Grid to Chip Surge Protection
Product Catalog
Power Quality Solutions for ALL Your Application Needs

“Dirty” power is a problem. Whether it’s called a surge, spike, transient or noise, “dirty” power is an abnormality in the power that runs your facility. These power problems can leave buildings in the dark and disable equipment, costing you thousands in repairs and lost revenue. Your productivity uptime and reputation depend on consistent power quality. Emerson Network Power Surge Protection provides products and solutions that ensure reliability from Grid to Chip. For more than 40 years, Facility Managers, Engineers, and System Integrators have trusted Emerson Network Power Surge Protection products to protect critical equipment in the Industrial Process, Computing, Research/Testing and Communications fields.

Emerson Network Power Surge Protection and the IEEE Standard 1100-1999 (Emerald Book) recommend a properly rated surge protection device should be applied on ALL electrical conductors entering your facility including: power, voice, and data. Without proper protection – data disruption, hardware stress or destruction could occur.

As a line of defense against damaging transients, Emerson Network Power Surge Protection manufactures products in the following categories:

- Surge Protection Devices (SPDs) — which focus on limiting high-voltage spikes to an acceptable level
- Filtering/Line Conditioning — protect against low-energy transients and high frequency noise and finally...
- Data/Signal Line Protection — products guard sensitive instrumentation against what we refer to as ‘backdoor’ transients and noise.

Why allow “dirty” power to put your equipment at risk? Turn to Emerson Network Power Surge Protection products for peace of mind. We provide solutions for all your application needs and the foundation for Business-Critical Continuity™.
Technical Bulletins — Surge Protection for Power and Signal Lines

NOTES:
1. SLAC UNIT PROVIDES ONE POWER AND TWO SIGNAL PROTECTION CIRCUITS.
2. SURGE DEVICES SHOULD BE GROUNDED LOCALLY WITH A GROUND ROD, AND ALSO AT THE MAIN PANEL ELECTRICAL GROUND.
3. CHECK WITH EMERSON NETWORK POWER SURGE PROTECTION, INC. TO DETERMINE IF OUTPUT CAN BE SURGE PROTECTED.

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Surge Protection for Power and Signal Lines

Note: Refer to EmersonNetworkPower.com/surge for most current product information.
TVSS/SPDs — Product Selection Guide

- Find your application in the left column.
- Then look across for the appropriate product(s).

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<td>Distribution Panels</td>
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<td>Sub-Distribution Panels</td>
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<td>Branch Panelboards (Residential)</td>
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<td>Motor Control Centers</td>
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<td>Control Panels (AC Power)</td>
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<tr>
<td>Various OEM Equipment</td>
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</tr>
</tbody>
</table>

NOTES:
1. SLAC UNIT PROVIDES ONE POWER AND TWO SIGNAL PROTECTION CIRCUITS.
2. SURGE DEVICES SHOULD BE GROUNDED LOCALLY WITH A GROUND ROD, AND ALSO AT THE MAIN PANEL ELECTRICAL GROUND.
3. CHECK WITH EMERSON NETWORK POWER SURGE PROTECTION, INC. TO DETERMINE IF OUTPUT CAN BE SURGE PROTECTED.
### DRS Series

The DRS is a modular surge protective device (SPD) that is designed for easy installation in control panels using standard DIN rail mounting brackets. The DRS devices offer both normal and common surge protection up to 40 kA per phase.

#### Features
- Effectively handles high-energy transients on TT, TN-C, TN-S and TN-C-S three-phase power systems.
- SPD rated Type 2 in accordance with EN 61643-11; Class I & II in accordance with IEC 61643-1.
- Built-in thermal components disconnect SPD from the power source to avoid thermal runaway conditions.
- MOV only or MOV+Gas Tube models available.
- Fast response time, high surge current capability, low voltage protection levels.
- Visual inspection window on each module indicates status.
- 3-pole terminal provides remote status monitoring.
- DIN rail mounting and plug-in module design allow for easy installation, maintenance and replacement of surge element.
- 5 year warranty.

### Technical Specifications

**Performance Technical Specifications**

<table>
<thead>
<tr>
<th>Model</th>
<th>Electrical Characteristics</th>
<th>Test Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRS12031</td>
<td>120/208, 230/400, 240/415, 277/480, 346/600 VAC</td>
<td>EN 61643-11 Type 2</td>
</tr>
<tr>
<td>DRS23031</td>
<td>127/220 VAC</td>
<td>IEC61643-1:1998-02 Class II</td>
</tr>
<tr>
<td>DRS27731</td>
<td>254/440 VAC</td>
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</tr>
<tr>
<td>DRS34631</td>
<td>240/415 VAC</td>
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</table>

<table>
<thead>
<tr>
<th>Model</th>
<th>Mechanical Characteristics</th>
<th>Dimensions (Length x Width x Height)</th>
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</thead>
<tbody>
<tr>
<td>DRS12031</td>
<td>30.5mm x 90.5mm x 68mm</td>
<td>70.8mm x 90.5mm x 68mm</td>
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<tr>
<td>DRS23031</td>
<td>70.8mm x 90.5mm x 68mm</td>
<td></td>
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<tr>
<td>DRS27731</td>
<td>70.8mm x 90.5mm x 68mm</td>
<td></td>
</tr>
<tr>
<td>DRS34631</td>
<td>70.8mm x 90.5mm x 68mm</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
1. MOV modules are typically one module per phase and may be 2L-N, L-N or N-G.
2. Gas Tube modules typically used in the N-G mode for type TT grounding systems.
3. Certain applications require higher rated components in order to survive frequent voltage rises, in this case order a unit with a “Q” at the end of the part number.

#### How to Specify the Appropriate Model

**Example:**

<table>
<thead>
<tr>
<th>Nominal Voltage (Un)</th>
<th># of Metal Oxide Varistor Modules*</th>
<th># of Gas Tube Modules**</th>
<th>Higher Rated Voltage***</th>
</tr>
</thead>
<tbody>
<tr>
<td>120</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>230</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>240</td>
<td>2</td>
<td>2</td>
<td>2</td>
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<tr>
<td>277</td>
<td>3</td>
<td>3</td>
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<td>346</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>480</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

*MOV modules are typically one module per phase and may be L-N, L-G or N-G.
**Gas Tube modules typically used in the N-G mode for type TT grounding systems.
***Certain applications require higher rated components in order to survive frequent voltage rises, in this case order a unit with a “Q” at the end of the part number.

Replacement module available: Order DRS + Un + M (for MOV) or G (for Gas Tube).

#### Features
- Effectively handles high-energy transients on TT, TN-C, TN-S and TN-C-S three-phase power systems.
- SPD rated Type 2 in accordance with EN 61643-11; Class I & II in accordance with IEC 61643-1.
- Built-in thermal components disconnect SPD from the power source to avoid thermal runaway conditions.
- MOV only or MOV+Gas Tube models available.
- Fast response time, high surge current capability, low voltage protection levels.
- Visual inspection window on each module indicates status.
- 3-pole terminal provides remote status monitoring.
- DIN rail mounting and plug-in module design allow for easy installation, maintenance and replacement of surge element.
- 5 year warranty.

#### Technical Bulletins — High-Density Multiple Input Rack

**Technical Bulletins**

- High-Density Multiple Input Rack
- TVSS/Surge Protective Devices (SPDs)

**NOTES:**
1. SLAC UNIT PROVIDES ONE POWER AND TWO SIGNAL PROTECTION CIRCUITS.
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3. CHECK WITH EMERSON NETWORK POWER SURGE PROTECTION, INC. TO DETERMINE IF OUTPUT CAN BE SURGED PROTECTED.
**Edco EMC-240B**

**120/240 VAC Low Exposure AC Panel Protection**

The Edco EMC-240B surge suppressor is designed to protect AC distribution panel circuits or 120V power supplies feeding sensitive electronic equipment. Electrically, the unit incorporates MOV and thermal fusing technology. The Edco EMC-240B is designed to be installed in parallel on standard single phase 120VAC (L,N,G) circuits.

**Features**
- Fast response time
- 40,000 Amps per phase capacity
- Failsafe and fused
- Operational status indicators
- UL 1449 Third Edition, Type 2 listed
- 5 year warranty

**Edco™ FAS-120AC**

**120 VAC Medium Exposure AC Panel Protection**

The Edco FAS-120AC surge suppressor is designed to protect AC panel circuits or 120V power supplies feeding sensitive electronic equipment. Electrically, the unit incorporates MOV and thermal fusing technology. This device is designed to be installed in parallel on standard single phase 120VAC (L,N,G) circuits. Installation can be close-nipple up to a distribution panel/circuit or hardwired in parallel up to power supply input terminal screws. Be sure to dress leads as short as possible.

**Features**
- LED indicator
- Fast response time
- Thermal fuse
- L-G, L-N, & N-G protection
- Compact size
- Liquid tight conduit fitting
- 5 year warranty

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**General Technical Specifications**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Value</th>
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<tbody>
<tr>
<td>VPR</td>
<td>L-N:600V, L-L:2000V</td>
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<tr>
<td>Fault Current Rating</td>
<td>45 kA</td>
</tr>
<tr>
<td>UL Location</td>
<td>Type 2</td>
</tr>
<tr>
<td>Nominal (kA)</td>
<td>3 kA</td>
</tr>
<tr>
<td>Operating Current</td>
<td>NA, Parallel</td>
</tr>
<tr>
<td>Total Peak Surge Current</td>
<td>80 kA (8 x 20 µs)</td>
</tr>
</tbody>
</table>

**Operating Voltage** 120/240 VAC

**Operating Frequency** 47-63 Hz

**EMI Attenuation (100 kHz to 100 MHz)** > 40 dB

** SPD Technology** Metal Oxide Varistors (MOVs)

**Modes of Protection** Line-to-Line, Line-to-Neutral, Line-to-Ground, Neutral-to-Ground

**Status Indication** Power On & MOV Functional

**Connection Type** Wire Leads

**Dimensions (Inches)** 2.5H x 1.5W x 3.0L

**Weight** 4.2 oz

**Certifications** ANSI/UL 1449 Third Edition Type 2, CSA
Edco™ CX Series
CCTV & Data Applications/Coax

The Edco™ CX06-M & Edco™ CX06-MI Surge Protective Devices (SPDs) implement three-stage hybrid technology. The SPDs address over-voltage transients with a primary Gas Discharge Tube (GDT), and secondary Silicon Avalanche Diode (SAD) components. Over-current protection, e.g. sneak and fault currents, are mitigated with solid-state resettable fuses — PTCs. The Edco™ CX06-M & Edco™ CX06-MI SPDs are designed in accordance with NFPA 780 (2004 edition) requirements, with up to 20 kA of surge current capability. The Edco™ CX06-MI model has an isolated ground and is recommended for use at the camera end.

Features
- Sneak/fault current protection
- Low insertion loss
- Shielded case
- CX06-MI has an isolated ground
- 5 year warranty

General Technical Specifications
- **Operating Voltage**: 5 VDC
- **Clamping Voltage**: 6 VDC
- **Operating Current**: 0.15 A
- **Peak Surge Current**: 20 kA (8 x 20 µs)
- **Frequency Range**: 0 to 20 MHz
- **Insertion Loss**: < 0.1 dB at 20 MHz
- **SPD Technology**: GDT, SAD, w/Series PTC
- **Connection Type**: BNC, 50/75 Ohm
- **Weight**: M = 2.3 oz; MI = 3 oz
- **Certifications**: UL 497B

Edco™ RM-CX06-16R
Channel Rackmount

The Edco™ RM-CX06-16R Surge Protective Device (SPD) is a 16 channel coax SPD implementing three-stage hybrid technology. The SPD addresses over-voltage transients with a primary Gas Discharge Tube (GDT), and secondary Silicon Avalanche Diode (SAD) components. Over-current protection, e.g., sneak and fault currents, are mitigated with new solid-state resettable fuses — PTCs. The Edco™ RM-CX06-16R SPD is designed in accordance with NFPA 780 (2004 edition) requirements, with up to 20 kA of surge current capability.

Features
- Sneak/fault current protection
- Low insertion loss
- Shielded case
- 16 channel
- 1 year warranty

General Technical Specifications
- **Operating Voltage**: 5 VDC
- **Clamping Voltage**: 6 VDC
- **Operating Current**: 0.15 A
- **Peak Surge Current**: 20 kA (8 x 20 µs)
- **Frequency Range**: 0 to 100 MHz
- **Insertion Loss**: < 0.1 dB at 20 MHz
- **SPD Technology**: GDT, SAD, w/Series PTC
- **Connection Type**: BNC, 50/75 Ohm
- **Operating Temperature**: -40°C to +85°C
- **Dimensions (Inches)**: 1.75H x 19W x 2.0D (1U)
- **Weight**: 3.2 lbs
- **Certifications**: UL 497B

Filtering/Line Conditioning — Product Selection Guide

- Find your application in the left column.
- Then look across for the appropriate product.
Islatrol™ IE Series
Active Tracking Filter™

The Islatrol™ IE is a series-connected DIN or flange mounted high-frequency noise filter and surge suppressor. Its ideal applications include critical industrial loads drawing up to 20 Amps of continuous current, while typical applications include any microprocessor-based products, including industrial PLCs, OEM applications, and motion control systems.

Features
■ Multi-staged design, combining a unique hybrid clamping network with the active tracking technology of the Islatrol® family
■ Surge current capacity — 45,000 Amps
■ Transient protection in all modes: line to neutral, line to ground, and neutral to ground
■ LED status indication and form C contact for remote indication
■ DIN mountable enclosure
■ ANSI/UL 1449 Third Edition Type 4, 1283, CUL recognized, CE
■ 10 year warranty

Performance Technical Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>L-N</th>
<th>L-G</th>
<th>N-G</th>
<th>L-L</th>
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<tbody>
<tr>
<td>IE-103</td>
<td>400V</td>
<td>600V</td>
<td>600V</td>
<td>N/A</td>
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<tr>
<td>IE-105</td>
<td>400V</td>
<td>600V</td>
<td>500V</td>
<td>N/A</td>
</tr>
<tr>
<td>IE-110</td>
<td>400V</td>
<td>600V</td>
<td>500V</td>
<td>N/A</td>
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<tr>
<td>IE-120</td>
<td>1,000V</td>
<td>700V</td>
<td>700V</td>
<td>900V</td>
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<tr>
<td>IE-203</td>
<td>1,000V</td>
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<td>900V</td>
</tr>
<tr>
<td>IE-205</td>
<td>1,000V</td>
<td>700V</td>
<td>700V</td>
<td>900V</td>
</tr>
<tr>
<td>IE-210</td>
<td>1,000V</td>
<td>700V</td>
<td>700V</td>
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<tr>
<td>IE-220</td>
<td>1,000V</td>
<td>700V</td>
<td>700V</td>
<td>900V</td>
</tr>
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</table>

Peak Surge Current Capability (8 x 20 µs)
- Line to Neutral: 15,000 Amps
- Line to Ground: 15,000 Amps
- Neutral to Ground: 15,000 Amps
- Total: 45,000 Amps

Frequency Response (Forward-Reverse)
- Normal Mode: 100 kHz to 50 MHz - 90 dB Min
- Common Mode: 5 MHz to 50 MHz - 60 dB Min

Typical Category A Ringwave (6 kV, 200 A, 100 kHz)
- Normal Mode/Common Mode: 3 Amp, 1 V/300 V
- 5 Amp, 0.7 V/292 V
- 10 Amp, 0.7 V/300 V
- 20 Amp, 0.7 V/300 V

Typical Category B Ringwave (6 kV, 500 A, 100 kHz)
- Normal Mode/Common Mode: 3 Amp, 1 V/300 V
- 5 Amp, 0.7 V/291 V
- 10 Amp, 1 V/300 V
- 20 Amp, 0.7 V/300 V

General Technical Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Voltage</th>
<th>Continuous Current</th>
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<tbody>
<tr>
<td>IE-103</td>
<td>120 V</td>
<td>3 Amps</td>
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<td>IE-105</td>
<td>120 V</td>
<td>5 Amps</td>
</tr>
<tr>
<td>IE-110</td>
<td>120 V</td>
<td>10 Amps</td>
</tr>
<tr>
<td>IE-120</td>
<td>120 V</td>
<td>20 Amps</td>
</tr>
<tr>
<td>IE-203</td>
<td>240 V</td>
<td>3 Amps</td>
</tr>
<tr>
<td>IE-205</td>
<td>240 V</td>
<td>5 Amps</td>
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<tr>
<td>IE-210</td>
<td>240 V</td>
<td>10 Amps</td>
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<tr>
<td>IE-220</td>
<td>240 V</td>
<td>20 Amps</td>
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Ordering Information

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<th>Voltage</th>
<th>Continuous Current</th>
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<td>120 V</td>
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<td>120 V</td>
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<td>5 Amps</td>
<td>IE-205</td>
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<tr>
<td>240 V</td>
<td>10 Amps</td>
<td>IE-210</td>
</tr>
<tr>
<td>240 V</td>
<td>20 Amps</td>
<td>IE-220</td>
</tr>
</tbody>
</table>

General Technical Specifications

- 5 year warranty

Edco™ SS64 & SS65 Series
Wastewater/Industrial Applications

The Edco™ SS64 and Edco™ SS65 Series suppressors are designed for the water and wastewater industry. These multi-stage high-voltage suppressors address over-voltage transients with gas tube and silicon avalanche technology. In addition, sneak and fault currents are mitigated with PTC devices which consist of solid-state resettable fuses. The units are encapsulated in stainless steel pipe nipples making them suitable for use in severe environments. The Edco™ SS64 models protect a signal pair and the Edco™ SS65 models protect a signal pair plus the cable shield (drain wire).

Features
■ Transient protection for low-voltage signal lines
■ Sneak/fault current protection
■ Resettable fusing—PTCs
■ Differential and common mode protection
■ Automatic recovery
■ Encapsulated in stainless steel pipe nipples
■ Protection for one pair (two wires & shield on SS65)
■ 5 year warranty

General Technical Specifications

- Response Time: < 1 Nanosecond
- Maximum Signal Voltage: 28 V Max
- DC Clamping Level (L-G): 36 V ±10%
- DC Clamping Level (L-L): 72 V ±10%
- Maximum let-thru Voltage:
  - Line-to-Ground (10 x 700 µs): 44 V @ 400 A
  - Maximum let-thru Voltage:
  - Line-to-Line (10 x 700 µs): 96 V @ 400 A
- Series Resistance (per conductor): 5 V (typical)

Typical Applications

- Data/Signal Line Protection
- Caution: The hybrid design of this product includes series resistance. Do not place this product in series on any signal lines capable of supplying more than 150 milliamps continuously.
## Edco™ SLAC Series

### AC Power/Signal

The Edco™ SLAC Series suppressor is specifically designed to protect electronic instruments used by the water/wastewater industries. It combines hybrid AC power protection and signal line protection in a NEMA-4X polycarbonate case. The AC power suppressor can supply up to 1875 Watts and has a 15 Amp replaceable fuse to prevent overloading of the protective elements. A “Power ON” LED provides visual indication that power is applied to instruments. Signal line protection is accomplished by the Edco™ PC642 Series available in a variety of voltage clamps. Signal current can be monitored by reading the voltage across the 10 V, 1% resistors (TP1 & TP2 or TP3 & TP4). All leads going to the Edco™ SLAC board are terminated by quick disconnect or barrier block connectors to facilitate easy removal for service or replacement.

### Features
- Optional twist lock plug lightning & surge suppression for AC power and low-voltage signal lines
- Series hybrid AC suppressor/filter
- Plug-on protection module
- 15 Amp replaceable fuse

### General Technical Specifications

<table>
<thead>
<tr>
<th>AC Power</th>
<th>Signal Line</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology</td>
<td>Three-Stage Series Hybrid</td>
</tr>
<tr>
<td>Input Voltage</td>
<td>120 VAC 50/60Hz</td>
</tr>
<tr>
<td>Output Current</td>
<td>15 Amps Max.</td>
</tr>
<tr>
<td>Response Time</td>
<td>&lt;5 Nanoseconds</td>
</tr>
<tr>
<td>Maximum Surge Current</td>
<td>10 kA</td>
</tr>
<tr>
<td>Occurrences at 500 Amps</td>
<td>950</td>
</tr>
</tbody>
</table>

### Standard Enclosure

- NEMA-4X Glass-Filled Polycarbonate Base
- Cover molded in Clear Polycarbonate
- Knockouts for 1/2” and 3/4” hubs
- Bosses for 6-32 x 3/8” Self-Tapping Screws

### Optional Enclosure

- 5 year warranty
- ANSI/UL 1449 Third Edition

### Ordering Information

- How to Specify the Appropriate Model
  - These blocks are for PC642, Voltage selection if applicable. See PC 642 Datasheet for additional information.
  - Customer selected for PC642

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## Islatrol™ IE Series

### Active Tracking Filter™

### System Design

- Shunt Absorbing Components
- Form C Relay Contacts
- MOV Array
- Series Blocking Inductor
- DIN Rail Mountable

### Connection Diagram

- Shunt Absorbing Components
- Load side sine wave tracking circuitry
- Form C Relay Contacts
- normally open and normally closed dry contact for remote status monitoring
- MOV Array
- High-energy surge current diversion array providing transient protection line to neutral, line to ground, and neutral to ground
- Series Blocking Inductor
- Voltage blocking current soothing inductor
- DIN Rail Mountable
- Mounts to standard 35 mm industrial DIN rail; rotates 90° for mounting flexibility

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## General Technical Specifications

### AC Power

<table>
<thead>
<tr>
<th>Technology</th>
<th>Three-Stage Series Hybrid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parameter</td>
<td>Normal Mode Common Mode (L-N) (L-G) (N-G)</td>
</tr>
<tr>
<td>IEC 507 Cat A Rating*</td>
<td>172 V 280V</td>
</tr>
<tr>
<td>IEC 507 Cat B Rating*</td>
<td>205 V 280V</td>
</tr>
<tr>
<td>IEC 507 Cat B Impulse*</td>
<td>330 V 340V</td>
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</table>

*Measured from zero volts, 90° Phase angle

### Signal Line

<table>
<thead>
<tr>
<th>Technology</th>
<th>GDT, PTC, SAD</th>
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</thead>
<tbody>
<tr>
<td>Technology</td>
<td>MOV, Fuse</td>
</tr>
<tr>
<td>Peak Surge Current</td>
<td>10 kA</td>
</tr>
<tr>
<td>Response Time</td>
<td>&lt;1 Nanoseconds</td>
</tr>
<tr>
<td>Voltage Clamp (customer selected)</td>
<td>1–200 Volts</td>
</tr>
<tr>
<td>Series Resistance</td>
<td>5Ω (Typical)</td>
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</table>
**Islatrol™ IC+/LRIC+ Series**

*Active Tracking Filter™*

Series connected high-frequency noise filter with transient protection. Offers the flexibility of either receptacle/line cord connection or hard-wired connection to critical loads (up to 30 Amperes). Applications include industrial or office equipment, computers placed in harsh environments.

**Features**
- Typically reduces normal mode transients to +/- 2 volts
- Surge current capacity — 45,000 Amps
- Transient protection in all modes: line to neutral, line to ground, and neutral to ground
- LED power indication
- UL 1283, CSA recognized
- 10 year warranty

**Typical Category A Ringwave (6kV, 200A, 100kHz)**

<table>
<thead>
<tr>
<th>Model</th>
<th>Normal</th>
<th>Common</th>
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</thead>
<tbody>
<tr>
<td>IC+102 / LRIC+102</td>
<td>1.0 / 0.9</td>
<td>302 / 297</td>
</tr>
<tr>
<td>IC+105 / LRIC+105</td>
<td>0.7 / 0.8</td>
<td>292 / 297</td>
</tr>
<tr>
<td>IC+107 / LRIC+107</td>
<td>0.7 / 0.7</td>
<td>292 / 297</td>
</tr>
<tr>
<td>IC+115 / LRIC+115</td>
<td>0.7 / 0.7</td>
<td>304 / 306</td>
</tr>
<tr>
<td>IC+130 / IC+202</td>
<td>0.5 / 1.1</td>
<td>306 / 356</td>
</tr>
<tr>
<td>IC+205 / IC+207</td>
<td>1.5 / 0.8</td>
<td>628 / 616</td>
</tr>
<tr>
<td>IC+215 / IC+230</td>
<td>0.6 / 0.9</td>
<td>572 / 566</td>
</tr>
</tbody>
</table>

**Typical Category B Ringwave (6kV, 500A, 100kHz)**

<table>
<thead>
<tr>
<th>Model</th>
<th>Normal</th>
<th>Common</th>
</tr>
</thead>
<tbody>
<tr>
<td>IC+215 / IC+230</td>
<td>0.6 / 0.9</td>
<td>306 / 536</td>
</tr>
<tr>
<td>IC+205 / IC+207</td>
<td>1.5 / 0.8</td>
<td>306 / 356</td>
</tr>
<tr>
<td>IC+130 / IC+202</td>
<td>0.5 / 1.1</td>
<td>306 / 356</td>
</tr>
<tr>
<td>IC+115 / LRIC+115</td>
<td>0.7 / 0.7</td>
<td>304 / 306</td>
</tr>
<tr>
<td>IC+107 / LRIC+107</td>
<td>0.7 / 0.7</td>
<td>292 / 297</td>
</tr>
</tbody>
</table>

**System Design**

- Series Blocking/Inductors: voltage-blocking current-smoothing inductors
- Shunt-Absorbing Component: low-wave-tracking circuitry
- MOV Transient Protection: high-energy transient protectors line to neutral, line to ground, neutral to ground
- Pulse Capacitor: high-frequency noise absorption

**Connection Diagram**

- BLACK: AC/RE/UE/6/RE/UE
- WHITE: AC/RE/UE/6/RE/UE
- RED: AC/RE/UE/6/RE/UE
- ENC: RJ-45 or 12/24" GIGabit TP PROTECT
- TS: GIGabit TP PROTECT

**General Technical Specifications**

- **Operating Voltage**: 130 VDC
- **Clamping Voltage**: 150 VDC (DC Spark Gap Voltage)
- **Operating Current**: 1 A
- **Peak Surge Current**: 10 kA (8 x 20 µs)
- **Maximum Power**: 10 Watts
- **Impedance**: 50 Ohms
- **Frequency Range**: 0 to 4 GHz

**Features**
- Low signal loss
- 5 year warranty

**Edco™ CX-HFN Series**

*High Frequency Coax Protector — N-Type*

The Edco™ CX-HFN surge protectors are designed to protect sensitive electronic equipment from damage due to excessive voltage or currents generated by lightning or static build-up. The Edco™ CX-HFN offers low signal loss at frequencies up to 4 gigahertz. The unit also has a replaceable protection cartridge (CX-RC). The Edco™ CX-HFN accommodates both bulkhead mount and stud mount. The input and output connections are interchangeable.

**Features**
- Low signal loss
- 5 year warranty

**General Technical Specifications**

- **Operating Voltage**: 130 VDC
- **Clamping Voltage**: 150 VDC (DC Spark Gap Voltage)
- **Operating Current**: 1 A
- **Peak Surge Current**: 10 kA (8 x 20 µs)
- **Maximum Power**: 10 Watts
- **Impedance**: 50 Ohms
- **Frequency Range**: 0 to 4 GHz

**Insertion Loss**: < 0.3 dB to 0.5 dB 2 to 3 GHz

**Features**
- Low insertion loss
- Three stage hybrid
- 1 year warranty
- Replaceable surge modules
- Up to 48 channels available

**Ordering Information**

- **Edco™ RM-CAT6-POE Series**
  - **CAT6-POE Channel Rackmount**
  - **Edco™ RM-CAT6-POE Series**
  - **Edco™ CX-HFN Series**
  - **General Technical Specifications**
  - **Features**
  - **Ordering Information**

**Data/Signal Line Protection**

**Filtering/Line Conditioning**
### Edco™ RJA-RJD Series

**RJ-45 Telephone/Data**

The Edco™ RJA and Edco™ RJD Series are four pair telephone/data line protectors that implement advanced two stage hybrid design. These units address over-voltage transients with silicon breakover devices, while sneak and fault currents are mitigated with PTC technology, which consists of solid state resettable fuses.

The Edco™ RJA and Edco™ RJD Series incorporate RJ-45 female jacks in and out. The Edco™ RJA voltage clamp is set for C.O. Trunks and Analog Telephone Extensions (with ring in voltage), and the Edco™ RJD voltage clamp is set for Digital Extensions (no ring in voltage).

### Features
- <1 nanosecond response time
- Solid-state resettable fuses-PTCs
- Silicon breakover technology
- Low capacitance
- Line-to-line protection
- Tip and ring to ground protection
- CAN/CSA C22.2, No. 226-92 Compliant
- UL 497A listed
- 4 pair protection
- 5 year warranty

### Operating Voltage

<table>
<thead>
<tr>
<th>Operating Voltage</th>
<th>48, 220 VDC</th>
</tr>
</thead>
</table>

### Clamping Voltage

<table>
<thead>
<tr>
<th>Clamping Voltage</th>
<th>55, 280 VDC</th>
</tr>
</thead>
</table>

### Peak Surge Current

<table>
<thead>
<tr>
<th>Peak Surge Current</th>
<th>0.15 A</th>
</tr>
</thead>
</table>

### Frequency Range

<table>
<thead>
<tr>
<th>Frequency Range</th>
<th>0 to 50 MHz</th>
</tr>
</thead>
</table>

### Insertion Loss

<table>
<thead>
<tr>
<th>Insertion Loss</th>
<th>&lt;0.1 dB at 50 MHz</th>
</tr>
</thead>
</table>

### SPD Technology

- Silicon Breakover Devices/Devices w/Series PTC

### Connection Type

- RJ-45 jacks

### Operating Temperature

<table>
<thead>
<tr>
<th>Operating Temperature</th>
<th>-40°C to +85°C</th>
</tr>
</thead>
</table>

### Dimensions (Inches)

<table>
<thead>
<tr>
<th>Dimensions (Inches)</th>
<th>1.0H x 2.5W x 4.25L</th>
</tr>
</thead>
</table>

### Weight

<table>
<thead>
<tr>
<th>Weight</th>
<th>3 oz</th>
</tr>
</thead>
</table>

### Certifications

- UL 497A, CLA,
Islatrol™ — SP-6TVN
Industrial Strength Surge Suppression (Series)

The Islatrol™ SP-6TVN plug-in unit is an Active Tracking Filter™ which plugs into a standard duplex receptacle. It features uniquely designed repositionable outlets for easy installation behind desks and other furniture. It protects sensitive home or office equipment from damaging power disturbances traveling through wiring to electrical outlets.

Features
■ Plugs into standard 120 V, 15 Amp electrical outlet
■ Total peak surge current capacity of 39,000 Amps
■ Cables for telephone, video, and data connections
■ Repositionable outlets rotate to accommodate available space
■ Perfect for tight spaces, behind furniture and appliances
■ Intelligent monitoring against improper wiring/grounding
■ 60 dB maximum high frequency
■ Operational indicator lamp
■ 5 year limited warranty

AC Power Protection
■ ANSI/IEEE C62.41 Category A & B
■ Connection Type (6) 5-15R Receptacles and 5-15P Plug
■ Phase Configuration 2 Wire + Gnd
■ Size 7.5 x 4.75 x 1.75 (Inches)
■ Enclosure High Impact Plastic
■ Weight 2.0 lbs (0.9 kgs)

Modes Of Protection
■ L — N, L — G, N — G

Low Voltage Protection
■ Video 1 & 2
■ Phone
■ Network

General Technical Specifications
- ANSI/IEEE C62.41 Cat A Ringwave (6 kV, 200 A, 100 kHz)
  - Normal Mode: 265 V
  - Common Mode: 290 V
- ANSI/IEEE C62.41 Cat B Ringwave (6 kV, 500 A, 100 kHz)
  - Normal Mode: 275 V
  - Common Mode: 290 V

Edco™ PHC Series
Two-Pair Signalling Circuit Protector (Modular)

The Edco™ PHC Series is designed to protect two pairs of wires specifically for alarm and security systems where operating currents can be as high as 5 Amps. Electrically, the Edco™ PHC Series is a rugged series hybrid implementing a staged complement of MOVs, copper wound inductors and Silicon Avalanche Diodes. This design reduces series resistance to 0.2 Ohms per pair. These products are intended to mate with an Edco PCB18-WKEY gold-plated female terminal connector.

The Edco™ PHC modules plug into a base assembly (Edco™ PCB18-WKEY). The base assembly can be mounted to any flat surface and should be located as close as practical to the protected equipment. Terminal 1 or terminal 10 should be connected to Building-Approved Ground with 12 or 10 gauge solid wire.

Features
■ Three-stage protection
■ Differential protection
■ Common mode protection
■ Plug-in module
■ Automatic recovery
■ Fast response time
■ Continuous current up to 5 Amps
■ UL 497B listed
■ Requires Edco™ PCB18-WKEY base
■ PC642PTU (Pass Thru Unit) available for troubleshooting
■ 5 year warranty

Operating Voltage
- 36-70 VDC
- Clamping Voltage: 43-100 VDC
- Operating Current: 5 A
- Peak Surge Current: 10 kA (8 x 20 µs)
- Frequency Range: 0 to 10 MHz
- Insertion Loss: < 0.1 dB at 10 MHz
- SPD Technology: MOV, SAD, w/Series Inductor
- Connection Type: Terminal block w/compression lugs
  - Terminals accept up to 10 AWG
- Weight: 8 oz
- Certifications: UL 497B

Applications Part Number
- 24V Horn, Strobe, Bell: PHC-043 & PCB1B-WKEY
- 70V Speaker Lines: PHC-SP70 & PCB18-WKEY

Terminal Assignments
- PC642PTU (Pass Thru Unit)
- DO NOT daisy chain grounds. NOT intended for shield termination. Install ground in accordance with all applicable codes.

Dimensions
- 2.3” high x 3.75” wide x 1.75” deep

How to Specify the Appropriate Model

Data/Signal Line Protection
 Islatrol™ — RM Series

120 VAC Rackmount

Islatrol™ RM Series AC rackmount surge protector is ideal for protecting the power feeding valuable rack equipment. Status LEDs indicate the correct power is coming to the unit, whether the unit is properly grounded and whether the surge components are still intact. Units are available with a digital meter, mounted on the front of the unit, which will monitor the voltage, current and power of the protected equipment.

**Features**
- 40 kA surge protection
- 60 dB max noise filtering
- 15 & 20 A models available
- Power, ground and surge status indicators
- 1 year warranty

**General Technical Specifications**

<table>
<thead>
<tr>
<th>Model</th>
<th>Voltage</th>
<th>Amperage</th>
<th>Plug (NEMA)</th>
<th>Receptacles (NEMA)</th>
<th>Digital Meter</th>
<th>Locking Plug</th>
</tr>
</thead>
<tbody>
<tr>
<td>RM-115-10RM</td>
<td>120 V</td>
<td>15 A</td>
<td>5-15P</td>
<td>5-15R</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>RM-120-10RM</td>
<td>120 V</td>
<td>20 A</td>
<td>5-20P</td>
<td>5-20R</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

**Rackmount AC Power Protection**

ANSI/UL 1449 Third Edition

- L-N:400 V, L-G:500V, N-G:400V
- Rated Voltage: 120 V
- Rated Current: 15 A & 20 A
- Peak Surge Current: 20 kA@1000 µs, 40 kA/phase
- Response Time: <5 ms
- EMI/RFI Filtering: 60 dB Max
- LED Indicators: Green:Normal, Red:Fault
- Overcurrent Protection: Circuit
- Overvoltage Protection: Thermal Protected MOVs
- Dimensions: 1.75”H x 19”W x 3.8”D (1U)
- Certifications: ANSI/UL 1449 Third Edition Type 3
- Warranty: 1 Year

**Terminal Assignments**

<table>
<thead>
<tr>
<th>Pin</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>L-N</td>
</tr>
<tr>
<td>2</td>
<td>L-G</td>
</tr>
<tr>
<td>3</td>
<td>N-G</td>
</tr>
<tr>
<td>4</td>
<td>Neutral</td>
</tr>
<tr>
<td>5</td>
<td>Ground</td>
</tr>
</tbody>
</table>

**Ordering Information**

- Model: PC642C-008LC
- Plugs: 5-15P, 5-20P
- Receptacles: 5-15R, 5-20R
- Digital Meter: Yes
- Locking Plug: No

**General Technical Specifications**

- Maximum Continuous: 5-250 VDC
- Operating Voltage (MOOV): 8-300 VDC
- Operating Current: 150mA
- Peak Surge Current: 10 kA (8 x 20 µs)
- Frequency Range: 0 to 20 MHz
- Insertion Loss: <0.1 dB at 20 MHz
- SMD Technology: QIT, QAD
- Connection Type: Terminal Block
- Terminals: copper
- Dimensions: 2”H x 1”W x 2.5”L (PC642 + Mounting Base)
- Weight: 1 oz
- Certifications: UL 497B

**Caution:** The hybrid design of this product includes series resistance. Do not place this product in service on any signal line capable of supplying more than 150 milliamperes continuously.
Data/Signal Line Protection — Product Selection Guide

Find your application in the left column.

Then look across for the appropriate product.

**PRODUCTS**

<table>
<thead>
<tr>
<th></th>
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<td>Video Equipment</td>
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<td>Video Rack Equipment</td>
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<tr>
<td>Water/Wastewater Instrumentation</td>
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</tbody>
</table>

**Edco™ DRS (DC) Series**

**DIN Rail Protection**

The Edco™ DRS (DC) Series is a DIN rail mountable, single-pair surge suppression module implementing three-stage hybrid technology. This module addresses over-voltage transients with gas tubes and silicon avalanche components. In addition, sneak currents are mitigated with resettable fuses (PTCs). The PTCs increase resistance several orders of magnitude when over-currents exceed safe levels. A normal state resumes when over-currents are removed. The ability to self-restore in this manner significantly increases suppressor performance and survivability.

The Edco™ DRS (DC) Series is a DIN rail mountable, single-pair surge suppression module implementing three-stage hybrid technology. This module addresses over-voltage transients with gas tubes and silicon avalanche components. In addition, sneak currents are mitigated with resettable fuses (PTCs). The PTCs increase resistance several orders of magnitude when over-currents exceed safe levels. A normal state resumes when over-currents are removed. The ability to self-restore in this manner significantly increases suppressor performance and survivability.

The Edco™ DRS (DC) Series mounts onto a standard 35 mm industrial DIN rail. There are three “Field Side” and three “Electronics Side” screw terminals. One is reserved for a shield. Three electrically tied ground terminals are provided for grounding the Edco™ DRS Series unit to Building-Approved Ground. Shield is isolated from ground.

For a 2-terminal version without a shield, order the Edco™ DRS-XXX-2.

**Features**

- Low-voltage data surge protection
- Three-stage hybrid protection
- Sneak/fault current protection with resettable fuses — PTCs
- Low profile packaging
- UL 497B listed
- Easy installation
- Fits standard 35 mm DIN rail
- Fast response time < 1 nanosecond
- 5 year warranty

**General Technical Specifications**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Maximum Peak Signal Voltage</th>
<th>Nominal Breakdown Voltage</th>
<th>Surge 1p-10 microsecond Peak Current 8 x 20 microsecond Waveform</th>
<th>Temp Cap (µF)</th>
<th>Maximum Continuous Current (µA)</th>
<th>Nominal Series Resistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRS-036</td>
<td>30</td>
<td>36</td>
<td>&gt;100</td>
<td>1500</td>
<td>150</td>
<td>5 Ohms</td>
</tr>
<tr>
<td>DRS-130</td>
<td>170</td>
<td>200</td>
<td>&gt;100</td>
<td>8000</td>
<td>5000</td>
<td>None</td>
</tr>
</tbody>
</table>

**Warning!!** DRS-130MS is for Discrete Signal Use Only. Do not use DRS-130MS on 120 VAC Power Lines. This unit is a non-hybrid, MOV design, rated above 5 A operational current and can withstand greater than eight occurrences of a 10 kA 8 x 20 µs waveform, and greater than 1000 occurrences of a 200 A 10 x 1000 µs waveform.

**Dimensional Diagrams**

DRS-XXX

DRS-XXX-2 (2 terminal version)
Edco™ DRS (DC) Series

**DIN Rail Protection**

The Edco™ DRS (DC) Series is a DIN rail mountable, single-pair surge suppression module implementing three-stage hybrid technology. This module addresses over-voltage transients with gas tubes and silicon avalanche components. In addition, sneak currents are mitigated with resettable fuses (PTCs). The PTCs increase resistance several orders of magnitude when over-currents exceed safe levels. A normal state resumes when over-currents are removed. The ability to self-restore in this manner significantly increases suppressor performance and survivability.

The Edco™ DRS (DC) Series mounts onto a standard 35 mm industrial DIN rail. There are three “Field Side” and three “Electronics Side” screw terminals. One is reserved for a shield. Three electrically tied ground terminals are provided for grounding the Edco™ DRS Series unit to Building-Approved Ground. Shield is isolated from ground.

For a 2-terminal version without a shield, order the Edco™ DRS-XXX-2.

**Features**

- Low-voltage data surge protection
- Three-stage hybrid protection
- Sneak/fault current protection with resettable fuses — PTCs
- Low profile packaging
- UL 497B listed
- Easy installation
- Fits standard 35 mm DIN rail
- Fast response time < 1 nanosecond
- 5 year warranty

**Warning!!**

DRS-130RMS is for Discrete Signal Use Only. Do not use DRS-130RMS on 120 VAC Power Lines. This unit is a non-hybrid, MOV design, rated above 5 A operational current and can withstand greater than eight occurrences of a 10 kA 8 x 20 µs waveform, and greater than 1000 occurrences of a 200 A 10 x 1000 µs waveform.

**General Technical Specifications**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Maximum</th>
<th>Nominal Peak Voltage</th>
<th>Surge Breakdown Voltage</th>
<th>Surge Current</th>
<th>Peak-CURRENT</th>
<th>Tip Capacitance</th>
<th>Nominal Series Resistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRS-036</td>
<td>30</td>
<td>36</td>
<td>&gt;100</td>
<td>10 kA</td>
<td>1500</td>
<td>1500</td>
<td>56 Ohms</td>
</tr>
<tr>
<td><strong>DRS-130</strong></td>
<td>170</td>
<td>200</td>
<td>&gt;10</td>
<td>8 kA</td>
<td>1500</td>
<td>5000</td>
<td>None</td>
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</tbody>
</table>

**Warning!!!** DRS-130RMS is for Discrete Signal Use Only. Do not use DRS-130RMS on 120 VAC Power Lines. This unit is a non-hybrid, MOV design, rated above 5 A operational current and can withstand greater than eight occurrences of a 10 kA 8 x 20 µs waveform, and greater than 1000 occurrences of a 200 A 10 x 1000 µs waveform.

**Dimensional Diagrams**

1. **DRS-XXX**
2. **DRS-XXX-2** (2 terminal version)
Islatrol™ — RM Series
120 VAC Rackmount

Islatrol™ RM Series AC rackmount surge protector is ideal for protecting the power feeding valuable rack equipment. Status LEDs indicate the correct power is coming to the unit, whether the unit is properly grounded and whether the surge components are still intact. Units are available with a digital meter, mounted on the front of the unit, which will monitor the voltage, current and power of the protected equipment.

Features
- 40 kA surge protection
- 60 dB max noise filtering
- 15 & 20 A models available
- Power, ground and surge status indicators
- Digital meter
- Optional twist-lock plug
- 1 year warranty

General Technical Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Voltage</th>
<th>Amperage</th>
<th>Plug (NEMA)</th>
<th>Receptacles (NEMA)</th>
<th>Digital Meter</th>
<th>Locking Plug</th>
</tr>
</thead>
<tbody>
<tr>
<td>RM-115-10RM</td>
<td>120 V</td>
<td>15 A</td>
<td>S-15P</td>
<td>S-15R</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>RM-120-10RM</td>
<td>120 V</td>
<td>20 A</td>
<td>S-20P</td>
<td>S-20R</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

Rackmount AC Power Protection

ANSI/UL 1449 Third Edition

- (L,N) - 400V, (L,G) - 500V, (N,G) - 400V
- 120 V
- 15 A & 20 A
- 20 kA (mode), 40 kA (phase)
- < 5 ms
- 60 dB Max
- Green-Ground, Green-Ground, Ground- surge Circuit
- Voltage, Amps, Watts, Hz, PF, Kwh, and Clock

Input Power

- 15 A Models: 5/14/3 Power Cord (9 ft) with NEMA 5-15P Plug
- 20 A Models: 5/22/3 Power Cord (9 ft) with NEMA 5-20P Plug

Output Receptacles

- Front (2) NEMA 5-15R
- Back (10) NEMA 5-15R

Certifications

- ANSI/UL 1449 Third Edition Type 3
- 1 Year Warranty

Data/Signal Line Protection

Edco™ PC642 Series
Zone/Loop/Data

The Edco™ PC642 Series surge suppressor is a two-pair (four-wire) module implementing three-stage hybrid technology. This module addresses over-voltage transients with gas tubes and silicon avalanche components. In addition, sneak and fault currents are mitigated with resettable fuses (PTCs). The PTCs increase resistance several orders of magnitude when over-currents exceed safe levels. A normal state resumes when over-currents are removed. The ability to self-restore in this manner significantly increases suppressor performance and survivability.

The Edco™ PC642 card edge module is gold-plated, double-sided, and is designed to mate with the Edco™ PC618B-WKEY gold-plated female terminal connector. When snapped together, the data circuits “pass thru” the protector in a serial fashion from the four “Field Side” terminals to the four “Electronics Side” terminals. Terminals 1 or 10 of the Edco™ PC618B-WKEY must be attached to Building-Approved Ground per Edco™ Technical Bulletin # 2015.

Features
- Three-stage hybrid protection
- Sneak/Fault current protection
- Resettable fusing — PTCs
- Low capacitance option
- Plug-in module
- Fast response time
- Requires Edco™ PC618B-WKEY base
- PC642FPU (Pass Thru Unit) available for troubleshooting
- 5 year warranty

General Technical Specifications

- Maximum Continuous: 5-250 VDC
- Operating Voltage (MCOV): 8-300 VDC
- Operating Current: 1500mA
- Peak Surge Current: 10 kA (8 x 20 µs)
- Frequency Range: 0 to 20 MHz
- Insertion Loss: < 0.1 dB at 20 MHz
- SPD Technology: Gas Tubes, Silicon Avalanche Components
- Connection Type: Terminal Block with compression lugs
- Terminals accept up to 10 AWG
- Operating Temperature: -40°C to +85°C
- Dimensions (Inches): 2H x 1W x 2.5L (PC642 + Mounting Base)
- Weight: 1 oz
- Certifications: UL 497B

Caution:
- The hybrid design of this product includes series resistance. Do not place this product in service on any signal line capable of supplying more than 150 milliamperes continuously.

Terminal Assignments

How to Specify the Appropriate Model

Data/Signal Line Protection
Islatrol™ — SP-6TVN
Industrial Strength Surge Suppression (Series)

The Islatrol™ SP-6TVN plug-in unit is an Active Tracking Filter™ which plugs into a standard duplex receptacle. It features uniquely designed repositionable outlets for easy installation behind desks and other furniture. It protects sensitive home or office equipment from damaging power disturbances traveling through wiring to electrical outlets.

Features
■ Plugs into standard 120 V, 15 Amp electrical outlet
■ Total peak surge current capacity of 39,000 Amps
■ Cables for telephone, video, and data connections
■ Repositionable outlets rotate to accommodate available space
■ Perfect for tight spaces, behind furniture and appliances
■ Intelligent monitoring against improper wiring/grounding
■ 60 dB maximum high frequency
■ Operational indicator lamp
■ 5 year limited warranty

AC Power Protection
- Nominal Operating Voltage: 120 VAC, Single-Phase
- Operating Voltage Range: 120 VAC +/- 10%
- Operating Frequency Range: 47 — 63 Hz
- Rated Output (Amps): 15 Amperes

ANSI/IEEE C62.41 Category A & B
- Connection Type: (6) 5-15R Receptacles and 5-15P Plug
- Phase Configuration: 2 Wire + Gnd

General Technical Specifications
- Size: 7.5 x 4.75 x 1.75 (Inches)
- Weight: 2.0 lbs (0.9 kgs)
- Modes Of Protection: L — N, L — G, N — G

Low Voltage Protection
- Nominal Mode: 60 dB Maximum, forward/reverse, 100 kHz to 50 MHz
- Clamping Voltage: 275 V

Islatrol™ — SP-6TVN
Industrial Strength Surge Suppression (Series)

Data/Signal Line Protection

Edco™ PHC Series
Two-Pair Signaling Circuit Protector (Modular)

The Edco™ PHC Series is designed to protect two pairs of wires specifically for alarm and security systems where operating currents can be as high as 5 Amps. Electrically, the Edco™ PHC Series is a rugged series hybrid implementing a staged complement of MOVs, copper wound inductors and Silicon Avalanche Diodes. This design reduces series resistance to 0.2 Ohms per pair. These products are intended to mate with an Edco PCB18-WKEY gold-plated female terminal connector.

The Edco™ PHC modules plug into a base assembly (Edco™ PCB18-WKEY). The base assembly can be mounted to any flat surface and should be located as close as practical to the protected equipment. Terminal 1 or terminal 10 should be connected to Building-Approved Ground with 12 or 10 gauge solid wire.

Features
■ Three-stage protection
■ Differential protection
■ Common mode protection
■ Plug-in module
■ Automatic recovery
■ Fast response time
■ Continuous current up to 5 Amps
■ UL 4978 listed
■ Requires Edco™ PCB18-WKEY base
■ PC642PTU (Pass Thru Unit) available for troubleshooting
■ 5 year warranty
Edco™ RJA-RJD Series

RJ-45 Telephone/Data

The Edco™ RJA and Edco™ RJD Series are four pair telephone/data line protectors that implement advanced two stage hybrid design. These units address over-voltage transients with silicon breakover devices, while sneak and fault currents are mitigated with PTC technology, which consists of solid state resettable fuses.

The Edco™ RJA and Edco™ RJD Series incorporate RJ-45 female jacks in and out. The Edco™ RJA voltage clamp is set for C.O. Trunks and Analog Telephone Extensions (with ring in voltage), and the Edco™ RJD voltage clamp is set for Digital Extensions (no ring in voltage).

Features
- <1 nanosecond response time
- Solid-state resettable fuses-PTCs
- Silicon breakover technology
- Low capacitance
- Line-to-line protection
- Tip and ring to ground protection
- CAN/CSA-C22.2, No. 226-92 Compliant
- UL 497A listed
- 4 pair protection
- 5 year warranty

Islatrol™ IC+/LRIC+ Series

Active Tracking Filter™

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated Output (Amps)</th>
<th>Case Dimensions (In)</th>
<th>Mounting Flange Dimensions (In)</th>
<th>Screw Size</th>
<th>Weight (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IC+102 / IC+102WL</td>
<td>2.5</td>
<td>4 x 2.88 x 1.81</td>
<td>4.38 x 2.12 x 5.31 x 0.19</td>
<td>#6</td>
<td>1.0</td>
</tr>
<tr>
<td>IC+105 / IC+105WL</td>
<td>5.0</td>
<td>4 x 2.88 x 1.81</td>
<td>4.38 x 2.12 x 5.31 x 0.19</td>
<td>#6</td>
<td>1.3</td>
</tr>
<tr>
<td>IC+107 / IC+107WL</td>
<td>7.5</td>
<td>4.75 x 4.75 x 2.35</td>
<td>5.25 x 3.50 x 6.25 x 0.19</td>
<td>#6</td>
<td>2.0</td>
</tr>
<tr>
<td>IC+115 / IC+115WL</td>
<td>15</td>
<td>6.25 x 4.75 x 2.35</td>
<td>6.75 x 3.50 x 7.75 x 0.19</td>
<td>#6</td>
<td>3.5</td>
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<tr>
<td>IC+130 / IC+130WL</td>
<td>30</td>
<td>7.75 x 4.75 x 2.35</td>
<td>8.25 x 3.50 x 9.00 x 0.19</td>
<td>#8</td>
<td>6.0</td>
</tr>
</tbody>
</table>

120 VAC Models with 5 foot line cord and single NEMA 5-15 receptacle

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated Output (Amps)</th>
<th>Case Dimensions (In)</th>
<th>Mounting Flange Dimensions (In)</th>
<th>Screw Size</th>
<th>Weight (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LRIC+102</td>
<td>2.5</td>
<td>4.5 x 3.0 x 1.88</td>
<td>N/A</td>
<td>N/A</td>
<td>1.3</td>
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<tr>
<td>LRIC+105</td>
<td>5.0</td>
<td>4.5 x 4.5 x 2.38</td>
<td>N/A</td>
<td>N/A</td>
<td>2.0</td>
</tr>
<tr>
<td>LRIC+107</td>
<td>7.5</td>
<td>6.0 x 4.5 x 2.38</td>
<td>N/A</td>
<td>N/A</td>
<td>2.3</td>
</tr>
<tr>
<td>LRIC+115</td>
<td>15</td>
<td>7.5 x 4.5 x 2.38</td>
<td>N/A</td>
<td>N/A</td>
<td>4.0</td>
</tr>
</tbody>
</table>

240 VAC Models with barrier strip at input and output/with wire leads at input and output (WL)

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated Output (Amps)</th>
<th>Case Dimensions (In)</th>
<th>Mounting Flange Dimensions (In)</th>
<th>Screw Size</th>
<th>Weight (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IC+202 / IC+202WL</td>
<td>2.5</td>
<td>4 x 2.88 x 1.81</td>
<td>4.38 x 2.12 x 5.31 x 0.19</td>
<td>#6</td>
<td>1.3</td>
</tr>
<tr>
<td>IC+205 / IC+205WL</td>
<td>5.0</td>
<td>4.75 x 4.75 x 2.35</td>
<td>5.25 x 3.50 x 6.25 x 0.19</td>
<td>#6</td>
<td>2.0</td>
</tr>
<tr>
<td>IC+207 / IC+207WL</td>
<td>7.5</td>
<td>6.25 x 4.75 x 2.35</td>
<td>6.75 x 3.50 x 7.75 x 0.19</td>
<td>#8</td>
<td>3.3</td>
</tr>
<tr>
<td>IC+215 / IC+215WL</td>
<td>15</td>
<td>7.75 x 4.75 x 2.35</td>
<td>8.25 x 3.50 x 9.00 x 0.19</td>
<td>#8</td>
<td>5.8</td>
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<tr>
<td>IC+230 / IC+230WL</td>
<td>30</td>
<td>7.75 x 4.75 x 2.35</td>
<td>8.25 x 3.50 x 9.00 x 0.19</td>
<td>#8</td>
<td>6.0</td>
</tr>
</tbody>
</table>

General Technical Specifications
- Operating Voltage: 48, 220 VDC
- Clamping Voltage: 55, 280 VDC
- Operating Current: 0.15 A
- Peak Surge Current: 200 A (10 x 1000 µs)
- Frequency Range: 0 to 50 MHz
- Insertion Loss: <0.1 dB at 50 MHz
- SPD Technology: Silicon Breakover Devices w/Series PTC
- Connection Type: RJ-45 jacks
- Operating Temperature: -40°C to +85°C
- Dimensions (Inches): 1.09 x 2.39 x 4.21
- Weight: 3 oz
- Certifications: UL 497A, CLA

Installation

The Edco™ RJA and Edco™ RJD Series are intended for indoor use only and shall be employed on the equipment side of a listed primary telephone protector.

Ordering Information

Analog Phone: RJA-45
Digital Phone: RJD-45

Islatrol™ Active Tracking Filters carry a 10 year warranty.
**I SATROL™ IC+/LRIC+ Series**

*Active Tracking Filter™*

Series connected high-frequency noise filter with transient protection. Offers the flexibility of either receptacle/line cord connection or hard-wired connection to critical loads (up to 30 Amperes). Applications include industrial or office equipment, computers placed in harsh environments.

**Features**

- Typically reduces normal mode transients to +/-2 volts
- Surge current capacity – 45,000 Amps
- Transient protection in all modes: line to neutral, line to ground, and neutral to ground
- LED power indication
- UL 1283, CSA recognized
- 10 year warranty

---

**Edco™ RM-CAT6-POE Series**

*CAT6-POE Channel Rackmount*

The Edco™ RM-CAT6-POE Series is a multi-channel high-speed data line protector that utilizes a three-stage hybrid design technology. This unit addresses high-energy voltage transients that can damage expensive computer equipment. Ideal for network switches and hubs, the Edco™ RM-CAT6-POE Series is easily mounted in close proximity to the protected equipment.

**Features**

- Exceeds category 6 transmission values
- Compact 1U rack size
- Meets Power-Over-Ethernet (POE) requirements
- Up to 48 channels available

**General Technical Specifications**

<table>
<thead>
<tr>
<th>Modes of Protection</th>
<th>Signal High-Low</th>
<th>Signal High-Ground</th>
<th>Signal Low-Ground</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Voltage</td>
<td>57 V</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clamping Voltage</td>
<td>68 V</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insertion Loss</td>
<td>&lt;0.1 dB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VSWR</td>
<td>&lt;1.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating Humidity</td>
<td>0-95% Non-Condensing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-40°C to +70°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input Connection Type</td>
<td>RJ-45</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output Connection Type</td>
<td>RJ-45</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPD Technology</td>
<td>GJ7, SJ40, W/series PTC</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Ordering Information**

- RM-CAT6-POE 3 Channels
- RM-CAT6-16POE 16 Channels
- RM-CAT6-24POE 24 Channels
- RM-CAT6-48POE 48 Channels

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**Edco™ CX-HFN Series**

*High Frequency Coax Protector – N-Type*

The Edco™ CX-HFN surge protectors are designed to protect sensitive electronic equipment from damage due to excessive voltage or currents generated by lightning or static build-up.

The Edco™ CX-HFN offers low signal loss at frequencies up to 4 gigahertz. The unit also has a replaceable protection cartridge (CX-RC). The Edco™ CX-HFN surge protectors are designed to protect sensitive electronic equipment from damage due to excessive voltage or currents generated by lightning or static build-up.

**Features**

- Low signal loss
- 5 year warranty

**General Technical Specifications**

<table>
<thead>
<tr>
<th>Operating Voltage</th>
<th>130 VDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clamping Voltage</td>
<td>150 VDC</td>
</tr>
<tr>
<td>Operating Current</td>
<td>1 A</td>
</tr>
<tr>
<td>Peak Surge Current</td>
<td>10 kA (8 x 20 µs)</td>
</tr>
<tr>
<td>Maximum Power</td>
<td>10 Watts</td>
</tr>
<tr>
<td>Impedance</td>
<td>50 Ohms</td>
</tr>
<tr>
<td>Frequency Range</td>
<td>0 to 4 GHz</td>
</tr>
</tbody>
</table>

**Ordering Information**

- CX-HFN-FM (Female-Male)
- CX-HFN-FF (Female–Female)
Edco™ SLAC Series

AC Power/Signal

The Edco™ SLAC Series suppressor is specifically designed to protect electronic instruments used by the water/wastewater industries. It combines hybrid AC power protection and signal line protection in a NEMA-4X polycarbonate case.

The AC power suppressor can supply up to 1875 Watts and has a 15 Amp replaceable fuse to prevent overloading of the protective elements. A “Power ON” LED provides visual indication that power is applied to instruments. Signal line protection is accomplished by the Edco™ PC642 Series available in a variety of voltage clamps. Signal current can be monitored by reading the voltage across the 10 V, 1% resistors (TP1 & TP2 or TP3 & TP4). All leads going to the Edco™ SLAC board are terminated by quick disconnect or barrier block connectors to facilitate easy removal for service or replacement.

Features

- Optional twist lock plug lightning & surge suppression for AC power and low-voltage signal lines
- Series hybrid AC suppressor/filter
- Plug-in protection module
- 15 Amp replaceable fuse

Standard Enclosure

Optional Enclosure

| Technology | Three-Stage Series Hybrid
| Input Voltage | 120V AC 50/60 Hz
| Output Current | 15 Amps Max.
| Response Time | <5 Nanoseconds
| Maximum Surge Current (8x20 µs) | 10 kA
| Occurrences at 500 Amps | 950
| Parameter | Normal Mode: Common Mode
| IEEE Std 499-92 | (L-N) 280V (L-G) 280V (N-G)
| IEEE Std 499-92 | 380V 380V

*Measured from zero volts, 90° Phase angle

General Technical Specifications

| Parameter | Value
|---|---
| Input Voltage | 120V AC 50/60 Hz
| Output Current | 15 Amps Max.
| Response Time | <5 Nanoseconds
| Maximum Surge Current (8x20 µs) | 10 kA
| Occurrences at 500 Amps | 950
| Parameter | Normal Mode: Common Mode
| IEEE Std 499-92 | (L-N) 280V (L-G) 280V (N-G)
| IEEE Std 499-92 | 380V 380V

*Measured from zero volts, 90° Phase angle

Signal Line

How to Specify the Appropriate Model

These blocks are for PC642 VoltageSelection if applicable. See PC 642 Datasheet for additional information. EDGSL-24 is standard for 4-20 mA connections.
Islatrol™ IE Series
Active Tracking Filter™

The Islatrol™ IE is a series-connected DIN or flange-mounted high-frequency noise filter and surge suppressor. Its ideal applications include critical industrial loads drawing up to 20 Amps of continuous current, while typical applications include any microprocessor-based products, including industrial PLCs, OEM applications, and motion control systems.

**Features**
- Multi-staged design, combining a unique hybrid clamping network with the active tracking technology of the Islatrol® family
- Surge current capacity — 45,000 Amps
- Transient protection in all modes: line to neutral, line to ground, and neutral to ground
- LED status indication and form C contact for remote indication
- DIN mountable enclosure
- ANSI/UL 1449 Third Edition Type 4, 1283, CUL recognized, CE
- 10 year warranty

**Performance Technical Specifications**

<table>
<thead>
<tr>
<th>Model</th>
<th>L-N</th>
<th>L-G</th>
<th>N-G</th>
<th>L-L</th>
</tr>
</thead>
<tbody>
<tr>
<td>IE-103</td>
<td>400V</td>
<td>600V</td>
<td>600V</td>
<td>N/A</td>
</tr>
<tr>
<td>IE-105</td>
<td>400V</td>
<td>600V</td>
<td>500V</td>
<td>N/A</td>
</tr>
<tr>
<td>IE-110</td>
<td>1,000V</td>
<td>700V</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IE-120</td>
<td>900V</td>
<td>700V</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IE-203</td>
<td>400V</td>
<td>500V</td>
<td>700V</td>
<td>N/A</td>
</tr>
<tr>
<td>IE-205</td>
<td>400V</td>
<td>500V</td>
<td>700V</td>
<td>N/A</td>
</tr>
<tr>
<td>IE-210</td>
<td>900V</td>
<td>700V</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IE-220</td>
<td>900V</td>
<td>700V</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Peak Surge Current Capability (8 x 20 µs):** Line to Neutral 15,000 Amps, Line to Ground 15,000 Amps, Neutral to Ground 15,000 Amps, Total 45,000 Amps
- **Frequency Response (Forward-Reverse):**
  - Normal Mode 100 kHz to 50 MHz - 90 dB Min
  - Common Mode 5 MHz to 50 MHz - 60 dB Min

- **Typical Category A Ringwave (6 kV, 200 A, 100 kHz):**
  - 3 Amp 1 V/300 V
  - 5 Amp 0.7 V/292 V
  - 10 Amp 0.7 V/300 V
  - 20 Amp 0.7 V/300 V

- **Typical Category B Ringwave (6 kV, 500 A, 100 kHz):**
  - 3 Amp 178 V/300 V
  - 5 Amp 162 V/291 V
  - 10 Amp 153 V/300 V
  - 20 Amp 200 V/300 V

- **MCOV:**
  - 120 Volt 150 VRMS
  - 240 Volt 275 VRMS
- **Line Frequency:** 47 - 63 Hz
- **Connection Terminal:** DIN/Flange
- **Weight:** < 3 lbs
- **Response Time:**
  - Normal Mode < 0.5 ns
  - Common Mode < 5 ns
- **Operating Temperature:** -40°C to +45°C
- **Operating Humidity:** 0% to 95%

- **Derate Linearly to 60% at +70ºC

- **Ordering Information**

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Continuous Current</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>120 V</td>
<td>3 Amps IE-103</td>
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</tr>
<tr>
<td>120 V</td>
<td>5 Amps IE-105</td>
<td></td>
</tr>
<tr>
<td>120 V</td>
<td>10 Amps IE-110</td>
<td></td>
</tr>
<tr>
<td>120 V</td>
<td>20 Amps IE-120</td>
<td></td>
</tr>
<tr>
<td>240 V</td>
<td>3 Amps IE-203</td>
<td></td>
</tr>
<tr>
<td>240 V</td>
<td>5 Amps IE-205</td>
<td></td>
</tr>
<tr>
<td>240 V</td>
<td>10 Amps IE-210</td>
<td></td>
</tr>
<tr>
<td>240 V</td>
<td>20 Amps IE-220</td>
<td></td>
</tr>
</tbody>
</table>

* All voltage configurations are single phase - 2 wire + gnd.

**General Technical Specifications**

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Continuous Current</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>120 V</td>
<td>3 Amps IE-103</td>
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</tr>
<tr>
<td>120 V</td>
<td>5 Amps IE-105</td>
<td></td>
</tr>
<tr>
<td>120 V</td>
<td>10 Amps IE-110</td>
<td></td>
</tr>
<tr>
<td>120 V</td>
<td>20 Amps IE-120</td>
<td></td>
</tr>
<tr>
<td>240 V</td>
<td>3 Amps IE-203</td>
<td></td>
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<tr>
<td>240 V</td>
<td>5 Amps IE-205</td>
<td></td>
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<tr>
<td>240 V</td>
<td>10 Amps IE-210</td>
<td></td>
</tr>
<tr>
<td>240 V</td>
<td>20 Amps IE-220</td>
<td></td>
</tr>
</tbody>
</table>

**Dimensional Diagram**

---

**Edco™ SS64 & SS65 Series**
Wastewater/Industrial Applications

The Edco™ SS64 and Edco™ SS65 Series suppressors are designed for the water and wastewater industry. These multi-stage surge suppressors address over-voltage transients with gas tube and silicon avalanche technology. In addition, sneak and fault currents are mitigated with PTC devices which consist of solid-state resettable fuses. The units are encapsulated in stainless steel pipe nipples making them suitable for use in severe environments. The Edco™ SS64 models protect a signal pair and the Edco™ SS65 models protect a signal pair plus the cable shield (drain wire).

**Features**
- Transient protection for low-voltage signal lines
- Sneak/fault current protection
- Resettable fusing—PTCs
- Differential and common mode protection
- Automatic recovery
- Encapsulated in stainless steel pipe nipples
- Protection for one pair (Two wires & shield on SS65)
- 5 year warranty

**General Technical Specifications**

<table>
<thead>
<tr>
<th>Response Time</th>
<th>Maximum Signal Voltage</th>
<th>DC Clamping Level (L-G)</th>
<th>DC Clamping Level (L-L)</th>
<th>Maximum let-thru Voltage: Line-to-Ground (10x700 µs)</th>
<th>Maximum let-thru Voltage: Line-to-Line (10x700 µs)</th>
<th>Series Resistance (per conductor)</th>
<th>Capacitance (typical)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 1 Nanosecond</td>
<td>28 V Max</td>
<td>36 V ±50%</td>
<td>72 V ±50%</td>
<td>44 V @ 400 A</td>
<td>90 V @ 400 A</td>
<td>5 V</td>
<td>600 pF typical</td>
</tr>
</tbody>
</table>

**Typical Applications**

**Caution:** The hybrid design of this product includes series resistance. Do not place this product in service on any signal lines capable of supplying more than 150 milliamperes continuously.
Edco™ CX Series

CCTV & Data Applications/Coax

The Edco™ CX06-M & Edco™ CX06-MI Surge Protective Devices (SPDs) implement three-stage hybrid technology. The SPDs address over-voltage transients with a primary Gas Discharge Tube (GDT), and secondary Silicon Avalanche Diode (SAD) components. Over-current protection, e.g. sneak and fault currents, are mitigated with solid-state resettable fuses — PTCs. The Edco™ CX06-M & Edco™ CX06-MI SPDs are designed in accordance with NFPA 780 (2004 edition) requirements, with up to 20 kA of surge current capability. The Edco™ CX06-MI model has an isolated ground and is recommended for use at the camera end.

Features

- Sneak/fault current protection
- Low insertion loss
- Shielded case
- CX06-MI has an isolated ground
- 5 year warranty

Operating Voltage 5 VDC
Clamping Voltage 6 VDC
Operating Current 0.15 A
Peak Surge Current 20 kA (8 x 20 µs)
Frequency Range 0 to 100 MHz
Insertion Loss < 0.1 dB at 20 MHz

General Technical Specifications

Edco™ RM-CX06-16R

Channel Rackmount

The Edco™ RM-CX06-16R Surge Protective Device (SPD) is a 16 channel coax SPD implementing three-stage hybrid technology. The SPD addresses over-voltage transients with a primary Gas Discharge Tube (GDT), and secondary Silicon Avalanche Diode (SAD) components. Over-current protection, e.g., sneak and fault currents, are mitigated with new solid-state resettable fuses — PTCs. The Edco™ RM-CX06-16R SPD is designed in accordance with NFPA 780 (2004 edition) requirements, with up to 20 kA of surge current capability.

Features

- Sneak/fault current protection
- Low insertion loss
- Shielded case
- 16 channel
- 1 year warranty

Operating Voltage 5 VDC
Clamping Voltage 6 VDC
Operating Current 0.15 A
Peak Surge Current 20 kA (8 x 20 µs)
Frequency Range 0 to 100 MHz
Insertion Loss < 0.1 dB at 20 MHz

General Technical Specifications
Edco EMC-240B
120/240 VAC Low Exposure AC Panel Protection

The Edco EMC-240B surge suppressor is designed to protect AC distribution panel circuits or 120V power supplies feeding sensitive electronic equipment. Electrically, the unit incorporates MOV and thermal fusing technology. The Edco EMC 240B is designed to be installed in parallel on standard single phase 120VAC (L,N,G) circuits.

**Features**
- Fast response time
- 40,000 Amps per phase capacity
- Failsafe and fused
- UL 1449 Third Edition, Type 2 listed
- 5 year warranty

Edco FAS-120AC
120 VAC Medium Exposure AC Panel Protection

The Edco FAS-120AC surge suppressor is designed to protect AC panel circuits or 120V power supplies feeding sensitive electronic equipment. Electrically, the unit incorporates MOV and thermal fusing technology. This device is designed to be installed in parallel on standard single phase 120VAC (L,N,G) circuits. Installation can be close-nipple up to a distribution panel/circuit or hardwired in parallel up to power supply input terminal screws. Be sure to dress leads as short as possible.

**Features**
- LED indicator
- Fast response time
- Thermal fuse
- L-G, L-N, & N-G protection
- Compact size
- Liquid tight conduit fitting
- 5 year warranty

---

**General Technical Specifications**

<table>
<thead>
<tr>
<th>Edco EMC-240B</th>
<th>Edco FAS-120AC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operating Voltage</strong></td>
<td>120-240 VAC</td>
</tr>
<tr>
<td><strong>VPR</strong></td>
<td>L-N=600V, L-L=200V</td>
</tr>
<tr>
<td><strong>Fault Current Rating</strong></td>
<td>42 kA</td>
</tr>
<tr>
<td><strong>UL Location</strong></td>
<td>Type 2</td>
</tr>
<tr>
<td><strong>Nominal (A)</strong></td>
<td>NA</td>
</tr>
<tr>
<td><strong>Operating Current</strong></td>
<td>NA, Parallel</td>
</tr>
<tr>
<td><strong>Total Peak Surge Current</strong></td>
<td>80 kA (8 x 20 µs)</td>
</tr>
<tr>
<td><strong>Operating Frequency</strong></td>
<td>47-63 Hz</td>
</tr>
</tbody>
</table>

**Edco CAT6-5POE Series**
CAT6/CAT5 Power Over Ethernet

The Edco CAT6-5POE Series is designed to work on Category 5 Power-Over-Ethernet transmission lines as well as Category 6 applications. Ideal to protect expensive equipment against surges and transients entering a building on exposed transmission lines.

**Features**
- Exceeds CAT5 & 6 transmission values
- CAT5 POE compatible
- CAT6 compatible
- Applications up to 60 VDC @ 300 mA
- 1 year warranty

**General Technical Specifications**

<table>
<thead>
<tr>
<th>Edco CAT6-5POE Series</th>
<th>CAT6/CAT5 Power Over Ethernet</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operating Voltage</strong></td>
<td>60 VDC</td>
</tr>
<tr>
<td><strong>Clamping Voltage</strong></td>
<td>65 VDC</td>
</tr>
<tr>
<td><strong>Operating Current</strong></td>
<td>300 mA</td>
</tr>
<tr>
<td><strong>Peak Surge Current</strong></td>
<td>60A (10 x 1000 µs)</td>
</tr>
<tr>
<td><strong>Frequency Range</strong></td>
<td>0 to 250 MHz</td>
</tr>
<tr>
<td><strong>Insertion Loss</strong></td>
<td>&lt;0.1 dB at 20 MHz</td>
</tr>
<tr>
<td><strong>SPD Technology</strong></td>
<td>Silicon Avalanche Diode (SAD)</td>
</tr>
<tr>
<td><strong>Connection Type</strong></td>
<td>RJ-45 Jacks</td>
</tr>
<tr>
<td><strong>Dimensions (Inches)</strong></td>
<td>0.8H x 1.0W x 2.3L</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>1 oz</td>
</tr>
</tbody>
</table>

---

**Ordering Information**

<table>
<thead>
<tr>
<th>CAT6-5POE-F</th>
<th>CAT6-5POE-FF</th>
</tr>
</thead>
<tbody>
<tr>
<td>RJ-45 (Female-Female)</td>
<td>CAT6-5POE-F</td>
</tr>
</tbody>
</table>
### Electrical Characteristics

**System Voltage:**
- 120/208, 230/400, 220/380, 277/480, 346/600 VAC

**Type of Network:** TT-TN TT-TN TT-TN TT-TN

**Modes of Protection:**
- L-N; N-PE

**Nominal Voltage:**
- Un–120 V

**Rated Voltage (MCOV):**
- Uc–150 V

**Nominal Discharge Current (8 x 20 µs):**
- In–20 kA

**Maximum Discharge Current (5 x 20 µs):**
- Imax–40 kA

**Voltage Protection Level:**
- Up–1.2 kV

**Response Time:**
- Ts<25 ms

**Relative Humidity:**
- 95%

**Isolation Resistance:**
- > 103 MV

### Test Standards

**DRS series:**
- EN 61643-11 Type 2
- IEC61643-1:1998-02 Class II

### Mechanical Characteristics

**Dimensions (Length x Width x Height):** 70.8mm x 90.5mm x 68mm

**I/O Connections:**
- By Screw Terminal: 4-25 mm²

**MOV Encapsulation Material:** Epoxy Resin

**Disconnection Indicator:**
- Mechanical Indicator

**Mounting:**
- Symmetrical Rail (EN50022/DIN46277-3)

**Degree of Protection:** IP 20

**Housing Material:** ABS/PA UL94V0

### How to Specify the Appropriate Model

**Example:** DRS 120 3 1 Q

<table>
<thead>
<tr>
<th>Nominal Voltage (Un)</th>
<th># of Gas Tube Modules ** Higher Rated Voltage ***</th>
</tr>
</thead>
<tbody>
<tr>
<td>120</td>
<td>0</td>
</tr>
<tr>
<td>230</td>
<td>1</td>
</tr>
<tr>
<td>240</td>
<td>2</td>
</tr>
<tr>
<td>277</td>
<td>3</td>
</tr>
<tr>
<td>346</td>
<td>4</td>
</tr>
<tr>
<td>480</td>
<td>Q</td>
</tr>
</tbody>
</table>

1. MOV modules are typically one module per phase and may be oriented L-N, L-G or N-G.
2. Gas Tube modules typically used in the N-G mode for type TT grounding systems.
3. Certain applications require higher-rated components in order to survive frequent voltage rises, in this case order a unit with a “Q” at the end of the part number.

Replacement modules available: Order DRS + Un + M (for MOV) or G (for Gas Tube)

### Features

- Effectively handles high-energy transients on TT, TN-C, TN-S and TN-C-S three-phase power systems
- SPD rated Type 2 in accordance with EN 61643-11; Class I & II in accordance with IEC 61643-1
- Built-in thermal components disconnect SPD from the power source to avoid thermal runaway conditions
- MOV only or MOV+Gas Tube models available
- Fast response time, high surge current capability, low voltage protection levels
- Visual inspection window on each module indicates status
- 3-pole terminal provides remote status monitoring
- DIN rail mounting and plug-in module design allow for easy installation, maintenance and replacement of surge element
- 5 year warranty

### Technical Bulletins — High-Density Multiple Input Rack

**NOTES:**
1. SLAC UNIT PROVIDES ONE POWER AND TWO SIGNAL PROTECTION CIRCUITS.
2. SURGE DEVICES SHOULD BE GROUNDED LOCALLY WITH A GROUND ROD, AND ALSO AT THE MAIN PANEL ELECTRICAL GROUND.
3. CHECK WITH EMERSON NETWORK POWER SURGE PROTECTION, INC. TO DETERMINE IF OUTPUT CAN BE SURGE PROTECTED.

---

**DRS Series**

The DRS is a modular surge protective device (SPD) that is designed for easy installation in control panels using standard DIN rail mounting brackets. The DRS devices offer both normal and common surge protection up to 40 kA per phase.

### Performance Technical Specifications

**Electrical Characteristics**

**System Voltage:**
- DR512031: 120/208 VAC
- DR523031: 230/400 VAC
- DR527731: 277/480 VAC
- DR534631: 346/600 VAC

**Type of Network:** TT-TN TT-TN TT-TN TT-TN

**Model of Protection:**
- L-N, N-PE

**Nominal Voltage:**
- Un–120 V

**Rated Voltage:**
- Uc–150 V

**Maximum Discharge Current (8 x 20 µs):**
- Imax–40 kA

**Voltage Protection Level:**
- Up–1.2 kV

**Response Time:**
- Ts<25 ms

**Relative Humidity:**
- 95%

**Isolation Resistance:**
- > 103 MV

**Test Standards**

**EN 61643-11 Type 2**

**IEC 61643-1:1998-02 Class II**

**Mechanical Characteristics**

**Dimensions (Length x Width x Height):** 70.8mm x 90.5mm x 68mm

**I/O Connections:**
- By Screw Terminal: 4-25 mm²

**MOV Encapsulation Material:** Epoxy Resin

**Disconnection Indicator:**
- Mechanical Indicator

**Mounting:**
- Symmetrical Rail (EN50022/DIN46277-3)

**Degree of Protection:** IP 20

**Housing Material:** ABS/PA UL94V0

---

**Features**

- Effectively handles high-energy transients on TT, TN-C, TN-S and TN-C-S three-phase power systems
- SPD rated Type 2 in accordance with EN 61643-11; Class I & II in accordance with IEC 61643-1
- Built-in thermal components disconnect SPD from the power source to avoid thermal runaway conditions
- MOV only or MOV+Gas Tube models available
- Fast response time, high surge current capability, low voltage protection levels
- Visual inspection window on each module indicates status
- 3-pole terminal provides remote status monitoring
- DIN rail mounting and plug-in module design allow for easy installation, maintenance and replacement of surge element
- 5 year warranty
## TVSS/SPDs — Product Selection Guide

- Find your application in the left column.
- Then look across for the appropriate product(s).

<table>
<thead>
<tr>
<th>APPLICATIONS</th>
<th>DRS Series</th>
<th>Edco Sec Series</th>
<th>Edco Fax Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facility Service Entrance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distribution Panels</td>
<td></td>
<td></td>
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<tr>
<td>Sub-Distribution Panels</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Branch Panelboards (Commercial)</td>
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<td></td>
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<tr>
<td>Branch Panelboards (Residential)</td>
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<tr>
<td>Motor Control Centers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control Panels (AC Power)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Various OEM Equipment</td>
<td></td>
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</tr>
</tbody>
</table>

### TVSS/SPDs — Surge Protection for the Water Industry

**NOTES:**
1. SLAC UNIT PROVIDES ONE POWER AND TWO SIGNAL PROTECTION CIRCUITS.
2. SURGE DEVICES SHOULD BE GROUNDED LOCALLY WITH A GROUND ROD, AND ALSO AT THE MAIN PANEL ELECTRICAL GROUND.
3. CHECK WITH EMERSON NETWORK POWER SURGE PROTECTION, INC. TO DETERMINE IF OUTPUT CAN BE SURGE PROTECTED.
Technical Bulletins — Surge Protection for Power and Signal Lines

NOTES:
1. SLAC UNIT PROVIDES ONE POWER AND TWO SIGNAL PROTECTION CIRCUITS.
2. SURGE DEVICES SHOULD BE GROUNDED LOCALLY WITH A GROUND ROD, AND ALSO AT THE MAIN PANEL ELECTRICAL GROUND.
3. CHECK WITH EMERSON NETWORK POWER SURGE PROTECTION, INC. TO DETERMINE IF OUTPUT CAN BE SURGE PROTECTED.
“Dirty” power is a problem. Whether it’s called a surge, spike, transient or noise, “dirty” power is an abnormality in the power that runs your facility. These power problems can leave buildings in the dark and disable equipment, costing you thousands in repairs and lost revenue. Your productivity uptime and reputation depend on consistent power quality. Emerson Network Power Surge Protection provides products and solutions that ensure reliability from Grid to Chip. For more than 40 years, Facility Managers, Engineers, and System Integrators have trusted Emerson Network Power Surge Protection products to protect critical equipment in the Industrial Process, Computing, Research/Testing and Communications fields.

Emerson Network Power Surge Protection and the IEEE Standard 1100-1999 (Emerald Book) recommend a properly rated surge protection device should be applied on ALL electrical conductors entering your facility including: power, voice, and data. Without proper protection – data disruption, hardware stress or destruction could occur.

As a line of defense against damaging transients, Emerson Network Power Surge Protection manufactures products in the following categories:

- Surge Protection Devices (SPDs) — which focus on limiting high-voltage spikes to an acceptable level
- Filtering/Line Conditioning — protect against low-energy transients and high frequency noise and finally...
- Data/Signal Line Protection — products guard sensitive instrumentation against what we refer to as ‘backdoor’ transients and noise.

Why allow “dirty” power to put your equipment at risk? Turn to Emerson Network Power Surge Protection products for peace of mind. We provide solutions for all your application needs and the foundation for Business-Critical Continuity™.