

**ECSJ Series Current Switch  
CurrentWatch Current Sensors**

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The CurrentWatch ECSJ Series current operated switches from Eaton’s electrical business provide the same dependable indication of status offered by the CurrentWatch ECS Series, but with the added benefit of increased setpoint precision. A choice of three, jumper-selectable input ranges allows the ECSJ Series to be tailored to an application, providing more precise control through improved setpoint resolution. Self-powering, isolated solid-state outputs, 1 – 6A, 6 – 40A and 40 – 200A input ranges, and a choice of split- or solid-core enclosures are standard.

For typical applications of the Current-Watch ECSJ Series, see listing to the right.

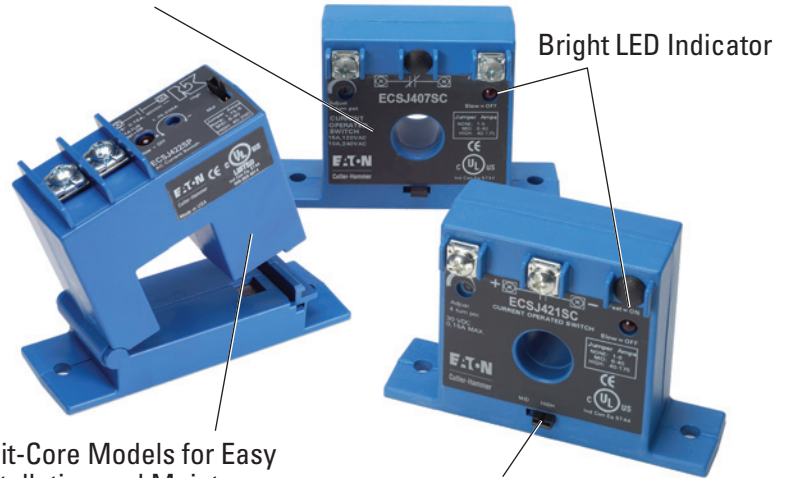
**Approvals**

- UL Listed
- C-UL Listed



**Jumper Selectable AC Switches with Solid-State Output**

Self-Powered Units — No Power Supply Needed



Split-Core Models for Easy Installation and Maintenance

Jumper-Selectable Input Ranges to Consolidate Inventory

**Product Features**

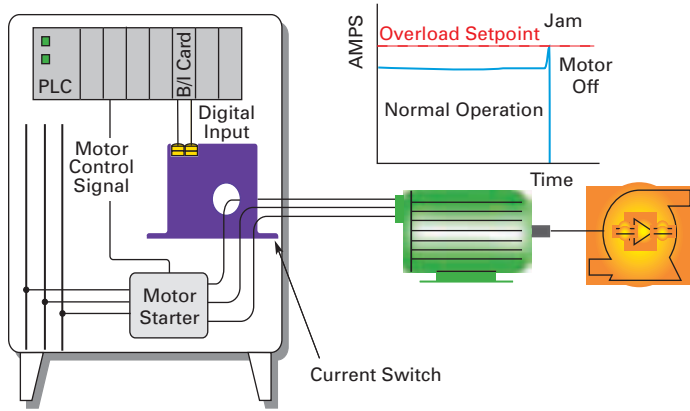
- **Choice of N.O. or N.C. Solid-State Outputs** —
  - 1A @ 240V AC
  - 0.15A @ 30V DC
  - 15A @ 120V AC
  - 3A @ 120V AC
  - 0.15A @ 30V DC, Dual Contact
- **Self-Powered** — Cuts installation and operating costs
- **Easily Adjustable Setpoint** — Speeds start-up and reduces inventory
- **Solid- or Split-Core Housings** — Choose the appropriate version for your application
- **LED Indication** — Provides quick visual indication of output contact status
- **Built-In Mounting Feet** — Provide for a secure installation
- **UL, C-UL and CE Approved** — Accepted worldwide

**Typical Applications**




- **Electronic Proof of Flow** — Current operated switches eliminate the need for multiple pipe or duct penetrations and are more reliable than electro-mechanical pressure or flow switches
- **Conveyors** — Detect jams and overloads
- **Lighting Circuits** — Easier to install and more accurate than photocells
- **Fans, Pumps and Heating Elements** — Faster response than temperature sensors
- **Critical Motors**
- **Ancillary Equipment**

**Example Application — CurrentWatch ECSJ Series**

**Pump Jam & Suction Loss Protection**



**Model Selection — CurrentWatch ECSJ Series**

|  | Power Supply                            | Aperture Size      | Output Type, Voltage and Rating             | Setpoint and LED Configuration                             | Catalog Number   |
|--|---|--------------------|---|--|------------------|
| <b>Front and Top Terminal Switches</b>   |   |                    |   |  |                  |
| Solid-Core Housings with Front Terminals<br> | Self-Powered (No External Power Needed) | 0.55 in. (14 mm)   | Normally Open, 1A @ 240V AC                 | Adjustable 1 – 6, 6 – 40 or 40 – 175A Setpoint with LED    | <b>ECSJ400SC</b> |
|  |   |                    | Normally Open, 15A @ 120V AC                | Adjustable 1 – 6, 6 – 40 or 40 – 175A Setpoint with LED    | <b>ECSJ406SC</b> |
|  |   |                    | Normally Closed, 1A @ 240V AC               | Adjustable 1 – 6, 6 – 40 or 40 – 175A Setpoint with LED    | <b>ECSJ401SC</b> |
|  |   |                    | Normally Closed, 15A @ 120V AC              | Adjustable 1 – 6, 6 – 40 or 40 – 175A Setpoint with LED    | <b>ECSJ407SC</b> |
|  |   |                    | Dual Contact, N.O. and N.C., 0.15A @ 30V DC | Adjustable 1 – 6, 6 – 40 or 40 – 175A Setpoint with LED    | <b>ECSJ430SC</b> |
|  |   |                    | Normally Open, 0.15A @ 30V DC               | Adjustable 1 – 6, 6 – 40 or 40 – 175A Setpoint with LED    | <b>ECSJ420SC</b> |
|  |   |                    |   | Adjustable 1 – 6, 6 – 40 or 40 – 175A Setpoint with LED    | <b>ECSJ424SC</b> |
|  |   |                    | Normally Closed, 0.15A @ 30V DC             | Adjustable 1 – 6, 6 – 40 or 40 – 175A Setpoint with LED    | <b>ECSJ421SC</b> |
| Solid-Core Housings with Top Terminals<br>  |   | 0.74 in. (19 mm)   | Normally Open, 3A @ 120V AC                 | Adjustable 1 – 6, 6 – 40 or 40 – 175A Setpoint with LED    | <b>ECSJ404SC</b> |
|  |   |                    | Normally Closed, 3A @ 120V AC               | Adjustable 1 – 6, 6 – 40 or 40 – 175A Setpoint with LED    | <b>ECSJ405SC</b> |
| Split-Core Housings<br>                     |   | 0.85 in. (21.6 mm) | Normally Open, 1A @ 240V AC                 | Adjustable 1.75 – 6, 6 – 40 or 40 – 200A Setpoint with LED | <b>ECSJ402SP</b> |
|  |   |                    | Normally Closed, 1A @ 240V AC               | Adjustable 1.75 – 6, 6 – 40 or 40 – 200A Setpoint with LED | <b>ECSJ403SP</b> |
|  |   |                    | Normally Open, 0.15A @ 30V DC               | Adjustable 1.75 – 6, 6 – 40 or 40 – 200A Setpoint with LED | <b>ECSJ422SP</b> |
|  |   |                    | Normally Closed, 0.15A @ 30V DC             | Adjustable 1.75 – 6, 6 – 40 or 40 – 200A Setpoint with LED | <b>ECSJ423SP</b> |

■ Stocked product, typical order quantities guaranteed in stock.

**Specifications — CurrentWatch ECSJ Series**

| Description                 | AC Solid-State Output  | DC Solid-State Output  |                     |               |  |
|-----------------------------|--|--|---------------------|---------------|--|
| Power Supply                | Self-Powered — No Power Supply Needed  |  |                     |               |  |
| Output                      | Isolated Solid-State Switch  |  |                     |               |  |
| Output Rating               | Standard Models:<br>1.0A @ 240V AC<br>High Current Switching Models:<br>ECSJ404SC and ECSJ405SC: 3.0A @ 120V AC<br>Very High Current Switching Models:<br>ECSJ406SC and ECSJ407SC:<br>15A @ 240V AC<br>10A @ 240V AC | Standard Models:<br>0.15A @ 30V DC<br>ECSJ430SC:<br>0.15A @ 30V DC, Dual Contact,<br>N.O. and N.C. |                     |               |  |
| Off-State Leakage           | N.O. Models: < 10 µA<br>N.C. Models: 2.5 mA  | N.O. Models: < 10 µA<br>N.C. Models: 1.4 mA  |                     |               |  |
| Response Time               | 40 – 120 mS  |  |                     |               |  |
| Setpoint Range (Adjustable) | Solid-Core Models: 1 – 6, 6 – 40 and 40 – 175A<br>Split-Core Models: 1.75 – 6, 6 – 40 and 40 – 200A  |  |                     |               |  |
| Hysteresis                  | Low: 6%; Mid: 4%; High: 3%   |  |                     |               |  |
| Overload                    | <b>Housing</b>   | <b>Range</b>   | <b>Maximum Amps</b> |               |  |
|                             |  |  | <b>6 sec.</b>       | <b>1 sec.</b> |  |
|                             | Solid-Core   | 1 – 6 A  | 400 A               | 600 A         |  |
|                             |  | 6 – 40 A   | 500 A               | 800 A         |  |
|                             |  | 40 – 175 A   | 800 A               | 1200 A        |  |
|                             | Split-Core   | 1.75 – 6 A   | 400 A               | 600 A         |  |
|                             |  | 6 – 40 A   | 500 A               | 800 A         |  |
| 40 – 200 A                  |  | 800 A  | 1200 A              |               |  |
| Isolation Voltage           | UL Listed to 1,270V AC, tested to 5,000V AC  |  |                     |               |  |
| Frequency Range             | 6 – 100 Hz   |  |                     |               |  |
| Sensing Aperture            | Solid-Core, Front Terminal Models: 0.55 in. (14 mm)<br>Solid-Core, Top Terminal Models: 0.74 in. (19 mm)<br>Split-Core Models: 0.85 in. (21.6 mm) sq.  |  |                     |               |  |
| Housing                     | UL94 V0 Flammability Rated   |  |                     |               |  |
| Environmental               | Operating Temperature: -58 to 122°F (-50 to 50°C)<br>Humidity: 0 – 95% RH, Non-condensing  |  |                     |               |  |
| Approvals                   | UL 508 Industrial Control Equipment (USA and Canada), CE Certified   |  |                     |               |  |

**Approximate Dimensions — CurrentWatch ECSJ Series**

| Description                                | Approximate Dimensions in Inches (mm) |
|--|---------------------------------------|
| All Solid-Core Models with Front Terminals |                                       |
| All Solid-Core Models with Top Terminals   |                                       |
| All Split-Core Models                      |                                       |