

Closed Loop Hall Current Sensor CYHCS-D6

This Hall Effect current sensor is based on closed loop compensating principle and can be used for measurement of DC and AC current, pulse currents etc. The output of the transducer reflects the real wave of the current carrying conductor.

Product Characteristics	Applications
<ul style="list-style-type: none">• Excellent accuracy• Very good linearity• Less power consumption• Current overload capability• Good temperature properties	<ul style="list-style-type: none">• General Purpose Inverters• AC/DC Variable Speed Drivers• Battery Supplied Applications• Uninterruptible Power Supplies• Switched Mode Power Supplies

ELECTRICAL DATA

Part number	CYHCS-D6-300A	CYHCS-D6-400A	CYHCS-D6-500A
Nominal current	300A	400A	500A
Measuring range	500A	600A	800A
Turns ratio	1:3000	1:4000	1:5000
Secondary internal resistance	31 Ω	45 Ω	60 Ω
Measuring resistance (Ω)	With $\pm 15V$		
	@ $\pm 300A_{max}$ 72(max)	@ $\pm 400A_{max}$ 52(max)	@ $\pm 500A_{max}$ 40(max)
	@ $\pm 500A_{max}$ 30(max)	@ $\pm 600A_{max}$ 18(max)	@ $\pm 800A_{max}$ 5(max)
	With $\pm 18V$		
	@ $\pm 300A_{max}$ 92(max)	@ $\pm 400A_{max}$ 70(max)	@ $\pm 500A_{max}$ 60(max)
	@ $\pm 500A_{max}$ 40(max)	@ $\pm 600A_{max}$ 28(max)	@ $\pm 800A_{max}$ 15(max)
Supply voltage	$\pm 15V \sim \pm 18V \pm 5\%$		
Nominal analogue output current	100mA $\pm 0.5\%$		
Accuracy	$\pm 0.5\%$		
Current consumption	$\leq 25mA + \text{output current}$		
Galvanic isolation	6KV, 50HZ, 1min, 6		

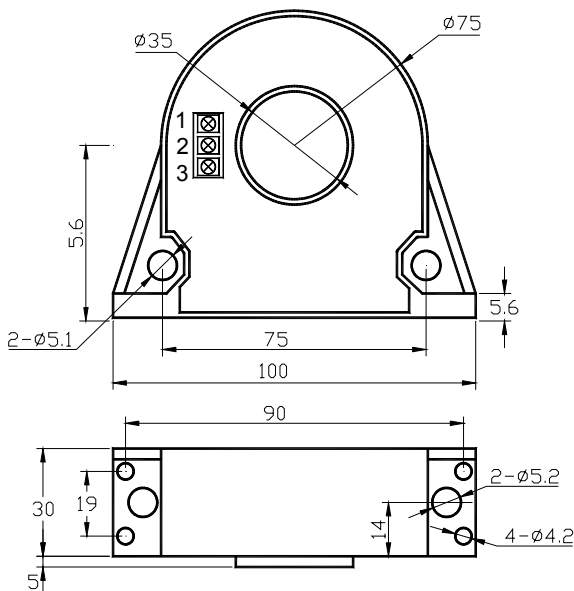
GENERAL DATA

Operating temperature	-40°C ~ +85°C
Storage temperature	-55 °C~ +125°C

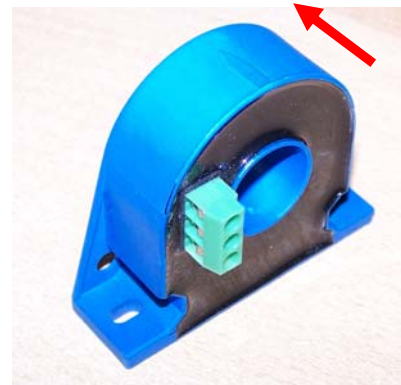
ACCURACY DYNAMIC PERFORMANCE

Zero offset current	$\pm 0.2\text{mA}$
Thermal drift of offset current	$-40^{\circ}\text{C} \sim +85^{\circ}\text{C}, \pm 0.5\text{mA}$
Response time	$< 1\mu\text{s}$
Accuracy	$\pm 0.5\%$
Linearity	$\leq 0.1\% \text{FS}$
Bandwidth(-3dB)	DC...100kHz
di/dt	$> 100\text{A}/\mu\text{s}$

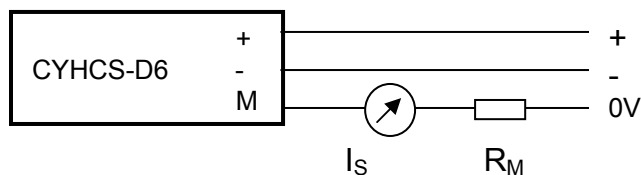
Dimensions (mm)



Current direction



+ +15V
 - -15V
 M: Output



Operating instructions

1. Connect the terminals of power source, outputs respectively and correctly, never make wrong connection for DC current.
2. Temperature of the primary conductor should not exceed 100°C .
3. Dynamic performances (di/dt and the response time) are best with a single bar completely filling the primary hole.
4. In order to achieve the best magnetic coupling, the primary windings have to be wound over the top edge of the device.