

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 ± 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.

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

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.

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

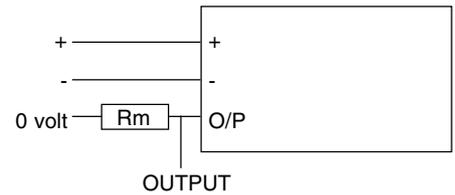
Electrical		
Nominal current (I _n):	300 A.t rms	
Measuring range (dc or ac peak):	0 to ± 600 A.t	
Measuring resistance (@ +70 °C) ^[1] : with ± 15 V @ ± 300 A.t rms max. @ ± 600 A.t rms max.	R _m min.	R _m max.
	5 Ohm	82 Ohm
	5 Ohm	25 Ohm
Nominal analogue output current: @ 300 A	150 mA	
Turns ratio: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

Accuracy - dynamic performance	
Zero offset current at 25 °C	< ± 0.2 mA
Thermal drift of offset current 0 °C to 70 °C	< ± 0.4 mA
Linearity	< ± 0.1 %
Response time	< 500 ns
Bandwidth	dc to 150 kHz
di/dt	> 100 A/us

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
^[1] Values to be confirmed at temperature

ELECTRICAL WIRING DIAGRAM



Termination

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

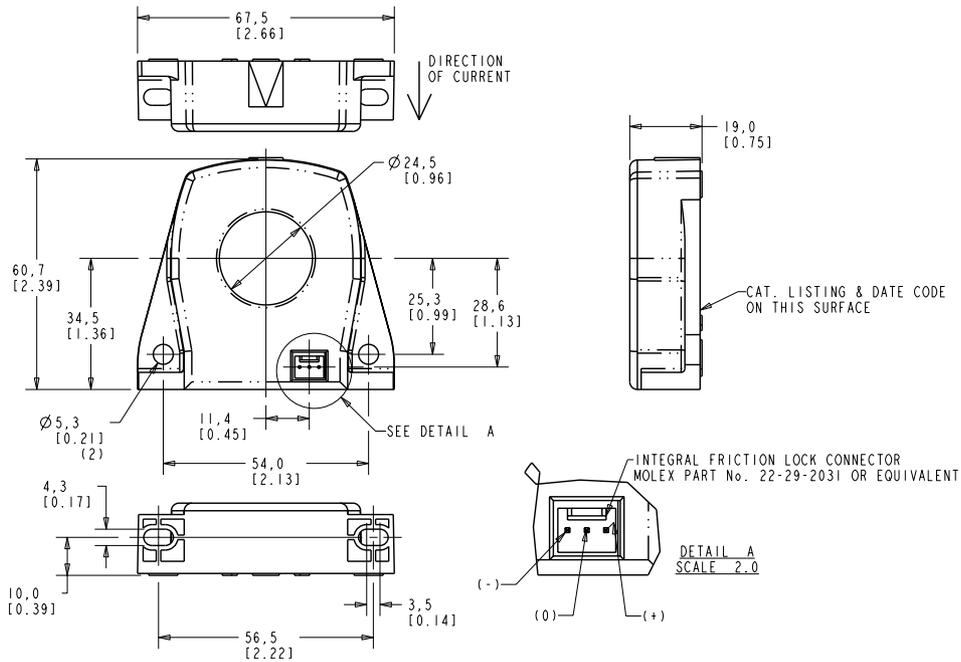
ORDER GUIDE

Description	Catalogue Listing
300 A closed loop current sensor	
Integral Molex type connector (3 pin)	CSNS300M
Integral Molex type connector (4 pin), fully encapsulated	CSNS300M-001
Flying lead and Amp-type connector	CSNS300F

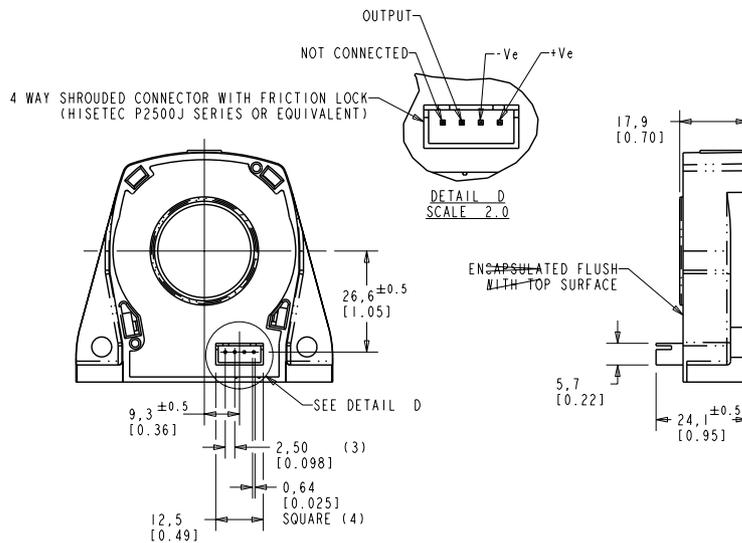
CSNS300 Closed loop current sensor

MOUNTING DIMENSIONS IN MM (INCHES), FOR REFERENCE ONLY

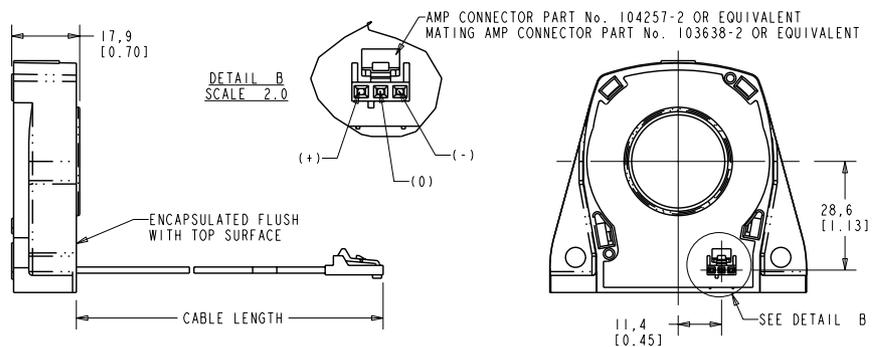
CSNS300M



CSNS300M-001



CSNS300F



⚠ WARNING
MISUSE 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.

⚠ WARNING
PERSONAL 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:

E-mail: info.sc@honeywell.com

Internet: www.honeywell.com/sensing

Phone and Fax:

Asia Pacific	+65 6355-2828
	+65 6445-3033 Fax
Europe	+44 (0) 1698 481481
	+44 (0) 1698 481676 Fax
Latin America	+1-305-805-8188
	+1-305-883-8257 Fax
USA/Canada	+1-800-537-6945
	+1-815-235-6847
	+1-815-235-6545 Fax

Automation and Control Solutions

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Honeywell

Newhouse Industrial Estate

Motherwell, ML1 5SB UK

www.honeywell.com

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