

Closed Loop Hall AC/DC Current Sensor CYHCS-LTF

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 in the carrying conductor.

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

ELECTRICAL DATA

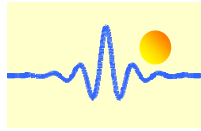
Part number	CYHCS-LTF1000A	CYHCS-LTF2000A	CYHCS-LTF3000A
Nominal input current (RMS)	1000A	2000A	3000A
Measuring range I_P (DC)	0~±1500	0~±3000	0~±4500
Nominal output current	200mA ± 0.3%	400mA ± 0.3%	600mA ± 0.3%
Turns ratio	1:5000		
Measuring resistance $V_C=±15V$	$I_P=±1000A$ 0-52Ω	$I_P=±2000A$ 0-16Ω	$I_P=±3000A$ 0-5Ω
Measuring resistance $V_C=±15V$	$I_P=±1500A$ 0-28Ω	$I_P=±3000A$ 0-5Ω	$I_P=±4500A$ 0-2Ω
Measuring resistance $V_C=±24V$	$I_P=±1000A$ 0-97Ω	$I_P=±2000A$ 0-39Ω	$I_P=±3000A$ 0-20Ω
Measuring resistance $V_C=±24V$	$I_P=±1500A$ 0-58Ω	$I_P=±3000A$ 0-20Ω	$I_P=±4500A$ 0-7Ω
Supply voltage	±15VDC ~ ±24VDC		
Current consumption	≤28mA + Output current at $V_C=±24V$		
Galvanic isolation	50Hz, 1min, 6KV		
Secondary internal resistance	$T_a=25°C$, 18 Ω		

ACCURACY DYNAMIC PERFORMANCE

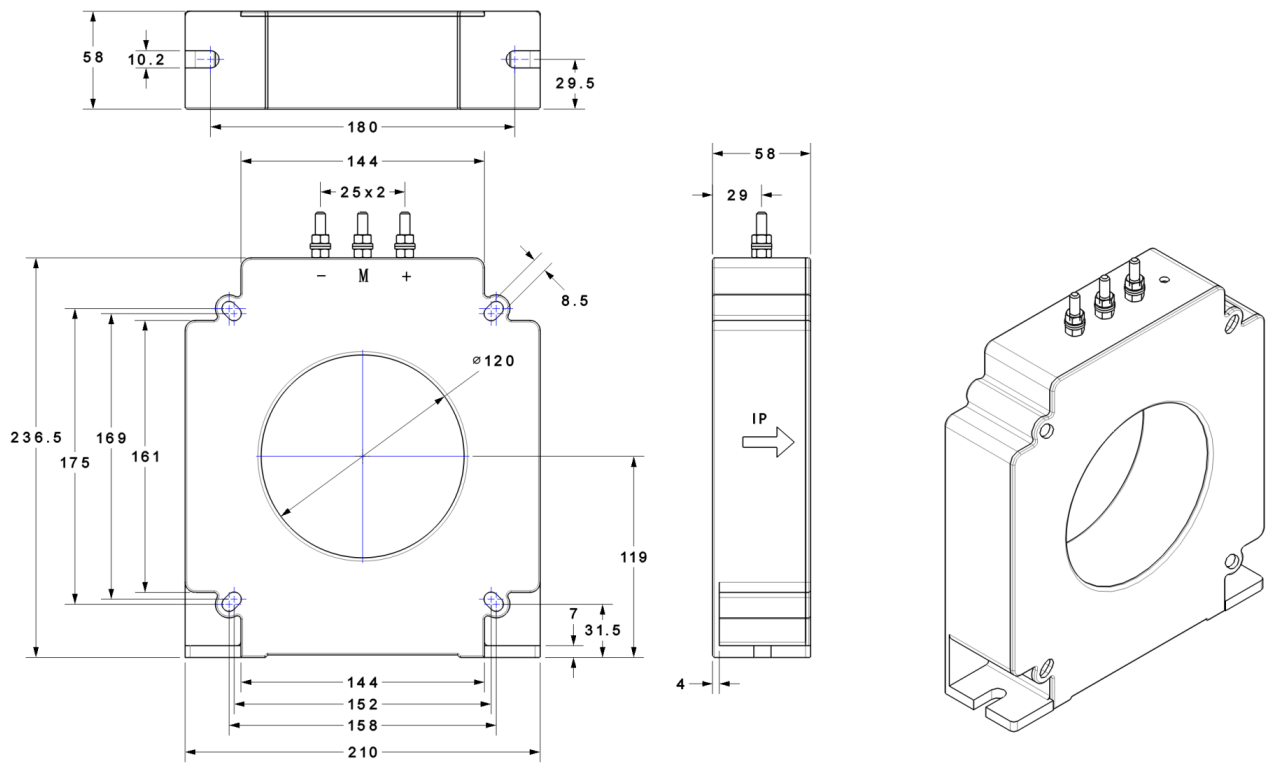
Zero offset current $T_a=25°C$	< ±0.2mA
Magnetic Offset current $I_P→0$	< ±0.2mA
Thermal drift of offset current	$I_P=0$, $T_a=-40°C ~ +85°C$, ±0.01mA/°C
Response time	<1μs
Linearity	≤0.1%FS
Accuracy at +25°C	± 0.3% FS
Bandwidth(-3dB)	DC...100kHz
di/dt following accuracy	>100A/μs

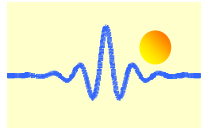
GENERAL DATA

Operating temperature	-40°C ~ +85°C
Storage temperature	-40°C ~ +100°C
Unit weight	3400g
Standard	Q/320115QHKJ01-2016



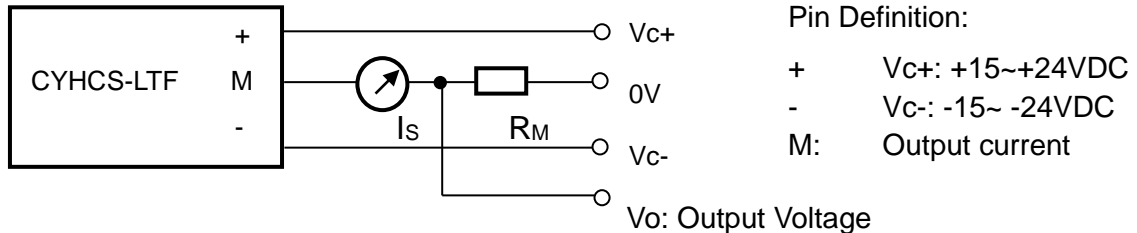
Dimensions (mm)



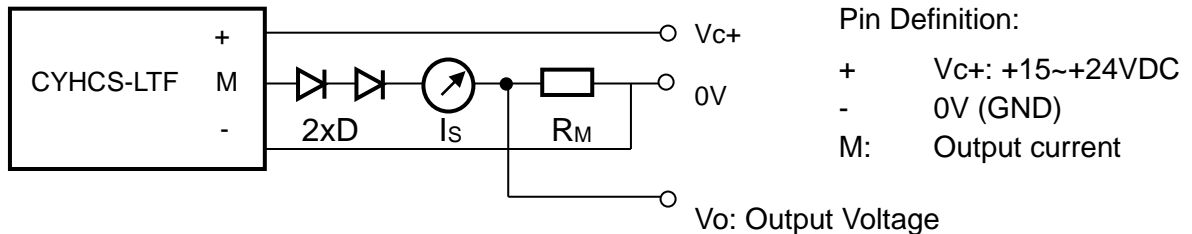


Sensor Connections

1) For Measurement of Bidirectional Current



2) For Measurement of Unidirectional Current



Two diodes for instance IN4007 must be connected at the output of the sensor in order to guarantee the sensor to work well.

Operating instructions

1. Connect the terminals of power source, output respectively and correctly, never make wrong connection for DC current.
2. The temperature of the primary conductor should not exceed 100 °C.
3. Dynamic performances (di/dt and the response time) are the 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.