CURRENT SENSORS

Product Range Guide



Honeywell

HONEYWELL HAS ONE OF THE BROADEST SENSOR & SWITCH PORTFOLIOS

With more than 50,000 products ranging from snap-action, limit, toggle, and pressure switches to position, speed, pressure, and airflow sensors, Honeywell has one of the broadest sensing and switching portfolios.

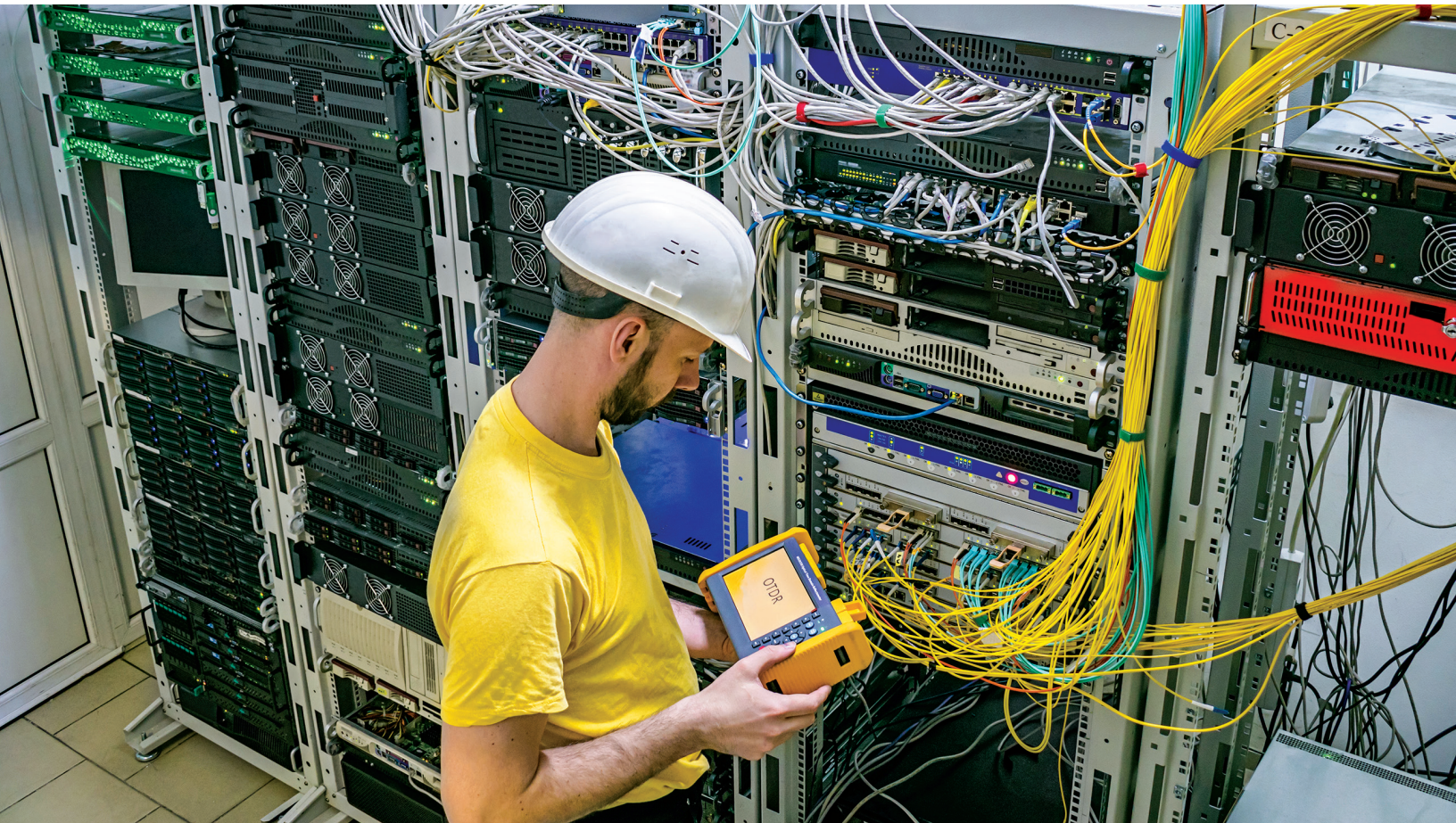
Honeywell sensor, switch, and control components are tailored to exact specifications for stronger performance, longer productivity, and increased safety. Enhanced accuracy and durability are built into every part, improving output and endurance. For our customers, this can reduce expenditures and operational costs. Our global footprint and channels help to competitively price such components for your chosen application and provide immediate technical support.

While Honeywell's switch and sensor solutions are suitable for a wide array of basic and complex applications, our custom-engineered solutions offer enhanced precision, repeatability, and ruggedness. We offer domain knowledge and technology resources, along with a close working relationship, to develop and deliver cost-effective, individually tailored solutions. Whether clean-slate development or simple modifications to an existing design are needed, our expertly engineered solutions help to meet the most stringent requirements with world-class product designs, technology integration, and customer-specific manufacturing.

Global service, sourcing, and manufacturing. Industry-leading engineers. Value-added assemblies and solutions. A one-stop, full-service, globally competitive supplier.

TABLE OF CONTENTS

Digital/Inductive	3
Closed Loop	4-5
Open Loop	5-6



CURRENT SENSORS DIGITAL/ INDUCTIVE

Open loop current sensors provide digital output that changes from Vcc to 0.4 V when sensed current exceeds operation point. Not damaged by overcurrent in sensed conductor. Potential applications include robotics, telecommunication, power supplies, ground fault detectors, HVAC, and consumer tools.



Series	CSDA
Operate current	0.5 A.t. nom., 3.5 A.t. nom.
Sensed current type	ac, dc
Output	voltage
Response time	100 µs
Accuracy	better than 0.5 %
Mounting	pcb mounting pins or screw mount
Pinout style	3-pin pcb, 3-pin AMP connector
Operating temperature	-25 °C to 85 °C [-13 °F to 185 °F]
Supply voltage	6 Vdc to 16 Vdc
Measurements (H x W x D)	19,0 mm x 25,4 mm x 25,4 mm [0.75 in x 1.0 in x 1.0 in]
Features	open collector output; output voltage isolation from input; minimum energy dissipation

CURRENT SENSORS CLOSED LOOP

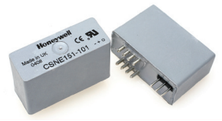
Closed loop current sensors use feedback control to provide output proportional to measured current. Engineered with enhanced accuracy and linearity to deliver fast response. Output relatively immune to electrical noise. Potential applications include variable speed drives, Servo, overcurrent protection, ground fault detectors, robotics, power supplies, and wattmeters.













Series	CSNX	CSNA	CSNF	CSNB	CSNC	CSNE	CSNG	CSNJ
Rated current	25 A	50 A	100 A	50 A	50 A	25 A, 50 A	100 A	300 A
Sensing current range	±56 A	±70 A, ±90 A, ±100 A	±150 A, ±180 A, ±200 A	±100 A	±90 A	±36 A, ±90 A	±180 A, ±200 A	±600 A
Sensed current type	ac, dc, impulse	ac, dc, impulse	ac, dc, impulse	ac, dc	ac, dc	ac, dc, impulse	ac, dc	ac, dc, impulse
Output	current	current	current	current	current	current	current	current
Coil turns	2000 (50 Ohm coil)	1000 (90 or 50 Ohm coil) 2000 (160 or 130 Ohm coil)	1000 (30 Ohm coil) 2000 (100 Ohm coil)	2000	1000 (50 Ohm coil)	1000 (110 Ohm or 66 Ohm coil)	2000	2000
Response time	< 0.2 µs	< 1 µs	< 0.5 µs	< 1 µs	< 1 µs	< 1 µs	< 0.5 µs	< 0.5 µs
Accuracy	±0.24 %	±0.5 %	±0.5 %	±0.5 %	±0.5 %	±0.5 %	±0.5 %	±0.5 %
Mounting	pcb on 11-pins	pcb on 3-pins	pcb on 3-pins	pcb on 3 pins	pcb on 3 pins	pcb on 13 pins	pcb on 3 pins	panel
Pinout style	unipolar	offset	center	offset	offset	5-pin	offset	spade terminals (x 3)
Operating temperature range	-40 °C to 85 °C [-40 °F to 185 °F]	0 °C to 70 °C [32 °F to 158 °F]	-40 °C to 85 °C [-40 °F to 185 °F]	0 °C to 70 °C [32 °F to 158 °F]	-25 °C to 85 °C [-13 °F to 185 °F]	-40 °C to 85 °C [-40 °F to 185 °F]	-40 °C to 85 °C [-40 °F to 185 °F]	-40 °C to 85 °C [-40 °F to 185 °F]
Supply voltage	4.75 Vdc to 5.25 Vdc	±13 Vdc, ±15 Vdc	±12 Vdc to ±15 Vdc	±15.0 Vdc	±13.0 Vdc	±12 Vdc to ±15 Vdc	±15.0 Vdc	±12.0 Vdc to ±18.0 Vdc
Measurements (H x W x D)	25,45 mm x 34,0 mm x 12,55 mm [1.002 in x 1.34 in x 0.494 in]	25,70 mm x 40,5 mm x 18,0 mm [1.012 in x 1.595 in x 0.709 in]	29,6 mm x 25,4 mm x 14,45 mm [1.165 in x 1.0 in x 0.569 in]	25,70 mm x 40,5 mm x 18,0 mm [1.012 in x 1.595 in x 0.709 in]	25,70 mm x 40,5 mm x 18,0 mm [1.012 in x 1.595 in x 0.709 in]	20,3 mm x 31,8 mm x 12,7 mm [0.80 in x 1.25 in x 0.5 in]	29,6 mm x 27,94 mm x 14,45 mm [1.165 in x 1.10 in x 0.569 in]	58,0 mm x 93,0 mm x 112,0 mm [2.28 in x 3.66 in x 4.41 in]
Features	rapid response; reduced over-shoot; high overload capability	rapid response; reduced over-shoot; high overload capability	rapid response; reduced over-shoot; high overload capability	rapid response; reduced over-shoot; high overload capability	rapid response; reduced over-shoot; high overload capability	rapid response; reduced over-shoot; high overload capability	rapid response; reduced over-shoot; high overload capability	rapid response; reduced over-shoot; high overload capability















Series	CSNK	CSNL	CSNM	CSNP	CSNS	CSNR	CSNT
Rated current	500 A	300 A	500 A	50 A	100 A, 200 A, 300 A	125 A	50 A
Sensing current range	±1200 A	±600 A	±1000 A	±90 A	±320 A, ±600 A	±200 A	±150 A
Sensed current type	ac, dc, impulse	ac, dc	ac, dc	ac, dc	ac, dc, impulse	ac, dc	ac, dc
Output	current	current	current	current	current	current	current
Coil turns	5000 (50 Ohm coil)	2000	3000	1000	2000	1000, 2000	2000
Response time	< 1 µs	< 0.5 µs	< 1 µs	< 0.5 µs	< 0.5 µs	< 0.5 µs	< 0.5 µs
Accuracy	±0.5 %	±0.5 %	±0.5 %	±0.5 %	±0.5 %	±0.5 %	±0.5 %
Mounting	panel	panel	panel	pcb on 3 pins	panel	pcb on 3 pins	pcb on 3 pins
Pinout style	Molex (3-way)	Molex (3-way)	Molex (3-way)	offset	Molex (3-way)	center, offset	offset
Operating temperature range	-40 °C to 85 °C [-40 °F to 185 °F]	-40 °C to 85 °C [-40 °F to 185 °F]	-40 °C to 85 °C [-40 °F to 185 °F]	-40 °C to 85 °C [-40 °F to 185 °F]	-40 °C to 85 °C [-40 °F to 185 °F]	-40 °C to 85 °C [-40 °F to 185 °F]	-40 °C to 85 °C [-40 °F to 185 °F]
Supply voltage	±15 Vdc to ±18 Vdc	±12.0 Vdc to ±18.0 Vdc	±12.0 Vdc to ±18.0 Vdc	±12.0 Vdc to ±15.0 Vdc	±12 Vdc to ±18 Vdc	±12.0 Vdc to ±15.0 Vdc	±12.0 Vdc to ±15.0 Vdc
Measurements (H x W x D)	58,0 mm x 93,0 mm x 112,0 mm [2.28 in x 3.66 in x 4.41 in]	95,0 mm x 45,0 mm x 21,5 mm [3.75 in x 1.81 in x 0.85 in]	110,0 mm x 64,0 mm x 31,0 mm [4.33 in x 2.52 in x 1.22 in]	29,6 mm x 27,94 mm x 14,45 mm [1.165 in x 1.10 in x 0.569 in]	67,5 mm x 60,7 mm x 19,0 mm [2.66 in x 2.39 in x 0.75 in]	29,6 mm x 25,4 mm x 14,45 mm [1.165 in x 1.0 in x 0.569 in]	29,6 mm x 27,94 mm x 14,45 mm [1.165 in x 1.10 in x 0.569 in]
Features	rapid response; reduced overshoot; high overload capability	rapid response; reduced overshoot; high overload capability	rapid response; reduced overshoot; high overload capability	rapid response; reduced overshoot; high overload capability	rapid response; reduced overshoot; high overload capability	rapid response; reduced overshoot; high overload capability	rapid response; reduced overshoot; high overload capability

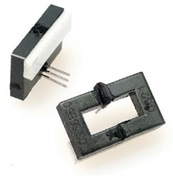
CURRENT SENSORS OPEN LOOP

Open loop current sensors provide output voltage proportional to measured current without using feedback control. They are often preferred in battery powered circuits due to their compact size and lower power consumption. Potential applications include welding machines, variable speed drives, UPS and overcurrent protection.

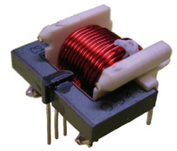












Open-Loop Series	CSCA-A	CSLA	CSLH	CSLS	CSLT	CSLW
Rated current	50 A, 75 A, 100 A, 200 A, 300 A, 400 A, 500 A, 600 A	–	–	–	–	–
Sensing current range	±150 A, ±300 A, ±600 A, ±900 A	±57 A to ±950 A	±9 A, ±45 A	±60 A	±100 A	±1 A, ±5 A, ±40 mA, ±200 mA
Sensed current type	ac, dc, impulse	ac, dc	ac, dc	ac, dc	ac, dc	ac, dc
Output	voltage	voltage	sink/source	sink/source	sink/source	sink/source
Coil turns	–	–	–	–	–	12, 60, 300, 1500
Response time	3 µs to 7 µs	3 µs, 8 µs	3 µs	3 µs	3 µs	3 µs
Accuracy	–	various	18.5 mV N* ±3.5 mV N* @ 5 Vdc; 282 mV N* -42, +82 mV N* @ 10 Vdc	15 mV/AT ±2 mV/AT @ 5 Vdc	15 mV/AT ±2 mV/AT @ 5 Vdc	various
Mounting	Molex connector; Gallant connector	pcb on 3-pins	pcb on 3-pins	pcb	pcb	pcb
Pinout style	Molex/Gallant	3-pin	3-pin	3-pin	3-pin	5-pin
Operating temperature range	-10 °C to 80 °C [14 °F to 176 °F]	-25 °C to 85 °C [-13 °F to 185 °F]	-25 °C to 85 °C [-13 °F to 185 °F]	-25 °C to 100 °C [-13 °F to 212 °F]	-25 °C to 100 °C [-13 °F to 212 °F]	-25 °C to 100 °C [-13 °F to 212 °F]
Supply voltage	±15 Vdc ±5 %	8 Vdc to 16 Vdc; 6 Vdc to 12 Vdc	4.5 Vdc to 10.5 Vdc	4.5 Vdc to 10.5 Vdc	4.5 Vdc to 10.5 Vdc	4.5 Vdc to 10.5 Vdc
Measurements (H x W x D)	29,0 mm x 40 mm x 20,4 mm [1.14 in x 1.57 in x 0.80 in]	44,4 mm x 30,5 mm x 14,2 mm [1.75 in x 1.40 in x 0.56 in]	19,8 mm x 24,6 mm x 8,9 mm [0.78 in x 0.97 in x 0.35 in]	10,0 mm x 16,4 mm x 4,6 mm [0.4 in x 0.65 in x 0.18 in]	Ø 10,6 mm x 9 mm [Ø 0.42 in x 0.35 in]	14,0 mm x 16,2 mm x 11,4 mm [0.55 in x 0.64 in x 0.45 in]
Features	competitive cost/performance ratio; low power consumption; large primary aperture	enhanced response time; output voltage isolated from input; minimum energy dissipation	linear ratiometric output; sinking or sourcing output; no insertion loss	linear ratiometric output; sinking or sourcing output; no insertion loss	linear ratiometric output; sinking or sourcing output; no insertion loss	linear ratiometric output; sinking or sourcing output; no insertion loss

**number of turns*

WARRANTY/REMEDY

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship during the applicable warranty period. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgement or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items that Honeywell, in its sole discretion, finds defective. **The foregoing is buyer's sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.**

While Honeywell may provide application assistance personally, through our literature and the Honeywell web site, it is buyer's sole responsibility to determine the suitability of the product in the application.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this writing. However, Honeywell assumes no responsibility for its use.

FOR MORE INFORMATION

Honeywell Sensing and Safety Technologies services its customers through a worldwide network of sales offices and distributors. For application assistance, current specifications, pricing or the nearest Authorized Distributor, visit our website or call:

USA/Canada	+1 302 613 4491
Latin America	+1 305 805 8188
Europe	+44 1344 238258
Japan	+81 (0) 3-6730-7152
Singapore	+65 6355 2828
Greater China	+86 4006396841

Honeywell
Sensing and Safety Technologies
830 East Arapaho Road
Richardson, TX 75081
sps.honeywell.com/ast

005918-4-EN | 4 | 10/22
© 2022 Honeywell International Inc. All rights reserved.

Honeywell