CSLA SERIES

Linear Current Sensors

006017
Issue 1

DESCRIPTION

Honeywell CSLA Series linear current sensors incorporate Honeywell 91SS12-2 and SS94A1 linear-output Hall-effect transducers (LOHET™). The sensing element is assembled in a printed circuit board mountable housing. The housing is available in several configurations.

Normal mounting is with a 0.375-inch long 4-40 screw and square knot (not provided) inserted into the housing or a 6-20 self-tapping screw. The combination of the sensor, flux collector, and housing comprises the holder assembly. These sensors are ratiometric.

The CSLA Series comprises two distinct product groups: CSLA1 and CSLA2. CSLA1 is tailored to accommodate a supply voltage ranging from 8 V to 16 V, whereas CSLA2 is optimized for a supply voltage range of 6 V to 12 V. Notably, CSLA1 boasts an offset shift of ±0.05, while CSLA2 delivers an even more precise offset shift of ±0.02.

FEATURES

- Linear output
- ac or dc current sensing
- Through-hole design
- Output voltage isolation from input
- Minimum energy dissipation
- Maximum current limited only by conductor size
- Adjustable performance and built-in temperature compensation assures reliable operation
- Accurate, cost-effective sensing design
- Operating temperature range: -25°C to 85°C [-13°F to 185°F]

APPLICATIONS

- Motor control
- Load detection and management
- Switched-mode power supplies
- Overcurrent fault protection

VALUE TO CUSTOMERS

- **Ease of use** - Linear output and ac/dc current sensing options for easy integration
- **Low cost** - Cost-effective current sensor for a wide range of applications
- **Highly reliably** - Adjustable performance and built-in compensation algorithm assure reliable parts when needed
- **Fast response time** - Allows for overcurrent fault protection
- North American design and manufacturing

PORTFOLIO

The CSLA Series is part of an extensive offering of current sensors to monitor alternating (ac) or direct (dc) current. From digital output detectors sensing a few hundred milliamps to linear sensors monitoring over one thousand amps, our comprehensive line provides superior performance at a reduced cost.

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LINEAR CURRENT SENSORS
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TABLE 1. CSLA1 BOTTOM MOUNT WITH SS9 SENSOR, SINK/SOURCE OUTPUT

Catalog Listing	Mounting Figure	Supply Voltage (Vdc)	Supply Current (mA max.)	Sensed Current (A Peak)	Offset Voltage (Volts ±10 %)	Sensitivity mV•N* @ 12 Vdc		Offset Shift (%/°C)	Response Time (μ Sec.)
						Nominal	±TOL		
CSLA1CD	1	8 to 16	19	57	Vcc/2	49.6	5.8	±0.05	3
CSLA1CE	1	8 to 16	19	75	Vcc/2	39.4	4.4	±0.05	3
CSLA1DE	2	8 to 16	19	75	Vcc/2	39.1	4.8	±0.05	3
CSLA1CF	1	8 to 16	19	100	Vcc/2	29.7	2.7	±0.05	3
CSLA1DG	2	8 to 16	19	120	Vcc/2	24.6	2.1	±0.05	3
CSLA1CH	1	8 to 16	19	150		19.6	1.8	±0.05	3
CSLA1DJ	2	8 to 16	19	225	Vcc/2	13.2	1.2	±0.05	3
CSLA1DK	2	8 to 16	19	325	Vcc/2	9.1	1.7	±0.05	3
CSLA1EL	1a	8 to 16	19	625	Vcc/2	5.6	1.3	±0.05	3

**When monitoring purely ac current with zero dc component, a capacitor can be inserted in series with the output of the current sensor. The capacitor will block out the effect of the temperature variation of the offset voltage which increases the accuracy of the device.*

** N = number of turns*

TABLE 2. CSLA1 SIDE MOUNT WITH SS9 SENSOR, SINK/SOURCE OUTPUT

Catalog Listing	Mounting Figure	Supply Voltage (Vdc)	Supply Current (mA max.)	Sensed Current (A Peak)	Offset Voltage (Volts ±10 %)	Sensitivity mV•N* @ 12 Vdc		Offset Shift (%/°C)	Response Time (μ Sec.)
						Nominal	±TOL		
CSLA1GD	2a	8 to 16	19	57	Vcc/2	49.6	5.8	±0.05	3
CSLA1GE	2a	8 to 16	19	75	Vcc/2	39.4	4.4	±0.05	3
CSLA1GF	2a	8 to 16	19	100	Vcc/2	29.7	2.7	±0.05	3

**When monitoring purely ac current with zero dc component, a capacitor can be inserted in series with the output of the current sensor. The capacitor will block out the effect of the temperature variation of the offset voltage which increases the accuracy of the device.*

** N = number of turns*

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TABLE 3. CSLA2 BOTTOM MOUNT WITH SS9 SENSOR, SINK/SOURCE OUTPUT

Catalog Listing	Mounting Figure	Supply Voltage (Vdc)	Supply Current (mA max.)	Sensed Current (A Peak)	Offset Voltage (Volts ±2 %)	Sensitivity mV•N* @ 8 Vdc		Offset Shift (%/°C)	Re-sponse Time (μ Sec.)
						Nominal	±TOL		
CSLA2CD	1	6 to 12	20	72	Vcc/2	32.7	3.0	±0.02	3
CSLA2CE	1	6 to 12	20	92	Vcc/2	26.1	2.1	±0.02	3
CSLA2DE	2	6 to 12	20	92	Vcc/2	25.6	2.2	±0.02	3
CSLA2CF	1	6 to 12	20	125	Vcc/2	19.6	1.3	±0.02	3
CSLA2DG	2	6 to 12	20	150	Vcc/2	16.2	1.1	±0.02	3
CSLA2DJ	2	6 to 12	20	225	Vcc/2	8.7	0.6	±0.020	3
CSLA2DH	2	6 to 12	20	235	Vcc/2	9.8	1.1	±0.0125	3
CSLA2EJ	1a	6 to 12	20	310	Vcc/2	7.6	0.7	±0.0125	3
CSLA2DK	2	6 to 12	20	400	Vcc/2	5.8	0.5	±0.0125	3
CSLA2EL	1a	6 to 12	20	550	Vcc/2	4.3	0.4	±0.0125	3
CSLA2EM	1a	6 to 12	20	765	Vcc/2	3.1	0.3	±0.007	3
CSLA2EN	1a	6 to 12	20	950	Vcc/2	2.3	0.2	±0.007	3

**When monitoring purely ac current with zero dc component, a capacitor can be inserted in series with the output of the current sensor. The capacitor will block out the effect of the temperature variation of the offset voltage which increases the accuracy of the device.*

** N = number of turns*

TABLE 4. CSLA2 SIDE MOUNT WITH SS9 SENSOR, SINK/SOURCE OUTPUT

Catalog Listing	Mounting Figure	Supply Voltage (Vdc)	Supply Current (mA max.)	Sensed Current (A Peak)	Offset Voltage (Volts ±2 %)	Sensitivity mV•N* @ 8 Vdc		Offset Shift (%/°C)	Response Time (μ Sec.)
						Nominal	±TOL		
CSLA2GD	2a	6 to 12	20	72	Vcc/2	32.7	3.0	±0.02	8
CSLA2GE	2a	6 to 12	20	92	Vcc/2	26.1	2.1	±0.02	8
CSLA2GF	2a	6 to 12	20	125	Vcc/2	19.6	1.3	±0.02	8
CSLA2GG	2a	6 to 12	20	150	Vcc/2	12.7	0.6	±0.02	8

**When monitoring purely ac current with zero dc component, a capacitor can be inserted in series with the output of the current sensor. The capacitor will block out the effect of the temperature variation of the offset voltage which increases the accuracy of the device.*

** N = number of turns*

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MOUNTING DIMENSIONS

Figure 1. CSLA Dimensions mm [in]

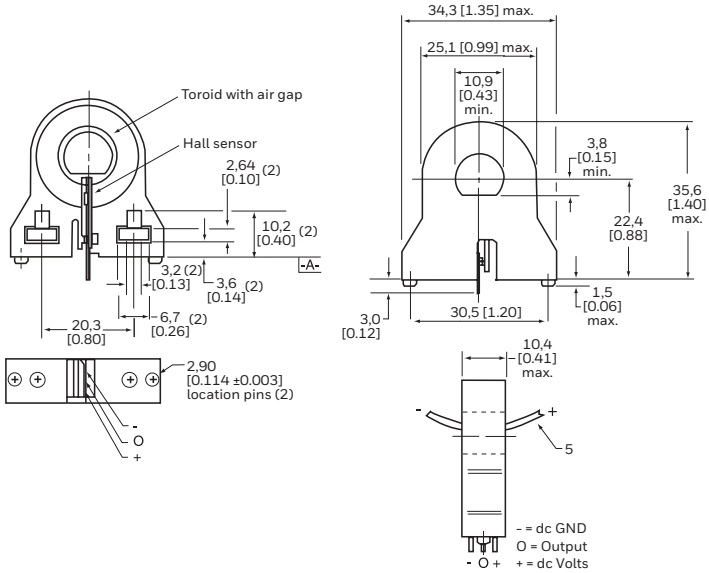


Figure 2. CSLA Dimensions mm [in]

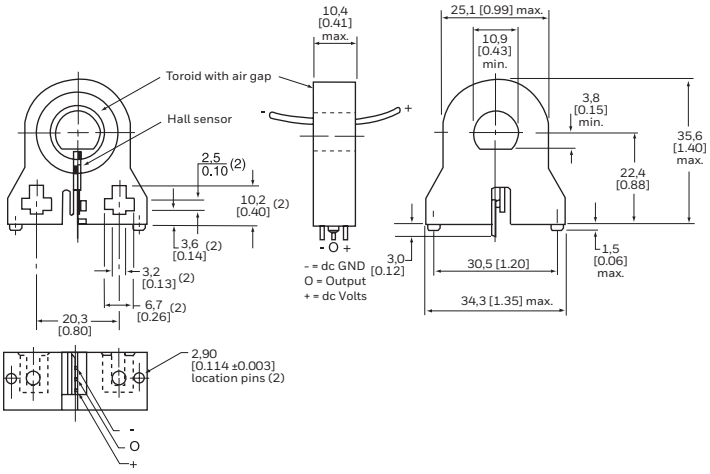


Figure 1a. CSLA Dimensions mm [in]

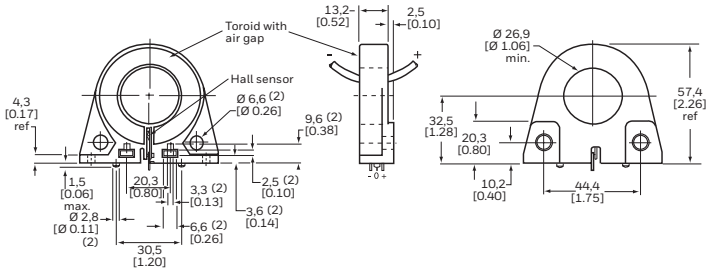
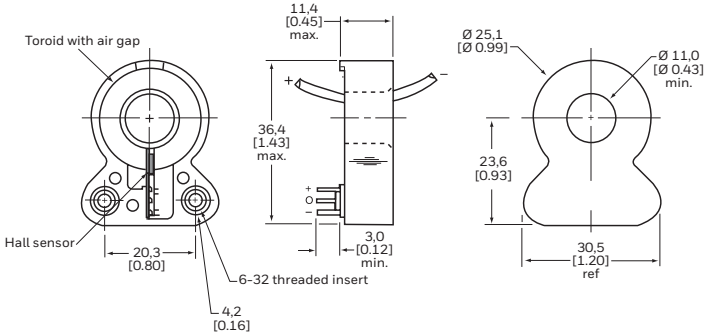


Figure 2a. CSLA Dimensions mm [in]



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 acknowledgment 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.

⚠ 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.

For more information

Honeywell Sensing & 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:

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