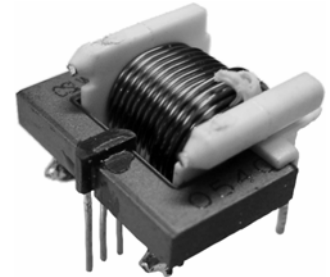


## CSLW Series

### Miniature Wired Open-Loop Current Sensors



#### DESCRIPTION

Honeywell's CSLW Series miniature, open-loop current sensors incorporate our SS490 Series miniature ratiometric linear Hall-effect sensor (MRL™). The sensing element is encapsulated in a printed circuit board-mountable plastic package.

The combination of sensor, flux collector, housing, and wire coil comprises the current sensor assembly. These sensors are ratiometric.

#### FEATURES

- Wired open-loop design with multiple turns for increased sensitivity
- ac or dc current sensing
- Linear ratiometric output
- Current sinking or sourcing output for interfacing flexibility
- Low insertion loss
- Fast response time
- Compact size for applications with limited space
- Accurate, low-cost sensing
- Minimum energy dissipation
- Maximum current limited only by conductor size
- Built-in temperature compensation promotes reliable operation
- Operating temperature range -25 °C to 100 °C [-13 °F to 212 °F]
- RoHs compliant (lead-free)

#### POTENTIAL APPLICATIONS

- Motor control in appliances, HVAC and consumer tools
- Current monitoring of electronic circuits
- Overcurrent protection
- Ground fault detectors
- Robotics
- Industrial process control
- UPS and telecommunication power supplies
- Welding current monitoring
- Battery management systems in mobile equipment
- Watt meters
- Variable speed drives

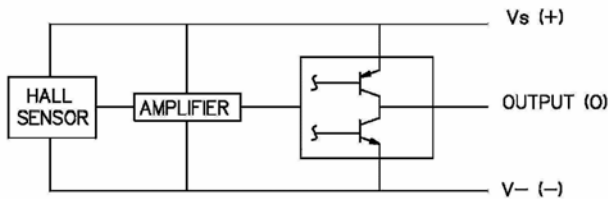
# CSLW Series

## PRODUCT SPECIFICATIONS

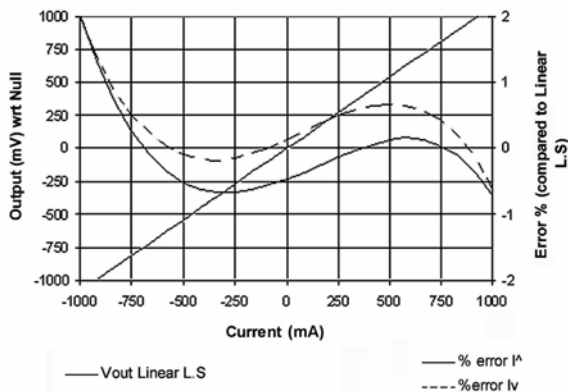
<b>Product type</b>	miniature hall-effect linear open-loop current sensor
<b>Package quantity/type</b>	25 per box
<b>Package style</b>	PC board mount – radial lead IC
<b>Supply voltage</b>	4.5 Vdc to 10.5 Vdc
<b>Output type</b>	sink/source
<b>Magnetic actuation type</b>	analog ratiometric

Parameter	CSLW6B1	CSLW6B5	CSLW6B40M	CSLW6B200M	Units	Symbol	Conditions
<b>Current range (min.)</b>	±1 A	±5 A	±40 mA	±200 mA	—	$I_p$	<±1.5 % error (-25 °C to 100 °C [-13 °F to 212 °F])
<b>Supply voltage</b>	4.5 to 10.5	4.5 to 10.5	4.5 to 10.5	4.5 to 10.5	V	$V_s$	—
<b><math>V_{out}</math> @ 0 AT</b>	2.50 ±0.15	2.50 ±0.15	2.50 ±0.15	2.50 ±0.15	V	$V_o$	—
<b>Supply current</b>	typ.	7	7	7	mA	$I_s$	No Load
	max.	9	9	9			
<b>Turns</b>	60 ±1	12	1500 ±20	300 ±5	—	N	—
<b>Coil resistance</b>	typ.	0.16	0.01	120	Ω	—	—
<b>Sensitivity</b>	min.	898	179	22400	mV/A	$\Delta V / I$	-25 °C to 100 °C [-13 °F to 212 °F]
	typ.	1020	204	25500			
	max.	1142	229	30000			
<b>Hysteresis</b>	max.	0.5	0.5	0.5	%	—	@ min current range
<b>Temp error – null</b>	max.	±0.064	±0.064	±0.064	%/°C	$TC_{\Delta V_o/V_o}$	—
<b>Temp error - gain</b>	max.	-0.03 +0.12	-0.03 +0.12	-0.03 +0.12	%/°C	$TC_G$	-25 °C to 100 °C [-13 °F to 212 °F]
<b>Rise time</b>	typ.	3	3	3	μs	$t_r$	0 to 40% of min current range

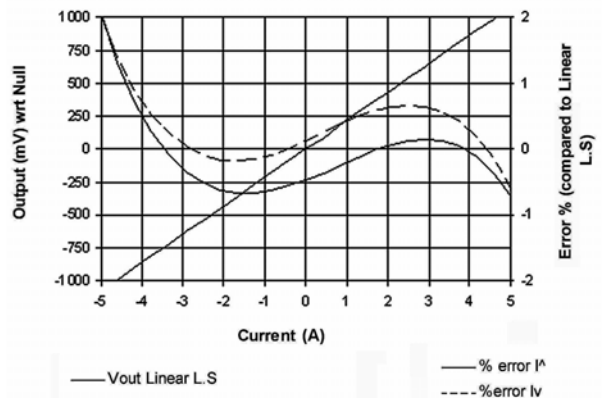
### BLOCK DIAGRAM



### CSLW6B1 TYPICAL TRANSFER FUNCTION [25 °C]

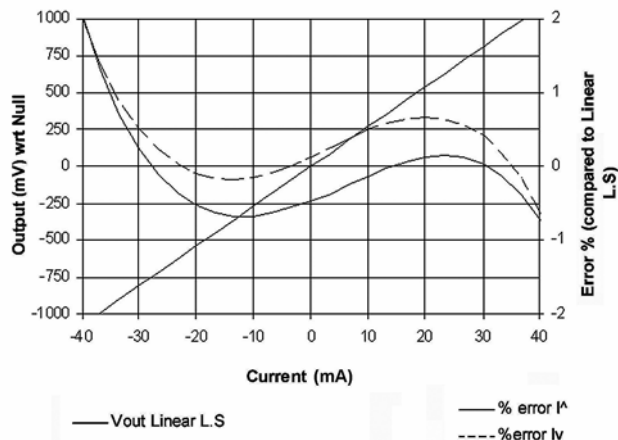


### CSLW6B5 TYPICAL TRANSFER FUNCTION [25 °C]

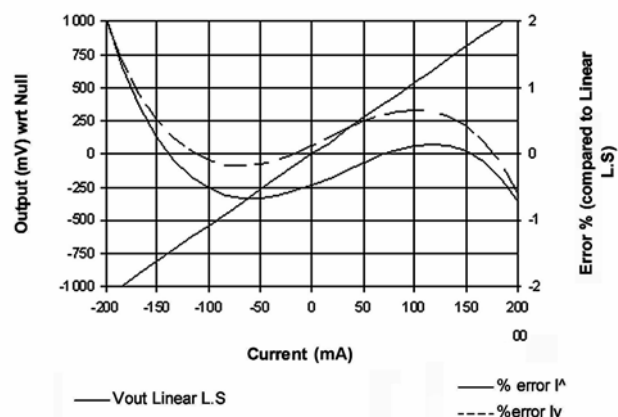


# Miniature Wired Open-Loop Current Sensors

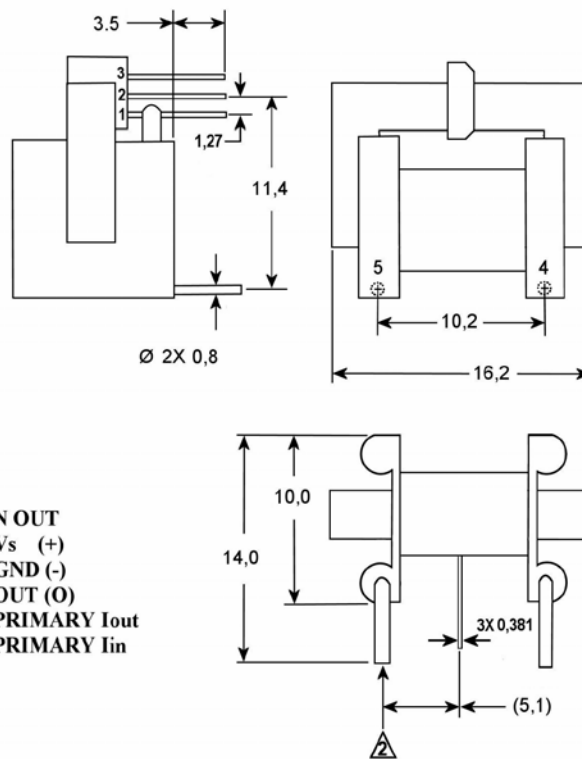
CSLW6B40M TYPICAL TRANSFER FUNCTION [25 °C]



CSLW6B200M TYPICAL TRANSFER FUNCTION [25 °C]



**DIMENSIONAL DRAWING (For reference only [mm])**



**ORDER GUIDE**

Catalog Listing	Description
CSLW6B1	CSLW Series, Miniature, Open-Loop Current Sensor, 1 A
CSLW6B5	CSLW Series, Miniature, Open-Loop Current Sensor, 5 A
CSLW6B40M	CSLW Series, Miniature, Open-Loop Current Sensor, 40 mA
CSLWB200M	CSLW Series, Miniature, Open-Loop Current Sensor, 200 mA