SE-GRM780 Ground Reference Module 	Connects the SE-601 relay to an ungrounded 780 V dc bus.	SE-601
SE-GRM1000 Ground Reference Module 	Connects the SE-601 relay to an ungrounded 1000 V dc bus.	SE-601

HIGH-TENSION COUPLERS		
Product	Features	Accessory For
PGH-5000 High Tension Couplers 	Allows 5 kV systems to be connected to relay.	PGR-6100 PGR-3200
PGH-6000 High Tension Couplers 	Allows 6 kV systems to be connected to relay.	PGR-6100 PGR-3200






PROTECTION RELAY TESTERS		
Product	Features	Accessory For
SE-100T  Ground-Fault Relay Tester 	Tests the current pickup level ground-fault protection. Tests the entire ground-fault circuit.	Any Relay on Substations, MCCs, Central Distribution Panels, Switchboards, and Test Benches
SE-400 Ground-Fault-Relay Test Unit 	Tests the current pickup level, time delay and coordination of ground-fault protection. Tests the entire ground-fault circuit.	Any Relay on Substations, MCCs, Central Distribution Panels, Switchboards, and Test Benches









INPUT MODULES & METERS

INPUT MODULES		
Product	Features	Accessory For
MPS-RTD Temperature Input Module 	Provides 8 programmable inputs to connect Pt100, Ni100, Ni120, and Cu10 RTDs.	MPU-32 MPS
MPS-DIF Differential Current Module 	Adds motor differential protection, compatible with core balance and summation current transformer connections.	MPU-32 MPS
MPU-CIM Current Input Module 	Interface between current transformers and MPU-32 or FPU-32 series relays. Reduces potential for open CT hazard.	MPU-32 FPU-32
PGA-LS10 Point Sensor 	Line-of-sight light sensor detects an arc as small as 3 kA within a 2 m half-sphere. Local LED continually displays sensor health or trip state.	PGR-8800 AF0500 AF0100
PGA-LS20 Fiber-Optic Sensor 	Used to detect light and coordinate with current detection to eliminate nuisance tripping. 8 m (26.2 ft) active; 10 m (32.8 ft) total.	PGR-8800 AF0500 AF0100
PGA-LS30 Fiber-Optic Sensor 	Used to detect light and coordinate with current detection to eliminate nuisance tripping. 18 m (59 ft) active; 20 m (66 ft) total	PGR-8800 AF0500 AF0100
A0200/A0300 Light Sensor 	Line-of-sight light sensor detects an arc as small as 3 kA within a 2 m half-sphere. Available in both 180° and 360°.	D0920
A0220 Arc Detecting Point Sensor 	Line-of-sight light sensor detects an arc as small as 3 kA within a 2 m half-sphere. Available with 10 or 15 m cable. For full datasheet and ordering information, see pg. 80	PGR-8800 AF0500 AF0100 D0920 D1000
LCSC10T12 Toroidal Current Sensor 	Remote monitoring of currents up to 50 A. Inner diameter 9.14 mm (0.36")	DCSA Series

REMOTE INDICATION & METERS		
Product	Features	Accessory For
RK-105 Remote Indication and Reset Assembly   	Panel-mounted remote indication and reset with NEMA 1 rating.	SE-105 SE-107
RK-105I Remote Indication Assembly   	Panel-mounted remote indication with NEMA 1 rating.	SE-105 SE-107
RK-102 Industrial Remote Indication and Reset Kit   	Panel-mounted remote indication and reset, standard 22 mm mounting, with NEMA 4 and NEMA 13 rating.	SE-105 SE-107
RK-132 Industrial Remote Indication and Reset Kit   	Panel-mounted remote indication and reset, standard 22 mm mounting, with NEMA 4 and NEMA 13 rating.	SE-134C SE-135 SE-145
RK-325 Remote Indication and Reset Assembly   	Panel-mounted remote indication and reset with NEMA 1 rating.	SE-325

METERS & SENSING RESISTORS









REMOTE INDICATION & METERS		
Product	Features	Accessory For
RK-325I Remote Indication Assembly 	Panel-mounted remote indication with NEMA 1 rating.	SE-325
RK-302 Remote Indication and Reset Kit 	Panel-mounted remote indication and reset, standard 22 mm mounting with NEMA 4 and NEMA 13 rating.	SE-325
RK-332 Remote Indication and Reset Kit 	Panel-mounted remote indication and reset, standard 22 mm mounting with NEMA 4 and NEMA 13 rating.	SE-330 SE-330HV SE-330AU
PGA-0500 Analog % Current Meter 	Panel-mounted analog meter displays ground-fault current as a percentage of the set point.	SE-601 PGR-4300 PGR-6100 SE-701 SE-703 SE-704
PGA-0510 Analog Ohm Meter 	Panel-mounted analog ohmmeter displays insulation resistance from 0 Ω to infinity.	PGR-3200 PGR-6101-120 PGR-6100

SENSING RESISTORS		
Product	Features	Accessory For
ER-600VC (PGE-600V) Sensing Resistor 	Used on systems up to 1 kV. (Continuous duty)	SE-330 SE-330AU SE-325
SE-MRE-600 Enclosure 	Used in outdoor enclosures. (ER-600 VC ordered separately)	ER-600VC
ER-5KV (PGE-05KV) Sensing Resistor 	Used on systems up to 5 kV. (Continuous duty)	SE-330 SE-330AU SE-325
ER-5WP (PGE-05WV) Sensing Resistor 	Used on systems up to 5 kV, includes weather-protected terminals for use in outdoor enclosures. (Continuous duty)	SE-330 SE-330AU SE-325
ER-15KV (PGE-15KV) Sensing Resistor 	Used on systems up to 15 kV. (Non-continuous duty)	SE-330 SE-330AU SE-325 SE-330HV
ER-25KV (PGE-25KV) Sensing Resistor 	Used on systems up to 25 kV. (Non-continuous duty)	SE-330 SE-330AU SE-325 SE-330HV
ER-35KV (PGE-35KV) Sensing Resistor 	Used on systems up to 35 kV. (Non-continuous duty)	SE-330 SE-330HV SE-330AU
ER-72KV (PGE-72KV) Sensing Resistor 	Used on systems up to 72 kV. (Non-continuous duty)	SE-330HV




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ACCESSORIES

REMOTE INDICATION & MONITORING




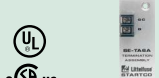
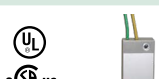











REMOTE INDICATORS & MONITORS		
Product	Features	Accessory For
<p>RM1000 RM1000-3R RM1000 NEMA 4</p> <p>Motor-monitoring Device</p> 	<p>Motor-monitoring device to be used in conjunction with the 777 family of products (excluding the P1 Series), 77C family of products, and the 601 voltage monitors, via Modbus protocol with a communications module. The RM1000/777 motor management system combines unsurpassed electronic motor protection and critical, user-friendly, motor monitoring.</p> <p>For full datasheet, see pg. 246</p>	<p>777 series 77C series 601 series</p>
<p>RM2000 RM2000CBM+ RM2000-RTDW</p> <p>Motor-monitoring Device</p> 	<p>Motor-monitoring device to be used in conjunction with the 777 family of products (excluding the P1 Series), 77C family of products and the Model 601 voltage monitors, via Modbus protocol with a communications module. The RM2000/777 motor management system combines unsurpassed electronic motor protection and critical, user-friendly, motor monitoring.</p> <p>For full datasheet, see pg. 248</p>	<p>777 series 77C series 601 series</p>
<p>INFORMER</p> <p>Remote diagnostic tool</p> 	<p>Hand-held diagnostic tool designed for use with single-phase pump relays. The Informer uses an infrared receiver to access information sent from the relay which can be helpful for troubleshooting the system. Comes with IR Kit-12 (12" long).</p> <p>For full datasheet, see pg. 248</p>	<p>111P 111-Insider-P 111P-ENCL 231-Insider-P 232-Insider 233P-1.5 233P-ENCL 233P-1.5-ENCL 234-P 235P 235P-ENCL</p>
<p>IR Kit-36 (36" long)</p> <p>Informer Fiber Optic Kit</p> 	<p>Use with the Informer. Simply attaches to the face of the unit to provide remote diagnostics without opening the panel.</p>	<p>LSRX1 111-Insider-P 455 LSRX-C 231-Insider-P</p>
<p>INFORMER-MS</p> <p>Remote diagnostic tool</p> 	<p>Hand-held diagnostic tool designed for use with the Littelfuse 455 series. The Informer-MS uses an infrared receiver to read valuable information transmitted from the 455, which can be helpful for troubleshooting the system</p> <p>For full datasheet, see pg. 252 www.datasheetarchive.com/Littelfuse.com/informer-ms</p>	<p>455 series</p>
<p>OL-RESET</p> <p>Remote Reset Module</p> 	<p>Allows the 777 line of motor and pump relay products to be manually reset without opening the panel door. Simply connect the module to the 777 communication port, connect a wire to each of the two applicable pins on the OL-RESET and to a normally-open push-button switch (sold separately). Mount the push-button switch in a convenient location.</p>	<p>777 series</p>
<p>777-MRSW</p> <p>Manual Remote Reset Kit (24" long)</p> 	<p>Allows the 777 line of motor and pump relay products to be manually reset without opening the panel door. Simply connect the 9-pin adapter to the 777 communication port and mount the push-button switch in a convenient location.</p>	<p>777 series</p>
<p>M500</p> <p>Electronic Megohmmeter</p> 	<p>Automatic, portable, battery-powered insulation tester. This unit is specifically designed as an inexpensive alternative to costly swing needle megohmmeters. The M500 measures insulation resistance values of motors, generators and transformers up to 1000 megohms at 500 V ac, indicating the condition of insulation on the zone scale. Its compact design and ease of use makes the M500 a great diagnostic tool for motor rewind shops, electrical maintenance personnel and pump installers.</p>	

COMMUNICATION ADAPTERS & MODULES



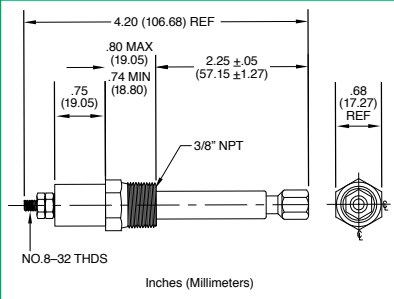
COMMUNICATION ADAPTERS		
Product	Features	Accessory For
<p>RS485-RS232 Converter with cable & plug</p> 	<p>Allows RS485 devices to be connected to a PC via the RS232 (serial) port. The converter provides convenient terminal blocks for making signal and dc power supply connections. An optional power supply may be required for laptops or other computers with low power serial ports, or for very large networks. Pre-wired for easy installation on the RS485MS-2W module.</p>	RS485MS-2W
<p>RS485-USB Converter with cable & plug/RS232:USB</p> 	<p>Allows RS485 devices to be connected to a PC via the USB port. The converter provides convenient terminal blocks for making signal and dc power supply connections. An optional power supply may be required for laptops or other computers with low power serial ports, or for very large networks. Pre-wired for easy installation on the RS485MS-2W module.</p>	RS485MS-2W
<p>AC700-CUA Communications Adapter</p> 	<p>Optical network-interface and firmware-upgrade communication adapter. Field-installed.</p>	EL731

COMMUNICATION MODULES		
Product	Features	Accessory For
<p>RS485MS-2W Communication Module</p> 	<p>This module is required when the RM1000, RM2000 or other Modbus capable device is used with 77X-type products. For full datasheet, see pg. 254</p>	Series: RM1000 77X RM2000
<p>CIO-DN-P CIO-120-DN-P Communication link to PLC/SCADA/monitoring systems</p> 	<p>Convenient and cost-effective Devicenet™ interfaces capable of providing discrete control and monitoring of motor starters, drives and other devices over a Devicenet network. For full datasheet, see pg. 257</p>	777 series
<p>CIO-EN Communication link to PLC/SCADA/monitoring systems</p> 	<p>The CIO-EN Module (non-POE) is a convenient and cost-effective Modbus-TCP and Modbus-RTU interface capable of providing discrete control and monitoring of an overload relay over a Modbus network. For full datasheet, see pg. 260</p>	777 series
<p>CIO-MB CIO-120-MB Communication link to PLC/SCADA/monitoring systems</p> 	<p>Convenient and cost-effective Modbus-RTU interfaces capable of providing discrete control and monitoring of an overload relay over a Modbus network. For full datasheet, see pg. 255</p>	777 series
<p>CIO-777-PR Communication link to PLC/SCADA/monitoring systems</p> 	<p>Convenient and cost-effective Profibus interface capable of providing discrete control and monitoring of motor starters, drives and other devices over a Profibus network. For full datasheet, see pg. 259</p>	777 series ending in P, -P, or -P2
<p>CIO-601CS-DN-P1</p> 	<p>Convenient and cost-effective DeviceNet device capable of providing discrete control and monitoring of motor starters, drives and other devices over a DeviceNet network.</p>	601-CS-D-P1
<p>COM 4-20 Communication link to PLC/SCADA/monitoring systems</p> 	<p>Send a 4-20 mA signal proportional to the output power. It can also be used to send the input power by setting the efficiency setting on the 777-AccuPower monitor to one. This module allows communication to a PLC with an analog input and no Modbus input. For full datasheet, see pg. 261</p>	777-AccuPower







TERMINATIONS & ADAPTERS

TERMINATIONS & ADAPTERS		
Product	Features	Accessory For
1N5339B Termination Device 	5 W axial-lead ground-check termination. Included with SE-105 and SE-107.	SE-105 SE-107
SE-TA6-SM Stud-Mount Termination Assembly 	50 W ground-check termination that is robust and compact for submersible pumps. Wire lead simplifies installation. (Replacement for 1N4553B)	SE-105 SE-107
SE-TA6 Termination Assembly 	50 W ground-check termination with convenient mounting holes and screw terminals.	SE-105 SE-107
SE-TA6A (PGA-0T6A) Termination Assembly 	Temperature compensated 50 W ground-check termination with convenient mounting holes and screw terminals.	SE-105 SE-107 SE-134C
SE-TA6A-WL Termination Assembly 	Temperature compensated 50 W ground-check termination with convenient mounting holes and screw terminals.	SE-105 SE-107 SE-134C
SE-TA6ASF-WL Small-Format Termination Assembly with Wire Leads 	Temperature compensated 12 W ground-check termination, ideal for use in cable-coupler end caps and submersible pumps. Mounting holes and wire leads.	SE-105 SE-107 SE-134C
SE-TA12A Termination Assembly 	Temperature compensated 50 W ground-check termination with convenient mounting holes and screw terminals.	SE-135 SE-145
SE-TA12ASF-WL Small-Format Termination Assembly with Wire Leads 	Temperature compensated 12 W ground-check termination, ideal for use in cable-coupler end caps and submersible pumps. Mounting holes and wire leads.	SE-135 SE-145
SE-TA12A-WL Termination Assembly 	Temperature compensated 50 W ground-check termination with convenient mounting holes and screw terminals.	SE-135 SE-145
SE-TA12A SE-TA12B Termination Assemblies 	Used together to allow an SE-134C to monitor a splitter box and two cables.	SE-134C
PPI-600V Parallel Path Isolator 	Parallel ground-path rejection for ground-check monitors. Eliminates intermachine arcing and prevents stray dc currents from flowing in a monitored ground wire.	SE-105 SE-134C SE-107 SE-135
RK-13 Relay Interface Module 	Separate ground-fault and ground-check indication contacts for the SE-105, and separate ground-fault and resistor-fault contacts for the SE-325. Used to provide output to a PLC and operate standard pilot lights. Complete with conformally coated circuit boards.	SE-105 SE-107 SE-325
SE-485-DIN Industrial RS-485 to RS-232 Converter 	Industrial network quality RS-485 to RS-232 serial converter. DIN-rail mounted, 24 V dc required.	MPS FPS
SE-485-PP Port-Powered Serial Converter 	Converts an RS-485 signal to an RS-232 signal. Used for set-point programming and updating flash memory. 115.2 kbit/s maximum transfer rate.	MPU-32 FPU-32 MPS FPS
CA-945 Serial Connector Adapter Kit 	Connects an RJ45 to a 9-pin serial connector. Includes 1.5 m cable and plug-in adapter.	MPU-32 FPU-32
SE-ICUSB232 USB to RS-232 Converter 	Connects a 9-pin serial cable to a USB port.	SE-330 SE-330AU SE-485-PP CA-945 SE-330HV SE-485-DIN

LIQUID LEVEL CONTROL ELECTRODES

Product	Features	Accessory For
<p>LLP-24 Liquid Level Probe</p> 	<p>Threaded stainless steel probe measuring 24 in (61 cm) long. Designed for use with PHST-38QTN liquid level control electrodes.</p>	<p>PHST-38QTN</p>
<p>PHST-38QTN Probe Holder</p> <p>P0700-409 Protective Boot</p>   <p>Inches (Millimeters)</p>	<p>Designed for use with all conductive liquid level controls. Composed of insulators and metal parts made of number 300 series stainless steel. These internally conductive probe holders are designed for a maximum steam pressure of 240 PSI; 400 °F maximum. Maximum voltage from electrode to ground. PHST-38QTN is UL 353 Recognized.</p>	<p>Series: LLC1 LLC2 LLC4 LLC5 LLC6 LLC8 PC-XXX-LLC-CZ PC-XXX-LLC-GM 460-15-100-LLS</p>

CT SELECTION GUIDE

	PRODUCT	GROUND-FAULT CT	GROUND-FAULT TRIP LEVEL (or insulation level)	PHASE CTS	PAGE #
GROUND-FAULT PROTECTION 	SE-601	No CTs required	1–20 mA	N/A	–
	PGR-3100	No CTs required	Indication only	N/A	–
	PGR-3200	No CTs required	Warnings at 30 kΩ & 50 kΩ Alarm at 10 kΩ	N/A	–
	SE-701/SE-703	CT200 series	10–198 A	N/A	480
		EFCT series	50 mA–4.95 A		480
	SE-704	SE-CS30 series	300 mA–29.7 A	N/A	480
GROUND-CONDUCTOR MONITORING 	EL731	EFCT series	30–5,000 mA ac and dc	N/A	480
	SE-105/SE-107	CT200 series	0.5–4 A	N/A	480
	SE-134C/SE-135	SE-CS10 series	0.5–12.5 A	N/A	480
		SE-CS30 series	10 mA–5 A		480
RESISTANCE GROUNDING 	SE-330	CT200 series	12–200 A	N/A	480
		EFCT series	100 mA–5 A		480
	SE-325	SE-CS30 series	600 mA–30 A	N/A	480
		CT200 series	0.5–4 A		480
MOTOR & PUMP PROTECTION 	MPU-32*	CT200 series	10–200 A	N/A	480
		EFCT series	50 mA–5 A		480
		SE-CS30 series	300 mA–30 A		480
	MPS*	CT200	10–200 A	1-A, 5-A Secondary CTs	480
		EFCT series (5-A Primary)	50 mA–5 A		480
	MPU-32-X69X-PMA16	SE-CS30 series (30-A Primary)	300 mA–30 A		480
		Existing CTs can be used or same as MPU-32.			480
	MPS-469X-PMA24	Existing CTs can be used or same as MPS.			480
FEEDER PROTECTION 	FPU-32*	CT200 series	10–200 A	1-A, 5-A Secondary CTs	480
		EFCT series	50 mA–5 A		480
	FPS*	SE-CS30 series	300 mA–30 A	1-A, 5-A Secondary CTs	480
		CT200	10–200 A		480
ARC-FLASH PROTECTION 	PGR-8800*	EFCT series (5-A Primary)	50 mA–5 A	5-A Secondary CTs (optional)	480
		SE-CS30 series (30-A Primary)	300 mA–30 A		

Note: See page 502 for additional information on CT selection. See page 482 for CT sizing chart.

*Phase CTs should be selected with a primary rating of 100–300 % of rated current to maintain specified accuracy.

†Select a CT with a primary rating approximately equal to the system's rated current.

CURRENT TRANSFORMERS

CURRENT TRANSFORMERS							
Product	Features	Inner Diameter	Accessory For				
CT200 (PGC-2056) Current Transformer	Detects phase current or ground-fault current (200-A primary)	56 mm (2.20")	FPS MPU-32 SE-330	FPU-32 PGR-8800 SE-325	MPS SE-105/107 SE-701		
CT200L (PGC-2089) Current Transformer	Detects phase current or ground-fault current (200-A primary)	89 mm (3.50")	FPS MPU-32 SE-107	FPU-32 PGR-8800 SE-701	MPS SE-105		
EFCT-26 (PGC-3026) Ground-Fault Current Transformer	Sensitive current transformer used to detect ground-fault current (5-A primary)	26 mm (1.02")	EL731 MPS SE-701	FPS MPU-32	FPU-32 SE-330		
EFCT-1 (PGC-3082) Ground-Fault Current Transformer	Sensitive current transformer used to detect ground-fault current (5-A primary)	82 mm (3.23")	EL731 MPS SE-701	FPS MPU-32	FPU-32 SE-330		
EFCT-2 (PGC-3140) Ground-Fault Current Transformer	Sensitive current transformer used to detect ground-fault current (5-A primary)	140 mm (5.50")	EL731 MPS	FPS MPU-32	FPU-32 SE-701		
EFCT-1FC (PGC-31FC) Flux Conditioner	Fits in the EFCT-1 window to reduce saturation and prevent false operation due to large surge currents	70 mm (2.75")	EFCT-1				
SE-CS10-2.5 (PGC-4064) Current Sensor	Detects ground-fault current	64 mm (2.50")	SE-134C	SE-135	SE-145		
SE-CS10-4 (PGC-4108) Current Sensor	Detects ground-fault current	108 mm (4.25")	SE-134C	SE-135	SE-145		
SE-CS10-6 (PGC-4160) Current Sensor	Detects ground-fault current	160 mm (6.31")	SE-134C	SE-135	SE-145		
SE-CS10-8 (PGC-4210) Current Sensor	Detects ground-fault current	210 mm (8.25")	SE-134C	SE-135	SE-145		
SE-CS30-26 (PGC-5025) Ground-Fault Current Transformer	Current Transformer for low-level ground faults, flux conditioner is standard (30-A primary)	25 mm (0.98")	FPS MPU-32 SE-330	FPU-32 PGR-6100 SE-701	MPS PGR-6101 SE-704		
SE-CS30-70 (PGC-5060) Ground-Fault Current Transformer	Current Transformer for low-level ground faults, flux conditioner is standard (30-A primary)	60 mm (2.36")	FPS MPU-32 SE-330	FPU-32 PGR-6100 SE-701	MPS PGR-6101 SE-704		
SE-CS30-4 (PGC-5095) Ground-Fault Current Transformer	Current Transformer for low-level ground faults, flux conditioner is standard (30-A primary)	95 mm (3.74")	FPS MPU-32 SE-330	FPU-32 PGR-6100 SE-701	MPS PGR-6101 SE-704		
SE-CS30-5 (PGC-5130) Ground-Fault Current Transformer	Current Transformer for low-level ground faults, flux conditioner is standard (30-A primary)	130 mm (5.12")	FPS MPU-32 SE-330	FPU-32 PGR-6100 SE-701	MPS PGR-6101 SE-704		
SE-CS30-8 (PGC-5200) Ground-Fault Current Transformer	Current Transformer for low-level ground faults, flux conditioner is standard (30-A primary)	200 mm (7.87")	FPS MPU-32 SE-330	FPU-32 PGR-6100 SE-701	MPS PGR-6101 SE-704		
SE-CS40-6 Current Sensor	Detects ground-fault current	160 mm (6.31")	SE-135	SE-145			

NOTE: Contact factory for additional CT offerings.

INSTRUMENTATION & METERING TRANSFORMERS



Donut Style

Foot Mounted

Ordering Information

DONUT MODEL	WINDOW	CURRENT RATIO
CT-0050-D10	1.0"	50:5
CT-0075-D10	1.0"	75:5
CT-0100-D10	1.0"	100:5
CT-0150-D10	1.0"	150:5
CT-0200-D10	1.0"	200:5
CT-0300-D10	1.0"	300:5
CT-0200-D20	2.0"	200:5
CT-0300-D20	2.0"	300:5
CT-0400-D20	2.0"	400:5
CT-0500-D20	2.0"	500:5

FOOTED MODEL	WINDOW	CURRENT RATIO
CT-0050-F10	1.0"	50:5
CT-0100-F10	1.0"	100:5
CT-0150-F10	1.0"	150:5
CT-0200-F10	1.0"	200:5
CT-0300-F10	1.0"	300:5
CT-1200-F15	1.5"	1200:5
CT-0150-F20	2.0"	150:5
CT-0200-F20	2.0"	200:5
CT-0300-F20	2.0"	300:5
CT-0400-F20	2.0"	400:5
CT-0600-F20	2.0"	600:5
CT-0400-F30	3.0"	400:5
CT-0800-F30	3.0"	800:5

Description

Littelfuse offers a wide array of instrument rated current transformers in 1–3 inch diameter opening.

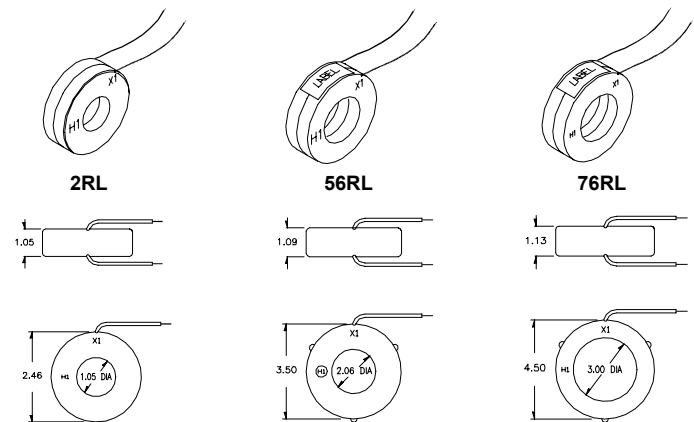
Voltage class: 600 V

BIL rating: 10 kV

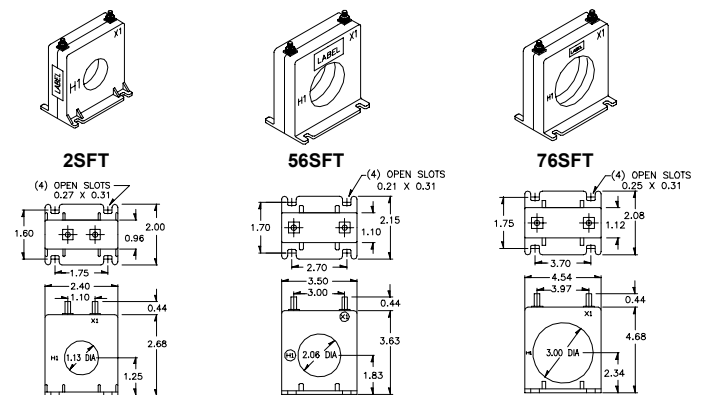
Certification: cRUus (WICC File E100575)

Dimensional Drawing

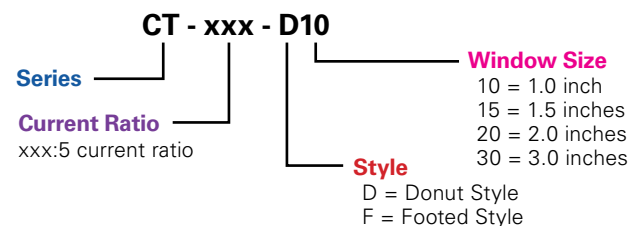
DONUT STYLE





FOOT MOUNTED WITH BRASS TERMINALS



Part Numbering System



INSTRUMENTATION & METERING TRANSFORMERS

INSTRUMENTATION AND METERING TRANSFORMERS			
Product	Features	Inner Diameter	Accessory For
<p>CT-XXXX-DXX Series Donut Style Transformer</p> 	<p>Littelfuse offers a wide array of instrument rated current transformers in 1–3 inch diameter opening.</p> <p>For full datasheet and ordering information, see page 481.</p>	25.4 - 76.2 mm (1 - 3")	<p>Series:</p> <p>777 DCSA ECS ECSW LSR-0 LSR-XX LSRU LSRX TCS TCSA LCSC10T12</p>
<p>CT-XXXX-FXX Series Footed Style Transformer</p> 	<p>Littelfuse offers a wide array of instrument rated current transformers in 1–3 inch diameter opening.</p> <p>For full datasheet and ordering information, see page 481.</p>	25.4 - 76.2 mm (1 - 3")	<p>Series:</p> <p>777 DCSA ECS ECSW LSR-0 LSR-XX LSRU LSRX TCS TCSA LCSC10T12</p>

Current Transformer Sizing Chart

Conductor Size (AWG/kcmil)	Minimum CT Window Size (Inner Diameter in mm)					
	Number of Conductors					
	1	3	4	6	8	12
12	4	8	9	11	13	15
10	6	10	11	14	16	19
8	7	12	14	17	20	24
6	9	15	18	22	25	31
4	11	19	22	28	32	39
3	13	22	25	31	36	44
2	14	25	28	35	40	49
1	16	28	32	39	45	55
1/0	18	31	36	44	51	62
2/0	20	35	40	49	57	69
3/0	23	39	45	55	64	78
4/0	25	44	51	62	72	88
250	28	48	55	67	78	95
350	33	56	65	80	92	113
500	39	67	78	95	110	135
750	48	82	95	117	135	165
1000	55	95	110	135	156	191

Installation Instructions:

When installing the Zero-Sequence CTs, ensure the following:

1. Only the load carrying conductors pass through the center of the CT. This means L1 + N for 1-phase and L1 + L2 + L3 for 3-phase.
2. The power conductors pass through the center of the CT and are preferably bound together to keep the conductors uniformly spaced.
3. The power conductors pass perpendicular to the CT and, where practical, continue perpendicular to the CT on both sides of the CT for 3'.
4. The power conductors should not be installed in a way that allows them to run along the side edges of the CT.
5. Where practical, locate the CT away from noise-generating devices such as transformers, frequency converters, etc.

ELCT SERIES

Current Transformer



Description

The ELCT series is a sensitive current transformer with integrated flux conditioner used with Littelfuse relays to detect low levels of earth-leakage current.

Accessories



CBLTP

Twisted-pair wire for connection to CT. Order in desired length in meters.

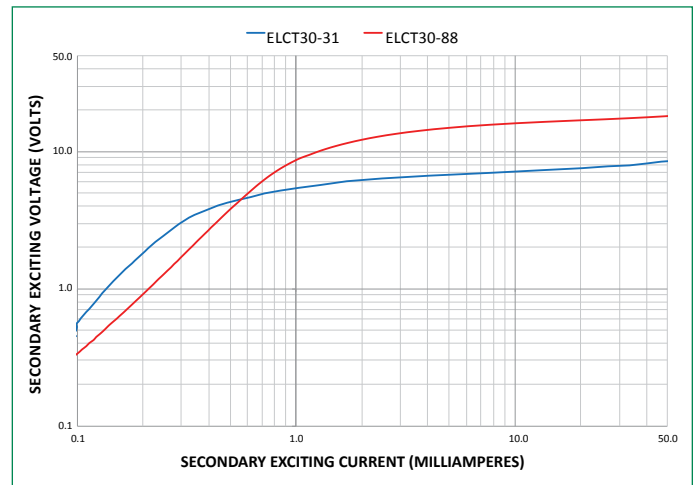
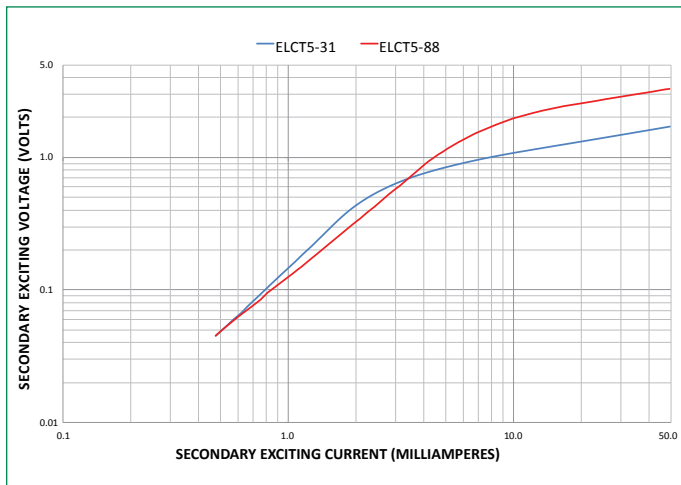
Specifications

Current Rating	ELCT5: 5:0.05 A ELCT30: 30:0.05 A
Accuracy	ELCT5: 3 % @ 0.01 VA ELCT30: 3 % @ 0.06 VA
Frequency	50 to 400 Hz
Insulation Level	600 V
Operating Temperature	-40 °C to 55 °C (-40 °F to 131 °F)
Application	SE-701
Wire Gauge	0.05-3.3 mm ² (12–30 AWG)
Tightening Torque	0.5 N-m
Certification	UL, cUL, CE
Compliance	RoHS, IEC 61869-2, ANSI/IEEE C57.13

Ordering Information

ORDERING NUMBER	TURNS RATIO	WINDOW SIZE, ID	WEIGHT
ELCT5-31	100:1	31 mm (1.22 in)	127.0 g (0.28 lbs)
ELCT5-88	100:1	88 mm (3.46 in)	635.0 g (1.40 lbs)
ELCT30-31	600:1	31 mm (1.22 in)	131.5 g (0.29 lbs)
ELCT30-88	600:1	88 mm (3.46 in)	680.4 g (1.50 lbs)

Note: One frequency response may be extended for specific product families

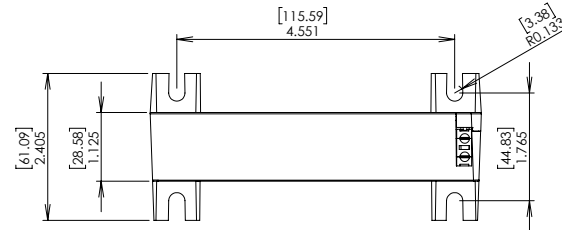
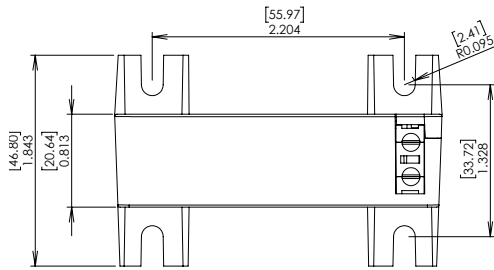


ELCT SERIES

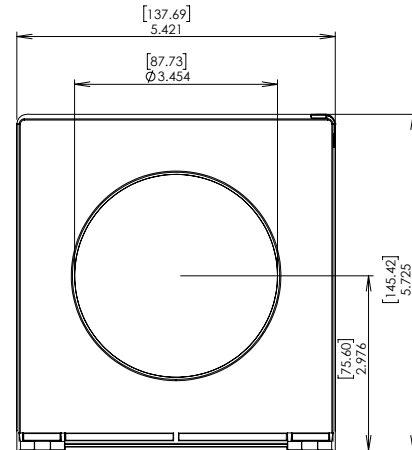
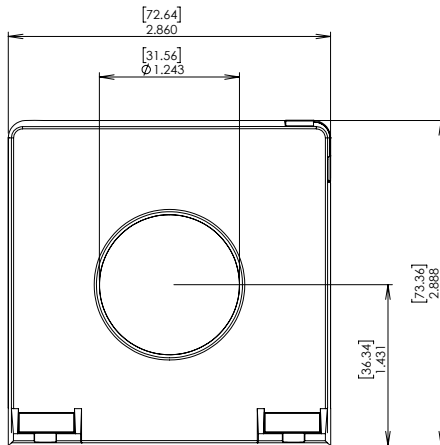
Dimensions and Mounting Diagram Inches [millimeters]

Mount the ELCT5-31 and ELCT30-31 using M5 or #10 screws.

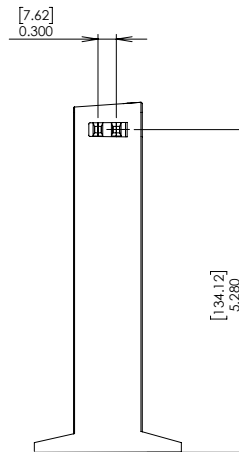
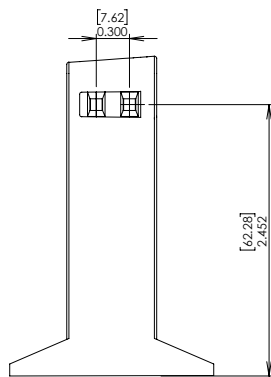
Mount the ELCT5-88 and ELCT30-88 using M6 or ¼" screws.



TOP VIEW AND MOUNTING DETAIL



FRONT VIEW



ELCT5-31 and ELCT30-31

SIDE VIEW

ELCT5-88 and ELCT30-88

ZSCT SERIES

Current Transformer



Description

The ZSCT series is a current transformer used with Littelfuse relays to detect low levels of earth-leakage current.

Accessories



CBLTP

Twisted-pair wire for connection to CT.
Order in desired length in meters.

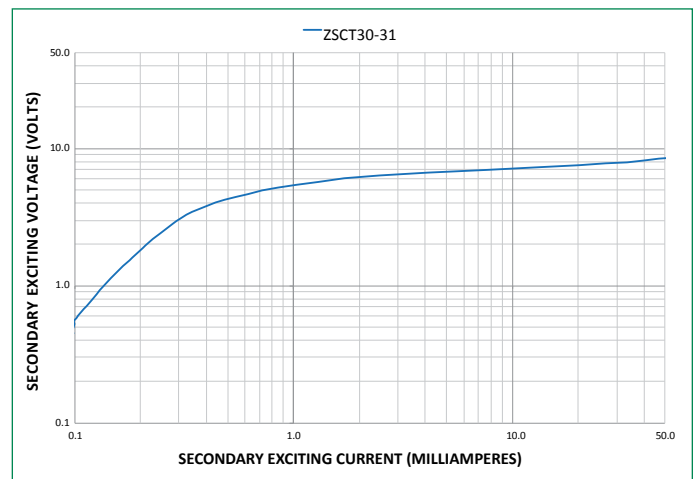
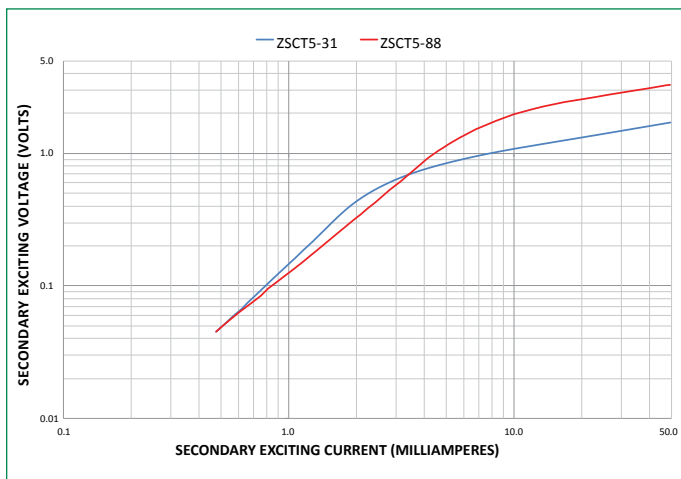
Specifications

Current Rating	ZSCT5: 5:0.05 A ZSCT30: 30:0.05 A
Accuracy	ZSCT5: 3 % @ 0.01 VA ZSCT30: 3 % @ 0.06 VA
Frequency	50 to 400 Hz
Insulation Level	600 V
Operating Temperature	-40 °C to 55 °C (-40 °F to 131 °F)
Application	MP8000
Wire Gauge	0.05-3.3 mm ² (12-30 AWG)
Tightening Torque	0.5 N-m
Certification	UL, cUL, CE
Compliance	RoHS, IEC 61869-2, ANSI/IEEE C57.13

Ordering Information

ORDERING NUMBER	TURNS RATIO	WINDOW SIZE, ID	WEIGHT
ZSCT5-31	100:1	31 mm (1.22 in)	117.9 g (0.26 lbs)
ZSCT5-88	100:1	88 mm (3.46 in)	499.0 g (1.10 lbs)
ZSCT30-31	600:1	31 mm (1.22 in)	113.4 g (0.25 lbs)

Note: One frequency response may be extended for specific product families

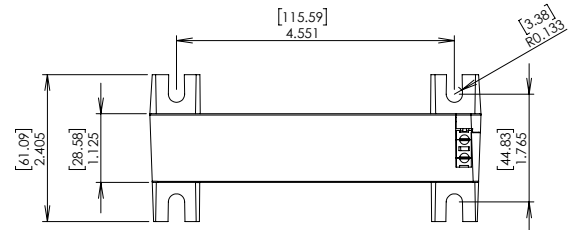
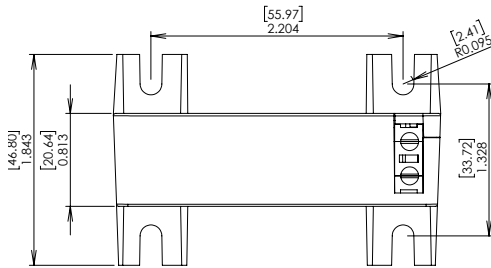


ZSCT SERIES

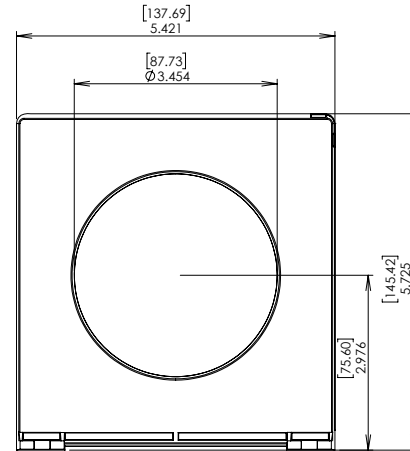
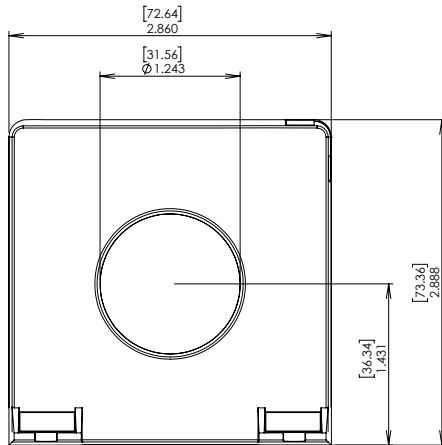
Dimensions and Mounting Diagram Inches [millimeters]

Mount the ZSCT5-31 and ZSCT30-31 using M5 or #10 screws.

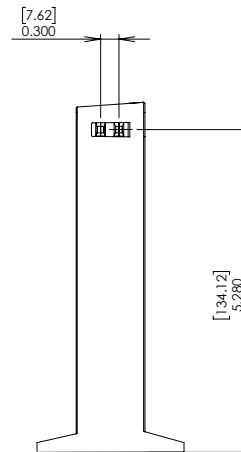
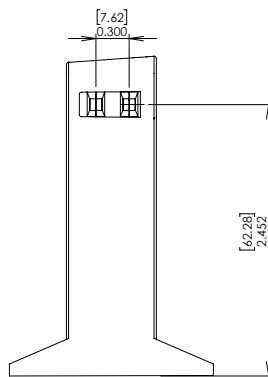
Mount the ZSCT5-88 using M6 or ¼" screws.



TOP VIEW AND MOUNTING DETAIL



FRONT VIEW



ZSCT5-31 and ZSCT30-31

SIDE VIEW

ZSCT5-88

PMA SERIES

Panel Mount Adapters — Retrofits

Example Shown: PMA-3



Example of a panel mount adapter (PMA-3). Relay is for illustrative purposes only and must be purchased separately from adapter plate. For more information on our complete offering of panel mount adapters see the following page.

Description

A variety of protection relay retrofit adapter plates are available for the products listed below. These adapter plates simplify the process of updating electromechanical or poorly functioning existing relays. Consult factory if you have a specific product to replace that is not featured. Adapters are available in either plate style for panel mounting or drawout style depending on the relay being replaced.

Motor, feeder and ground-fault protection upgrades are available for electromechanical or solid state relays that are nearing the end of their life.

Features & Benefits

FEATURES	BENEFITS
Mounting	Fits in existing mounting holes and panel openings
Multiple adapter sizes	Plate style or drawout style adapters are available to fit various outdated relays

Adapter Plates

RELAY TO REPLACE	PANEL MOUNT	NEW RELAY
AB BULLETIN 1406	PMA-14	MPS
FPL-GFRM	PMA-6	SE-701/SE-704
GE S1	PMA-9	MPU-32/FPU-32
GE LODTRAK III	PMA-10	MPU-32
GE MULTILIN 169, 269, or 369	PMA-13	MPS
	PMA-16	MPU-32
	PMA-16	FPU-32
GE MULTILIN 469	PMA-24	MPS
GE MULTILIN P4A	PMA-15	MPU-32/FPU-32
GEC/MCGG	PMA-3	SE-701/SE-704
GE & WESTINGHOUSE FT-11	PMA-12	MPU-32
P & B GOLDS	Contact Factory	FPU-32
WESTINGHOUSE CO9 & CO11	Contact Factory	FPU-32




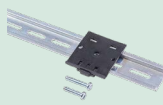


For a complete list of the Littelfuse Panel Mount Adapter Plates please see next page.

PANEL-MOUNT ADAPTERS

PANEL MOUNT ADAPTERS		
Product	Features	Accessory For
PMA-2 Adapter Plate	Used when replacing the AB Bulletin 1406.	MPU-32
PMA-3 Adapter Plate	Used when replacing GEC/MCGG ground-fault relays. Requires PMA-55 or PMA-60.	SE-704 SE-701
PMA-4 Adapter Plate	Used when replacing the Multilin 139/239.	MPU-32
PMA-6 Adapter Plate	Used when replacing FPL-GFRM ground-fault relays. Requires PMA-55 or PMA-60.	SE-701
PMA-7 Adapter Plate	Used when replacing the GE Lodtrak II.	MPU-32
PMA-8 Adapter Plate	Used when replacing an Atkinson Omser II with an SE-130-Series Monitor.	SE-134C SE-135
PMA-9 Adapter Plate	Used when replacing relays in the GE S1 Case. Requires PMA-55 or PMA-60.	MPU-32 FPU-32
PMA-10 Adapter Plate	Used when replacing the GE Lodtrak III.	MPU-32
PMA-12 Adapter Plate	Used when replacing GE and Westinghouse FT-11 relays.	MPU-32
PMA-13 Adapter Plate	Used when replacing the GE Multilin 169, 269, or 369.	MPS
PMA-14 Adapter Plate	Used for rough cutouts and when replacing the AB Bulletin 1406.	MPS
PMA-15 Adapter Plate	Used for rough cutouts and when replacing the GE Multilin P4A.	MPU-32 FPU-32
PMA-16 Adapter Plate PMA-16-RTDB Mounting Bracket	The PMA-16 mounting plate is used when replacing the GE Multilin 169, 269, and 369 relays. The PMA-16-RTDB is a mounting bracket for the optional MPS-RTD Temperature Input Module.	MPU-32 FPU-32
PMA-17 Adapter Plate	Used when replacing Sprecher & Schuh Cet 4.	MPU-32
PMA-18 Adapter Plate	Used when replacing Sprecher & Schuh Cet 3.	MPU-32
PMA-21 Adapter Plate	Used when replacing an ABB RACIF.	FPU-32
PMA-23 Adapter Plate	Custom mounting plate for FPU-32 to replace 3 Westinghouse C0 relays.	FPU-32
PMA-24 Adapter Plate	Used when replacing the GE Multilin 469.	MPS
PMA-55 Adapter Plate	Used to panel mount the SE-601 and SE-701.	SE-601 SE-701 PGR-4300 SE-704
PMA-60 Adapter Plate	Used to panel mount the relay; IP 53 and NEMA 3 rating, tamper resistant.	SE-601 SE-701 PGR-4300 SE-704
MPU-32-SMK Surface-Mount Kit	Used to surface mount the MPU-32 or FPU-32.	MPU-32 FPU-32

Note: Relays are not included with the PMA-Series Panel Mount Adapters.




DIN RAIL & MOUNTING ADAPTERS





DIN RAIL & MOUNTING ADAPTERS		
Product	Features	Accessory For
<p>C103PM (AI) DIN Rail</p> 	<p>Industry standard 35 mm aluminum or steel DIN rail. C103PM aluminum rail is available in a 36 in. (91.4 cm) length.</p>	<p>Can be used with all DIN-rail compatible units.</p>
<p>AC700-SMK Mount Adapter</p> 	<p>DIN-rail and Surface-mount adapter for back-plane mounting.</p>	<p>EL731</p>
<p>D0050 DIN-Rail Adapter Clip</p> 	<p>Plastic clip allowing DIN-rail mounting of the PGR-8800 and AF0500 Arc-Flash Relay.</p>	<p>AF0500 PGR-8800</p>
<p>P1023-20 DIN Rail Mount Adaptor</p> 	<p>Allows any 2 x 2 in (50.8 x 50.8 mm) or 2 x 3 in (50.8 x 76.2 mm) module to be mounted on a 35 mm DIN type rail. Comes complete with mounting hardware (one #10 - 24 x 1.00 screw and one #10 - 24 x 1.25 screw for 0.75 in (19 mm) and 1 in (25.4 mm) thick modules.</p>	<p>Consult the individual datasheet to determine part compatibility.</p>
<p>P0500-178 Surface Mount Adapter</p>  <div data-bbox="170 1029 438 1302" style="border: 1px solid black; padding: 5px;"> <p>Technical drawing showing dimensions for P0500-178:</p> <ul style="list-style-type: none"> Top width: .38 (9.65) Bottom width: .640 (16.26) Height: 3.00 (76.2) Fastener hole diameter: .235 DIA (5.97) Fastener hole offset: .185 (4.70) Fastener hole diameter: 2.41 (61.2) Bottom width: .69 (17.52) Fastener: Quick Mount Fastener (2) [Drill: .187 (4.75) diameter hole] </div> <p style="text-align: right;">Inches (Millimeters)</p>	<p>P0500-178 is surface mountable with 2 Quick Mount Fasteners.</p>	<p>ASXX/DSXX Series Timers</p>
<p>P0500-179 DIN Rail Mount Adapter</p>  <div data-bbox="170 1407 341 1638" style="border: 1px solid black; padding: 5px;"> <p>Technical drawing showing dimensions for P0500-179:</p> <ul style="list-style-type: none"> Top width: 35mm DIN 3 Bottom width: 32mm DIN 1 Bottom width: .815 (20.70) </div> <p style="text-align: right;">Inches (Millimeters)</p>	<p>P0500-179 snaps onto DIN rail.</p>	<p>ASXX/DSXX Series Timers</p>

BRACKETS & CLIPS







BRACKETS & CLIPS																																
Product	Features	Accessory For																														
<p>BZ1 Front Panel Mount Kit</p> <p>Inches (Millimeters) Illustrates panel opening size required to mount BZ1.</p>	<p>Provides an easy method of through-the-panel mounting of 8-pin or 11-pin plug-in timers, flashers, and other controls. May be mounted in panels up to 0.125 in (3.2 mm) thick. Includes two clamps and two screws.</p>	<p>Series:</p> <table border="0"> <tr> <td>ARP</td> <td>FS500</td> <td>LLC4</td> <td>LLC5</td> <td>LLC6</td> </tr> <tr> <td>PLM</td> <td>PLMU</td> <td>PLR</td> <td>PLS</td> <td>PRLM</td> </tr> <tr> <td>TDB</td> <td>TDBH</td> <td>TDBL</td> <td>TDI</td> <td>TDIH</td> </tr> <tr> <td>TDIL</td> <td>TDM</td> <td>TDMB</td> <td>TDMH</td> <td>TDML</td> </tr> <tr> <td>TDR</td> <td>TDS</td> <td>TDSH</td> <td>TDSL</td> <td>TRB</td> </tr> <tr> <td>TRDU</td> <td>TRM</td> <td>TRS</td> <td>TRU</td> <td></td> </tr> </table>	ARP	FS500	LLC4	LLC5	LLC6	PLM	PLMU	PLR	PLS	PRLM	TDB	TDBH	TDBL	TDI	TDIH	TDIL	TDM	TDMB	TDMH	TDML	TDR	TDS	TDSH	TDSL	TRB	TRDU	TRM	TRS	TRU	
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TDR	TDS	TDSH	TDSL	TRB																												
TRDU	TRM	TRS	TRU																													
<p>P1023-6 P1023-7 Mounting Brackets</p> <p>Inches (Millimeters)</p>	<p>Provides a convenient method of mounting modules. The 90 ° orientation of mounting slots makes installation/removal of modules quick and easy. Made from steel with a cadmium surface finish.</p> <table border="1"> <thead> <tr> <th>PART NUMBER</th> <th>MOUNTING HOLE SIZE</th> <th>MOUNTING METHOD</th> </tr> </thead> <tbody> <tr> <td>P1023-6</td> <td>0.19 in (4.8 mm)</td> <td>#8 (M4 x 0.7) screw</td> </tr> <tr> <td>P1023-7</td> <td>0.25 in (6.35 mm)</td> <td>Mini-Pot</td> </tr> </tbody> </table>	PART NUMBER	MOUNTING HOLE SIZE	MOUNTING METHOD	P1023-6	0.19 in (4.8 mm)	#8 (M4 x 0.7) screw	P1023-7	0.25 in (6.35 mm)	Mini-Pot	<p>Used on many 2" x 2" timers. Refer to individual series datasheet to determine if this accessory is compatible.</p>																					
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P1023-6	0.19 in (4.8 mm)	#8 (M4 x 0.7) screw																														
P1023-7	0.25 in (6.35 mm)	Mini-Pot																														
<p>PSCRB8 Hold-down Brackets</p>	<p>Designed for use with P1011-6 socket. Securely mounts 8-pin plug-in controls in any position, and provides protection against vibration. Sold in pairs.</p>	<p>P1011-6</p>																														
<p>PSC8 PSC11 Hold-down Clips</p>	<p>Securely mounts plug in controls in any position. Also provides protection against vibration. Select the PSC8 for use with NDS-8, or the PSC11 for use with NDS-11 sockets. Sold in pairs.</p>	<p>NDS-8 Socket NDS-11 Socket</p>																														
<p>P1023-2 P Clamp</p>	<p>Removable P clamp bracket for mounting MSM series timers and FS100 and FS400 series flashers.</p>	<p>Timers series: MSM Flasher series: FS100 FS400</p>																														

ENCLOSURES & WATERTIGHT COVERS

ENCLOSURES		
Product	Features	Accessory For
<p>NGRM-ENC NGR Monitor Control Panel</p> 	<p>NEMA 4 painted steel control panel, complete with the SE-325 or SE-330, and a fused 600/480:120 V PT for relay control power. Suitable for indoor or outdoor mounting, CSA certified. When NGR Monitor is back-plane mounted, 22 mm NEMA 4 indicators and reset button are included. Please contact factory for additional information.</p> <p>For full datasheet and ordering information, see pg. 67</p>	<p>SE-325 SE-330</p>
<p>NEMA-3R-L A Enclosure</p> 	<p>Metal NEMA-3R electrical box with lenses for viewing the single-phase PumpSaver® status lights. H 6.0" x W 6.0" x D 4.0"</p>	<p>Single-Phase PumpSaver</p>
<p>RM-1000-ENCL Enclosure</p> 	<p>Steel enclosure for protecting the RM1000 from weather and vandalism. Protects from UV, hail, and it seals to keep rain from contacting the RM1000 connections. The enclosure also features a built-in padlock tab (padlock not included). H 6.4" x W 6.3" x D 1.7"</p>	<p>RM1000</p>

WATERTIGHT COVERS		
Product	Features	Accessory For
<p>MPU-16A-Y92A-96N Watertight Cover</p> 	<p>Watertight cover for outdoor applications.</p>	<p>MPU-32 FPU-32</p>
<p>SE-IP65CVR-G Watertight Cover</p> 	<p>Watertight cover. Tamper-resistant. IP65 protection.</p>	<p>SE-134C SE-135 SE-330 SE-330AU SE-330HV SE-400</p>
<p>SE-IP65CVR-M Watertight Cover</p> 	<p>Watertight cover. Tamper-resistant. IP65 protection.</p>	<p>MPS FPS</p>
<p>SE-MRE-600 Moisture-Resistant Enclosure Kit</p> 	<p>Protects the connection terminals from snow and rain in outdoor applications.</p>	<p>ER-600VC ER-1000HV</p>

SOCKETS

SOCKETS																										
Product	Features	Accessory For																								
<p>OT08PC Octal Socket 8-Pin</p> 	<p>8-pin 35 mm DIN-rail or surface mount octal socket. Rated at 10 A @ 600 V ac and has pressure clamp terminals.</p>	<p>AWG 12 to 22 (3.2 to 0.33 mm²) wire sizes. Consult individual datasheet for compatibility</p>																								
<p>NDS-8 Octal Socket 8-Pin Screw terminals with captive wire clamps</p> 	<p>8-pin 35 mm DIN-rail or surface mount octal socket. Rated at 10 A @ 300 V ac. Surface mounted with two #6 (M 3.5 x 0.6) screws or snaps onto a 35 mm DIN rail. A spring mechanism allows easy removal. Uses PSC8 hold-down clips.</p>	<p>Up to two #14 AWG (2.45 mm²) wire size Series:</p> <table border="0"> <tr> <td>ARP</td> <td>FS500</td> <td>LLC4</td> <td>LLC5</td> </tr> <tr> <td>PRLM</td> <td>TDB</td> <td>TDBH</td> <td>TDBL</td> </tr> <tr> <td>TDI</td> <td>TDIH</td> <td>TDIL</td> <td>TDM</td> </tr> <tr> <td>TDMB</td> <td>TDMH</td> <td>TDML</td> <td>TDR</td> </tr> <tr> <td>TDS</td> <td>TDSH</td> <td>TDSL</td> <td>TRDU</td> </tr> <tr> <td>TRM</td> <td>TRS</td> <td>TRU</td> <td></td> </tr> </table>	ARP	FS500	LLC4	LLC5	PRLM	TDB	TDBH	TDBL	TDI	TDIH	TDIL	TDM	TDMB	TDMH	TDML	TDR	TDS	TDSH	TDSL	TRDU	TRM	TRS	TRU	
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<p>P1011-6 Octal Socket 8-Pin</p> 	<p>8-pin surface mount socket with binder head screw terminals. Rated at 10 A @ 600 V ac. UL Listed combination when used with TDM, TDB, TDS series timers. Uses PSCRB8 hold-down brackets.</p>	<p>Series:</p> <table border="0"> <tr> <td>ARP</td> <td>FS500</td> <td>LLC4</td> <td>LLC5</td> </tr> <tr> <td>PRLM</td> <td>TDB</td> <td>TDM</td> <td>TDMB</td> </tr> <tr> <td>TDR</td> <td>TDS</td> <td>TRB</td> <td>TRDU</td> </tr> <tr> <td>TRM</td> <td>TRS</td> <td>TRU</td> <td></td> </tr> </table>	ARP	FS500	LLC4	LLC5	PRLM	TDB	TDM	TDMB	TDR	TDS	TRB	TRDU	TRM	TRS	TRU									
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<p>OT11PC Magna Socket 11-Pin</p> 	<p>Magna Sockets are for plug-in units</p>	<p>11-pin Plug-in units Series:</p> <table border="0"> <tr> <td>ARP</td> <td>LLC6</td> <td>TDB</td> <td>TDBH</td> </tr> <tr> <td>TDBL</td> <td>TDMB</td> <td>TDS</td> <td>TDSH</td> </tr> <tr> <td>TDSL</td> <td>TRB</td> <td>TRDU</td> <td>TRM</td> </tr> <tr> <td>TRS</td> <td>TRU</td> <td></td> <td></td> </tr> </table>	ARP	LLC6	TDB	TDBH	TDBL	TDMB	TDS	TDSH	TDSL	TRB	TRDU	TRM	TRS	TRU										
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<p>SD12-PC Rectangle Socket 12-pin</p> 	<p>12-pin surface Rectangle Socket.</p>	<p>ACBC-120</p>																								
<p>NDS-11 11-pin Magna Socket Screw terminals with captive wire clamps</p> 	<p>11 pin 35 mm DIN-rail or surface mount socket. Rated at 10 A @ 300 V ac. Surface mounted with two #6 (M 3.5 x 0.6) screws or snaps onto a 35 mm DIN rail. A spring mechanism allows easy removal. Uses PSC11 hold-down clips.</p>	<p>AWG 12 to 22 (3.2 to 0.33 mm²) wire sizes Series:</p> <table border="0"> <tr> <td>ARP</td> <td>LLC6</td> <td>TDB</td> <td>TDBH</td> </tr> <tr> <td>TDBL</td> <td>TDMB</td> <td>TDS</td> <td>TDSH</td> </tr> <tr> <td>TDSL</td> <td>TRB</td> <td>TRDU</td> <td>TRM</td> </tr> <tr> <td>TRS</td> <td>TRU</td> <td></td> <td></td> </tr> </table>	ARP	LLC6	TDB	TDBH	TDBL	TDMB	TDS	TDSH	TDSL	TRB	TRDU	TRM	TRS	TRU										
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