Honeywell

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CSN Series

CSNS300 Closed loop current sensors



DESCRIPTION

This new series of closed loop current sensor offers a flexible solution to measuring currents up to \pm 600 A. The sensors are small and have a large primary through hole to accept either a cable or a variety of different busbar sizes. The sensors can be mounted vertically or horizontally and come with connection options of integral Molex type connector or a flying lead.

The sensors are closed loop devices and based on the principle of Hall effect and null balance method. The output from the current sensor is the balancing current that is the perfect image of the primary current reduced by the number of secondary turns at any time. The current can be expressed as a voltage by passing it through a load resistor.

FEATURES

- · Small footprint
- Increased measuring range in small package
- Measures dc, ac and impulse currents
- Flexible mounting
- Large primary conductor hole
- Three connection styles
- Operating temperature -40 °C to 85 °C
- High accuracy

TYPICAL APPLICATIONS

- Variable speed drives
- Overcurrent protection
- Power supply systems
- Frequency converters
- Uninterruptible power supplies UPS
- Robotics
- · Battery management systems
- Welding equipment

CSN Series

TECHNICAL INFORMATION

Electrical	
Nominal current (In):	300 A.t rms
Measuring range (dc or ac peak):	0 to ± 600 A.t
Measuring resistance (@ +70 °C) [1]:	Rm min. Rm max.
with \pm 15 V @ \pm 300 A.t rms max.	5 Ohm 82 Ohm
$@ \pm 600 \text{ A.t rms max.}$	5 Ohm 25 Ohm
Nominal analogue output current:	
@ 300 A	150 mA
Turns ratio:	1/2000
Accuracy @ 25 °C:	max. ± 0.5 % @ In
Supply voltage:	± 12 Vdc to ± 18 Vdc (± 5 %)
Galvanic isolation:	6 kV rms/50 Hz/1 minute

Accuracy - dynamic performance

< ± 0.2 mA	
Thermal drift of offset current 0 °C to 70 °C < ± 0.4 mA	
< ± 0.1 %	
< 500 ns	
dc to 150 kHz	
> 100 A/us	
	°C to 70 °C < ± 0.4 mA < ± 0.1 % < 500 ns dc to 150 kHz

General data

Operating temperature	-40 °C to 85 °C
Storage temperature	-40 °C to 90 °C
Current consumption	10 mA plus output current
Secondary internal resistance (@ 70 °C)	31 Ohm
Sensor housing	Insulated plastic case
Connection CSNS300M	Molex type connector (3 or 4 pin)
CSNS300F	Flying lead and Amp connector
Note	

 $^{^{\}scriptscriptstyle{[1]}}$ Values to be confirmed at temperature

ORDER GUIDE

Description Catalogue Listing 300 A closed loop current sensor

Integral Molex type connector (3 pin)

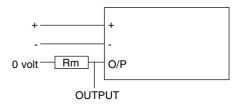
Integral Molex type connector (4 pin), fully encapsulated

CSNS300M-001

Flying lead and Amp-type connector

CSNS300F

ELECTRICAL WIRING DIAGRAM



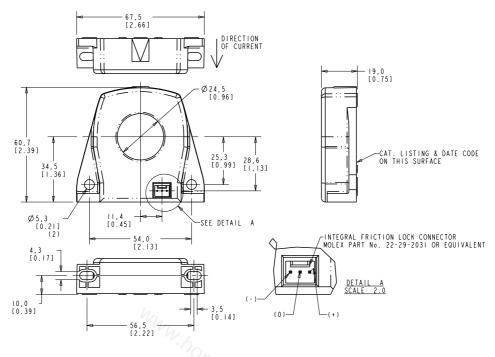
Termination

- + supply voltage +15 V (nominal)
- supply voltage -15 V (nominal)
- O/P measured output signal

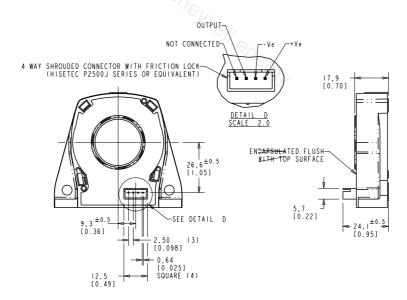
CSNS300 Closed loop current sensor

MOUNTING DIMENSIONS IN MM (INCHES), FOR REFERENCE ONLY

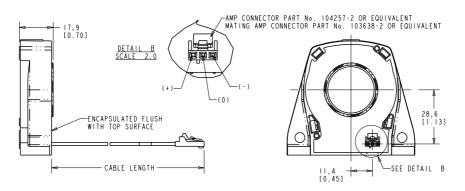
CSNS300M



CSNS300M-001



CSNS300F



MARNINGMISUSE OF DOCUMENTATION

- The information presented in this product sheet is for reference only.
 Do not use this document as a product installation guide.
- Complete installation, operation, and maintenance information is provided in the instructions supplied with each product.

Failure to comply with these instructions could result in death or serious injury.

▲ WARNINGPERSONAL INJURY

DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury. Failure to comply with these instructions could result in death or serious injury.

WARRANTY/REMEDY

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. 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 it finds defective. The foregoing is buyer's sole remedy and is in lieu of all 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 we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer 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 printing. However, we assume no responsibility for its use.

SALES AND SERVICE

Honeywell serves its customers through a worldwide network of sales offices, representatives and distributors. For application assistance, current specifications, pricing or name of the nearest Authorized Distributor, contact your local sales office or:

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