Honeywell

Current Switches Split and Solid Core

CS-O-F, CS-C-F, CP-O-F, CP-C-F, CP-O-FL, CS-O-A, CP-O-A, CP-C-A, CP-O-AL

SPECIFICATION DATA

OVERVIEW

The Current Switches are designed for use in any AC current monitoring application in which you are looking to monitor a particular piece of equipment for equipment failure, preventative maintenance, status, and electrical load status.

The current switches should be installed on the line side of the power to the electrical equipment.

The current switches are available in both solid and split-core versions which also includes a 35 mm Din Rail mounting foot for easy installation in panel mount applications.

The solid-core versions are a great choice for new installations or OEM applications in which cost sensitivity, lower trip points and environmental issues may be of concern.

The split-core version of the current switches work great in retrofit applications and for use in service vehicles since one part will work in most applications and can be installed without disconnecting any wires.

The switches can be used to determine the run time of your equipment as well as basic load trending applications where you want to know how long your piece of equipment runs when logging the contact closures on your building management system or PLC.

Applications

- Overload Conditions
- Underload Conditions
- Normal Operating Conditions
- Broken Belts
- Belt Slippage
- Locked Rotors
- Equipment Failure
- Fans
- Pumps
- Compressors
- Motors
- Ovens
- Industrial Equipment
- Lighting Status and Usage
- Electrical Load Status
- Local Alarms (Strobes and Audible Alarms)
- Preventative Maintenance Scheduling

The Current Switches are covered by a Five (5) Year Limited Warranty.

SPECIFICATIONS

Monitored Current Type: AC Current

Maximum AC Voltage: 600 VAC

Operating Frequency Range: 40 to 1 KHz

Core Style: Solid-Core and Split-Core Versions available (See Ordering Grid)

Sensor Power: Induced from the Monitored Conductor

Amperage Range: See Ordering Grid

Isolation Voltage: 2200 VAC

Trip Point Style: See Ordering Grid

Trip Point: See Ordering Grid

Hysteresis:
10% of trip point, typical (for adjustable switches).

Contact Type: Normally-Open “N/O” or Normally-Closed “N/C” (See ordering Grid)

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"Status" Contact Rating: 0.2 A @ 200 VAC/VDC

"Status" Contact "On" Resistance: < 10 Ohms (tripped)

"Status" Contact "Off" Resistance: > 1 Meg Ohms (open)

Response Time: See Tables 2 and 3.

Status LED Indication 1:
Adjustable Switches:
Red LED (Current above Trip Point)
Blue LED (Current below Trip Point)
Fixed Switches:
Red LED (Monitored current is above Trip Point)

Aperture Size: 0.75 in. (19.05 mm)

Din Rail Size: 35 mm (U.S. Patent No. 7,416,421)

Operating Temperature Range: 5 to 104 ºF (-15 to 40 ºC)

Operating Humidity Range: 0 to 95 %, non-condensing

Storage Temperature: 41 to 95ºF (5 to 35ºC)

Storage Humidity Range: 40 to 85 % RH, non-condensing

Enclosure Material: PC/ABS (Polycarbonate/ABS Blend)

Flammability Rating: UL94-V0

Wiring Connections: 2 Position, Screw Terminal Block (Not Polarity Sensitive)

Wire Size:
16 to 22 AWG (1.31 to 0.33 mm^2) Copper wire only

Terminal Block Torque Rating:
4.43 to 5.31 in-lbs. (0.5 to 0.6 Nm)

Minimum Mounting Distance: 1 in. (2.6 cm) between current switch (Relays, Contactors, Transformers)

Agency Approvals
UL/CUL US Listed (UL 508) Ind. Control Equipment (File # E309723), CE, RoHS2, WEEE

Product Weight:
Adjustable Switches:
CS-O-A: 0.216 lbs. (0.097 kg)
CP-O-A: 0.270 lbs. (0.123 kg)
CP-C-A: 0.266 lbs. (0.121 kg)
CP-O-AL: 0.280 lbs. (0.127 kg)
Fixed Switches:
CS-O-F and CS-C-F: 0.216 lbs. (0.099kg)
CP-O-F and CP-C-F: 0.270 lbs. (0.123 kg)
CP-O-FL: 0.280 lbs. (0.127 kg)

Product Dimensions in inches (mm):
Solid Core Versions: 2.760 x 3.343 x 1.050 (70.11 x 84.92 x 26.67)
Split Core Versions: 2.780 x 3.238 x 1.120 (70.51 x 82.25 x 28.45)

Dimensions

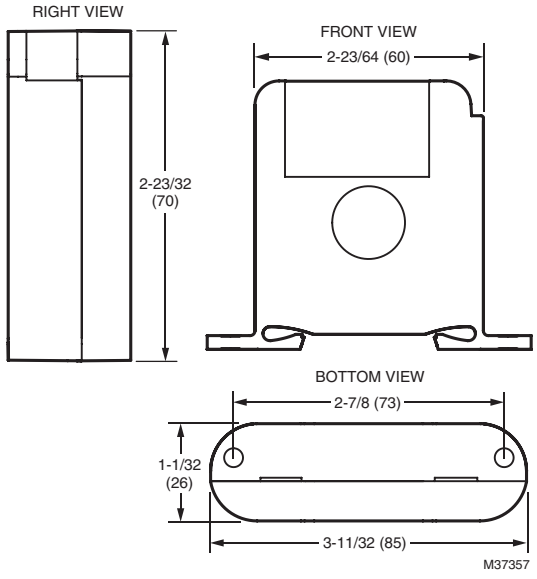

Fig. 1. Solid-core sensor dimensions in in. (mm).

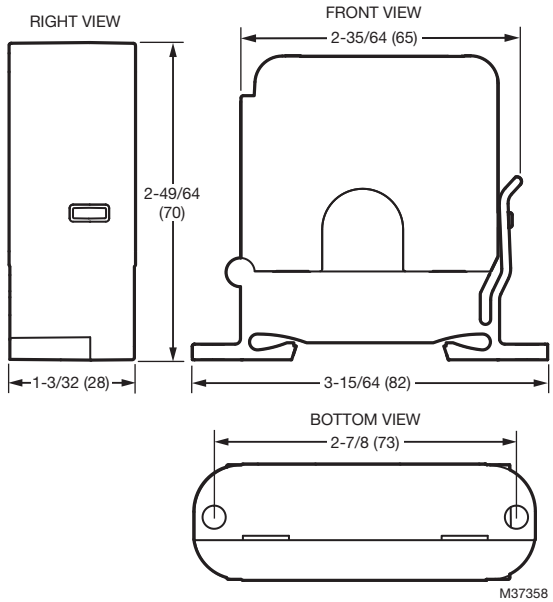

Fig. 2. Split-core sensor dimensions in in. (mm).

Table 1. Standard Ordering.

Model #	Trip Point Type	Normally (Open/Closed)	Core (Solid/Split)	Amp Range	Trip Point	Contact Rating
CS-O-A	Adjustable	Open	Solid	0 to 250 A	0.5 to 220 A	0.2 A @ 200 VAC/VDC
CP-O-A		Open	Split		1.5 to 220 A	
CP-O-AL		Open	Split		0.6 to 180 A	
CP-C-A		Closed	Split		1.5 to 220 A	
CS-O-F	Fixed	Open	Solid		0.25 A or less	
CS-C-F		Closed	Solid		0.25 A or less	
CP-O-F		Open	Split		1.5 A or less	
CP-O-FL		Open	Split		0.5 A or less	
CP-C-F		Closed	Split		1.5 A or less	

Table 2. Response Time — Adjustable Trip Point Models.

Model #	0.50 Amps	0.60 Amps	0.75 Amps	1.0 Amps	1.5 Amps	10 Amps	20 Amps
CS-O-A	221 mS	---	144 mS	109 mS	---	63 mS	59 mS
CP-O-A	---	---	---	---	248 mS	68 mS	65 mS
CP-O-AL	---	---	---	---	344 mS	92 mS	86 mS
CP-C-A	---	400 mS	270 mS	183 mS	---	62 mS	60 mS

Table 3. Response Time — Fixed Trip Point Models.

Model #	0.15 Amps	0.20 Amps	0.25 Amps	0.50 Amps	0.75 Amps	1.0 Amps	1.20 Amps	1.50 Amps	10 Amps	20 Amps
CS-O-F	156 mS	100 mS	84 mS	---	---	32 mS	---	---	26 mS	24 mS
CS-C-F	---	189 mS	134 mS	---	---	48 mS	---	---	42 mS	41 mS
CP-O-F	---	---	---	484 mS		72 mS	---	45 mS	26 mS	20 mS
CP-O-FL	---	---	---	---	---	---	194 mS	102 mS	42 mS	42 mS
CP-C-F	---	224 mS	144 mS	65 mS	47 mS	39 mS	---	---	25 mS	22 mS

White Boxes: Sensor response time at specified current levels above each models fixed trip point.
Gray Boxes: Sensor response time at specified current levels less than or equal to each models fixed trip point.
Each sensor should be tripped by the time it reaches the fixed trip point for that model.

REGULATORY INFORMATION

FCC REGULATIONS: § 15.19 (A)(3)
This device complies with part 15 of the FCC Rules.
Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

IC REGULATIONS: RSS-GEN
This device complies with Industry Canada's license-exempt RSSs.

Operation is subject to the following two conditions:

1. This device may not cause interference; and
2. This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

1. l'appareil ne doit pas produire de brouillage;
2. l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

FCC WARNING (PART 15.21) (USA ONLY)
Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Home and Building Technologies

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