Honeywell

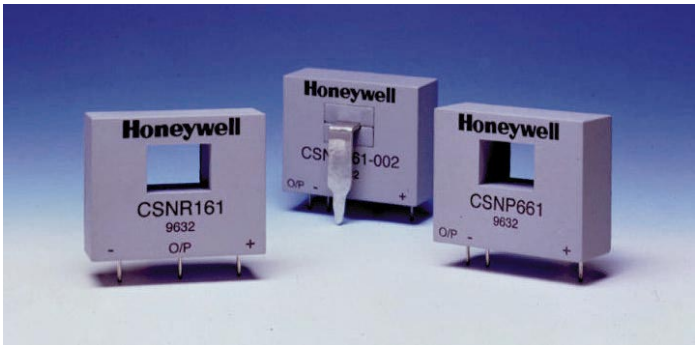
Interactive Catalog Replaces Catalog Pages

Honeywell Sensing and Control has replaced the PDF product catalog with the new Interactive Catalog. The Interactive Catalog is a power search tool that makes it easier to find product information. It includes more installation, application, and technical information than ever before.

Click this icon to try the new Interactive Catalog.

Sensing and Control
Honeywell Inc.
11 West Spring Street
Freeport, Illinois 61032

Solid State Sensors
Closed Loop Current Sensors



FEATURES
- Current sensing up to 1200 amps
- Measures AC, DC and impulse currents
- Lowest cost/performance ratio
- Rapid response, no overshoot
- High overload capacity
- High level of electrical isolation between primary and secondary circuits
- Small size and weight

CLOSED LOOP SENSORS
Closed loop current sensors measure AC, DC and impulse currents over 0-25, 0-50, 0-100, 0-600 and 0-1200 Amp ranges. The CSN Series is based on the principles of the Hall effect and the null balance or zero magnetic flux method (feedback system). The magnetic flux in the sensor core is constantly controlled at zero. The amount of current required to balance zero flux is the measure of the primary current flowing through the conductor, multiplied by the ratio of the primary to secondary windings. This closed loop current is the output from the device and presents an image of the primary current reduced by the number of secondary turns at any time. This current can be expressed as a voltage by passing it through a resistor.

CATALOG NUMBER SYSTEM
PLEASE NOTE: This matrix is intended **only** to aid you in identifying sensor catalog listings. It is not all-inclusive, and **must not be used** to form new listings.

Example: CSNA111

CSN Closed Loop Current Sensor

Current Range (Peak/RMS nom.)
A ±70 A/50 A rms nom.
B ±100 A/50 A rms nom.
C ±90 A/50 A rms nom.
D ±22 A/15 A rms nom.
E ±36 A/25 A rms nom.
F ±150 A/100 A rms nom.
J ±600 A/300 A rms nom.
K ±1200 A/500 A rms nom.
L ±600 A/300 A rms nom.
M ±1200 A/500 A rms nom.
P ±90 A/50 A rms nom.
R ±200 A/125 A rms nom.
T ±150 A/50 A rms nom.

Supply Voltage
1 ±15 V
2 ±13 V
3 ±5 V
4 ±12 V to 18 V
5 ±15 V to 24 V
6 ±12 V to 15 V

Coil Characteristics
1 1:1000 turns/90 Ω @ 70°C
2 1:2000 turns/160 Ω @ 70°C
3 1:2000 turns/130 Ω @ 70°C
4 1:1000 turns/50 Ω @ 70°C
5 1:1000 turns/110 Ω @ 70°C
6 1:1000 turns/30 Ω @ 70°C
7 1:2000 turns/80 Ω @ 70°C
8 1:2000 turns/25 Ω @ 70°C
9 1:5000 turns/50 Ω @ 85°C

Housing Material
1 Polycarbonate/ABS blend

CSNF, CSNR, CSNP, CSNT SERIES ORDER GUIDE

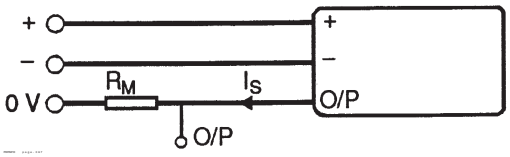
Catalog Listings	Peak Current Range Amps	Supply Voltage VDC ± 5%	Coil Characteristics		Meas. Currents Nom.	Meas. Resist (@ I_{nom})
			Turns	Resistance		
CSNP661	±90	±12 to 15	1000	30Ω @ 70°C	50 mA for 50 A	50 to 100Ω
CSNT651	±150	±12 to 15	2000	100Ω @ 70°C	25 mA for 50 A	40 to 75Ω
CSNF161	±150	±12 to 15	1000	30Ω @ 70°C	100 mA for 100 A	10 to 40Ω
CSNF151	±180	±12 to 15	2000	100Ω @ 70°C	50 mA for 100 A	10 to 75Ω
CSNR161	±200	±12 to 15	1000	30Ω @ 70°C	125 mA for 125 A	30 to 40Ω
CSNR151	±200	±12 to 15	2000	100Ω @ 70°C	62.5 mA for 125 A	10 to 40Ω

NOTE: Busbar options available.

SPECIFICATIONS

Catalog Listings	CSNP661	CSNT651	CSNF161	CSNF151	CSNR161	CSNR151
Offset Current @ 25°C, mA max.	±0.20	±0.10	±0.20	±0.10	±0.20	±0.10
Temperature Drift, 0 to 70°C, mA	±0.30 typ. ±0.50 max.	±0.15 typ. ±0.25 max.	±0.30 typ. ±0.50 max.	±0.15 typ. ±0.25 max.	±0.30 typ. ±0.60 max.	±0.15 typ. ±0.30 max.
Linearity	±0.1%	±0.1%	±0.1%	±0.1%	±0.1%	±0.1%
Supply Voltage	±12 to 15V	±12 to 15V	±12 to 15V	±12 to 15V	±12 to 15V	±12 to 15V
Galvanic Isolation @ 50 Hz/1 min.	3 kV rms	3 kV rms	3 kV rms	3 kV rms	3 kV rms	3 kV rms
Accuracy	±0.5% of I_N (nominal Current) at 25°C					
Response Time	<500 ns					
Bandwidth	DC to 150 kHz					
Operating Temperature	−40 to 85°C (−40 to 185°F)		−40 to 85°C (−40 to 185°F)			
Storage Temperature	−40 to 90°C (−40 to 194°F)		−40 to 90°C (−40 to 194°F)			
Primary Circuit Connection	Thru-hole					
Secondary Circuit Connection	3 pins					
Current Drain	10 mA (no load current) + output current		14 mA (no load current) + output current			
''In-Out'' Sense Signal	To obtain positive measuring current on O/P terminal, current must flow in direction of arrow					
Mounting	3 pins					
Pin Style	A	A	B	B	B	B

WIRING DIAGRAM



Current

Closed Loop Current Sensors

MOUNTING DIMENSIONS (for reference only)