Closed Loop Hall Current Sensor CYHCS-LTP/LTR

This Hall Effect current sensor is based on closed loop compensating principle and designed with a high galvanic isolation between primary and secondary circuits. The output from the current sensor is the balancing current which is a perfect image of the primary current reduced by the number of secondary turns. It 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
• Excellent accuracy • Very good linearity • Small size and encapsulated • Less power consumption • Current overload capability	• **Photovoltaic equipment** • General Purpose Inverters • AC/DC Variable Speed Drivers • Battery Supplied Applications • Uninterruptible Power Supplies (UPS) • Switched Mode Power Supplies

ELECTRICAL DATA

Part number	CYHCS-LTP/LTR100A	CYHCS-LTP/LTR200A	CYHCS-LTP/LTR300A	
Nominal current	100	200	300	A
Measuring range	300 (±18V, 20 Ω)	600(±18V, 30 Ω)	900 (±18V, 20 Ω)	A
Turns ratio	1:2000 (or 1:1000)	1:2000	1:3000	
Measuring resistance	with±12V DC			
	@±100Amax 80(max)	@±200Amax 80(max)	@±300Amax 76(max)	Ω
	@±200Amax 25 (max)	@±500Amax 27(max)	@±600Amax 22(max)	Ω
	with±15V DC			
	@±100Amax 110(max)	@±200Amax 120(max)	@±300Amax 100(max)	Ω
	@±200Amax 40(max)	@±500Amax 33(max)	@±600Amax 36(max)	Ω
Nominal analogue output current	50±0.5% (or 100±0.5%)	100±0.5%	100±0.5%	mA
Secondary internal resistance	25	20	30	Ω
Supply voltage	±12 ~ ±18±5%			V
Current consumption	20 + output current			mA
Galvanic isolation	50Hz, 1min, 6			KV

ACCURACY DYNAMIC PERFORMANCE

Zero offset current	±0.2	mA
Thermal drift of offset current	-40°C ~ +85°C, ±0.5	mA
Response time	<1	μs
Linearity	≤0.1	%FS
Bandwidth(-3dB)	DC…100	kHz
di/dt following accuracy	>200	A/μs

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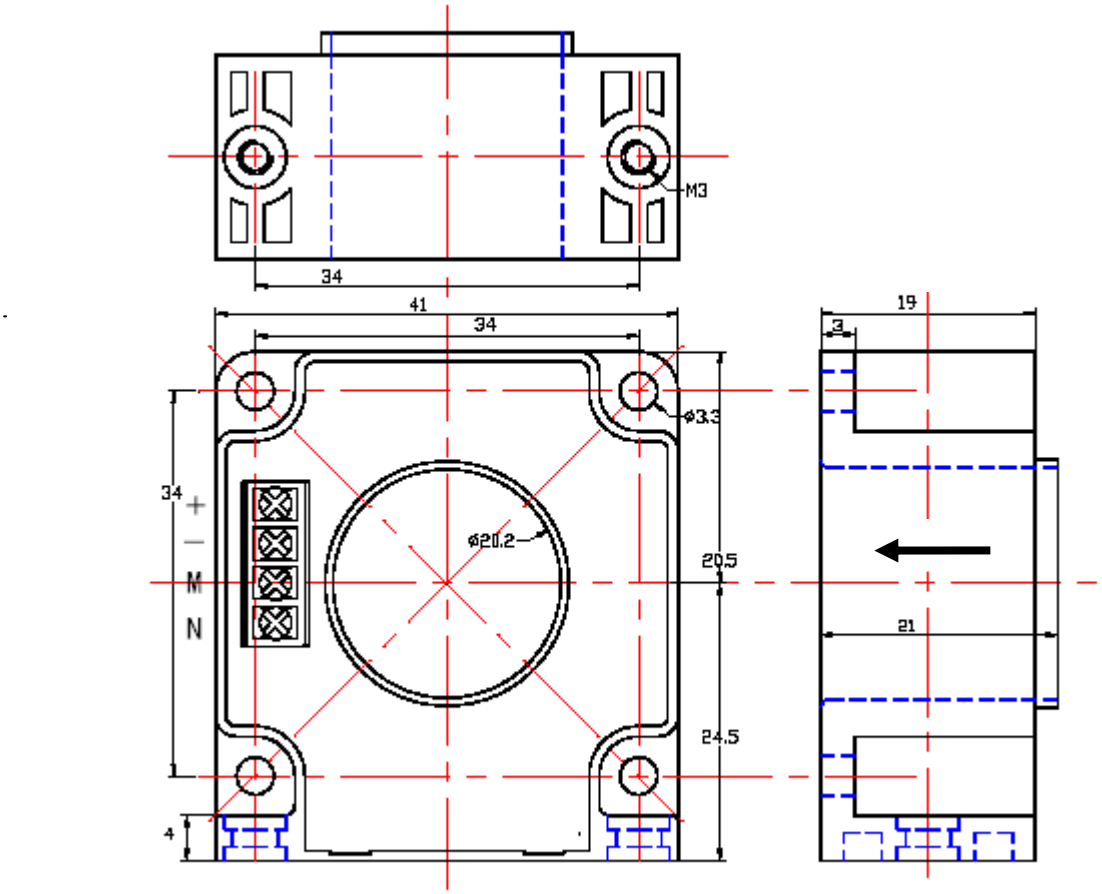
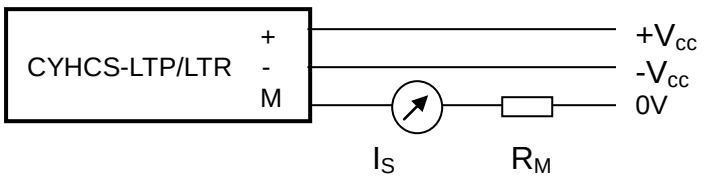
GENERAL DATA

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

Dimensions (mm)

With Terminal Connector (part number CYHCS-LTPxxxx)





Pin & Terminal Arrangement

+: +12 ~ +18VDC
-: -12 ~ -18VDC
M: Output Current
N: NC

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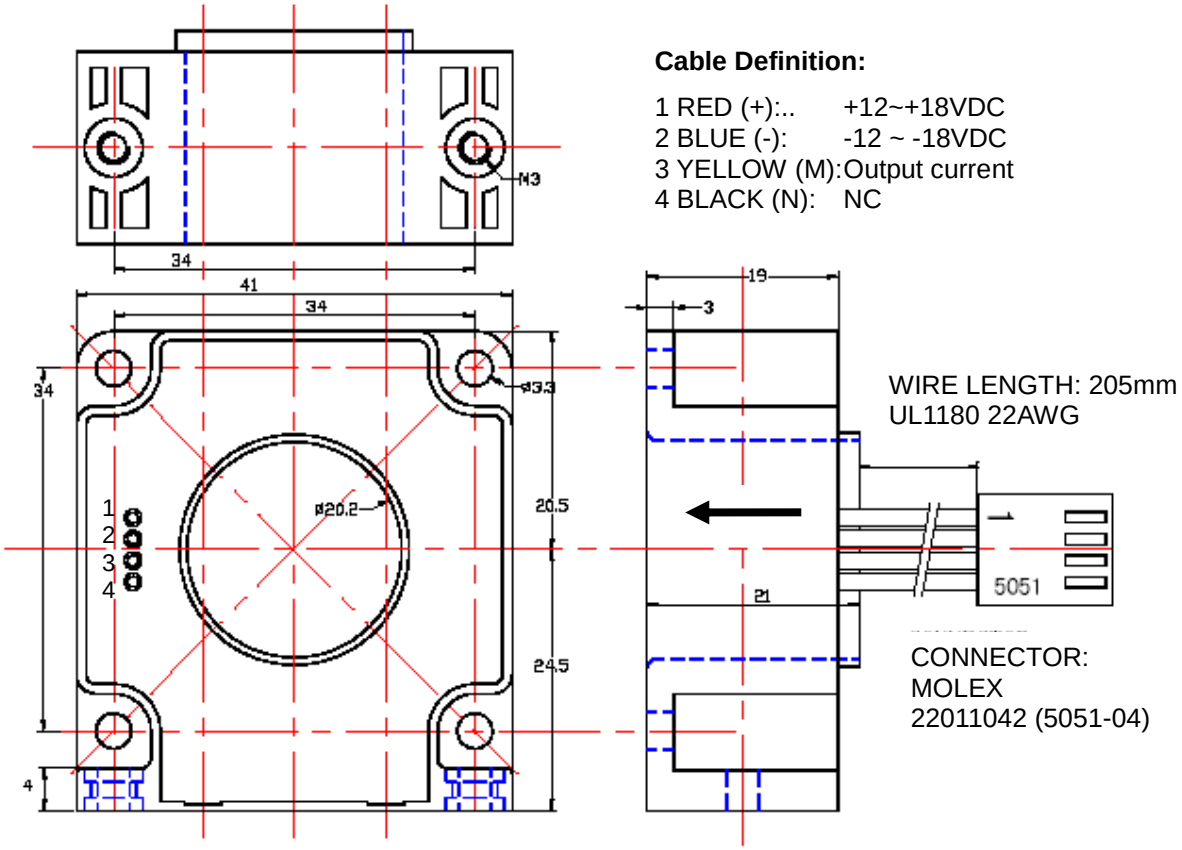
With Cable and Molex Connector (part number CYHCS-LTRxxxx)

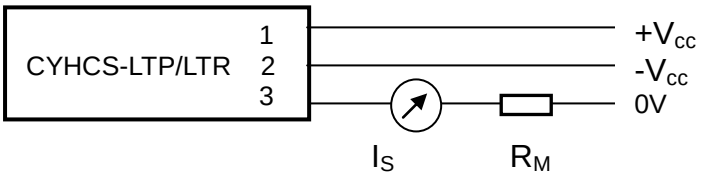


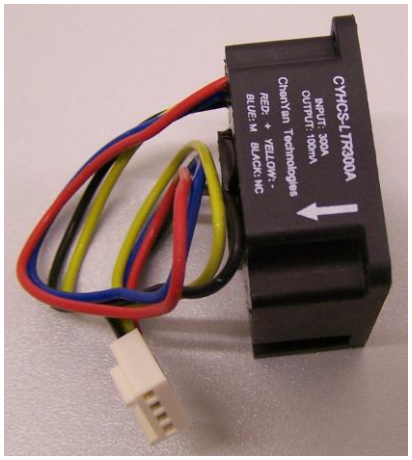
Cable Definition:

1 RED (+):.. +12~+18VDC
2 BLUE (-): -12 ~ -18VDC
3 YELLOW (M): Output current
4 BLACK (N): NC

WIRE LENGTH: 205mm
UL1180 22AWG

CONNECTOR:
MOLEX
22011042 (5051-04)





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 120 °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.

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