

Closed Loop Precise Hall AC/DC Current Sensor CYHCS-LF-X

This Hall Effect current sensor is based on closed loop compensation principle and can be used for accurate 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 • Various kinds of output signals • Window structure and encapsulated • Large current measuring range • 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 (UPS) • Switched Mode Power Supplies |

ELECTRICAL DATA

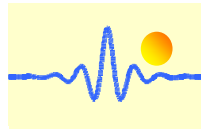
| Part number | CYHCS-LF500A-X | CYHCS-LF1000A-X | CYHCS-LF2000A-X |
|------------------------------|------------------------------|------------------------|------------------------|
| Nominal rated input current | 500A | 1000A | 2000A |
| Measuring range | 0~±1000A | 0~±2000A | 0~±3000A |
| Turns ratio | 1:5000 | | |
| Internal sampling resistance | ≤4Ω±0.1% | ≤2Ω±0.1% | ≤2Ω±0.1% |
| Nominal output signal | X=20mA X=4V X=5V | X=20mA X=4V X=5V | X=40mA X=4V X=5V |
| Supply voltage | ±15VDC ~ ±24VDC | | |
| Current consumption | ≤30mA + Input current / 5000 | | |
| Galvanic isolation | 6kV, 50Hz, 1min | | |

ACCURACY DYNAMIC PERFORMANCE

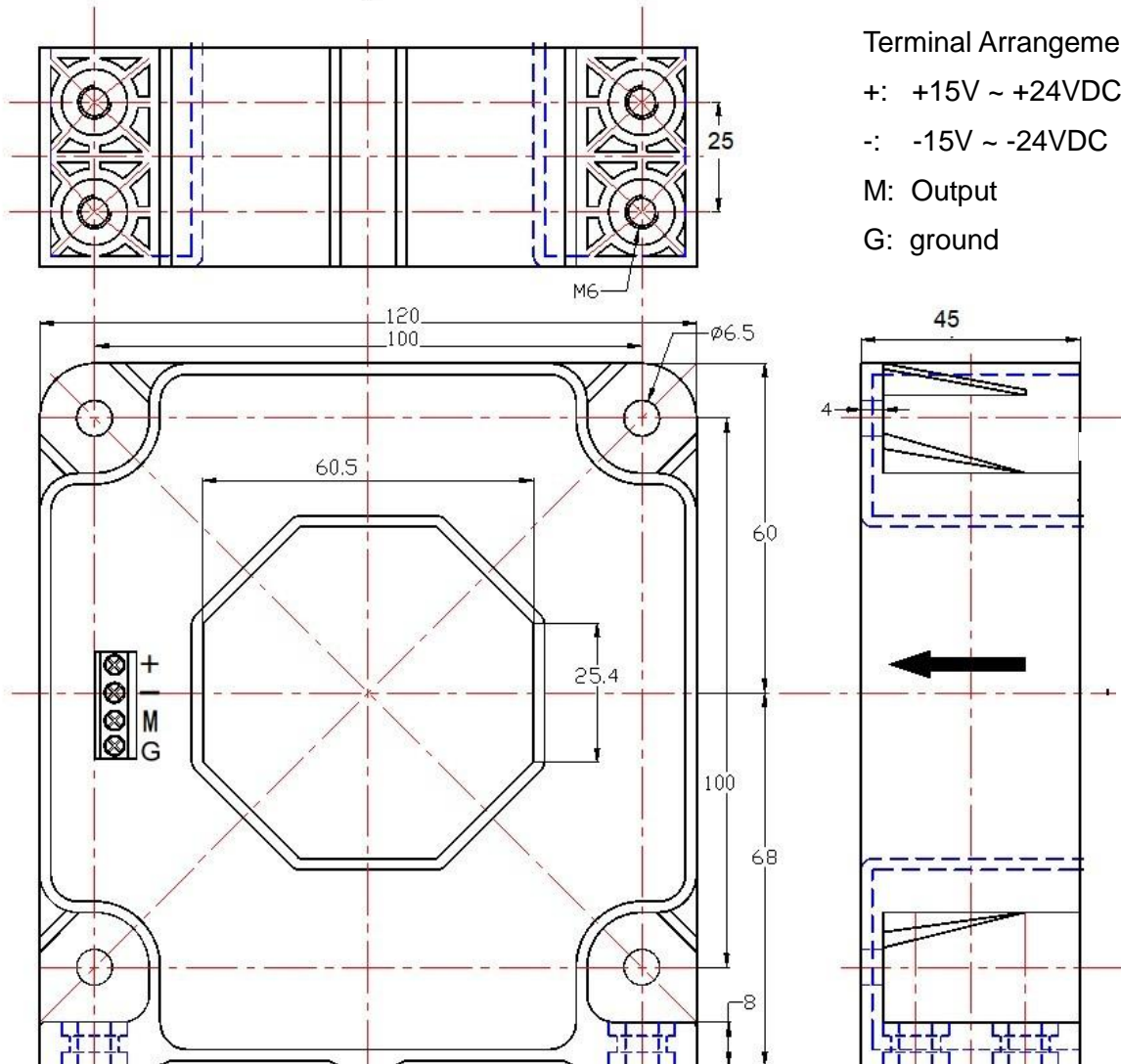
| | |
|---------------------------------|-------------------------------------|
| Zero offset current Ta=25°C | < ±0.2mA |
| Magnetic Offset current IP→0 | < ±0.2mA |
| Thermal drift of offset current | IP=0, Ta=-25°C ~ +85°C, ±0.5mA |
| Response time | <1μs |
| Accuracy | ± 0.2% for rated current 500A~2000A |
| Linearity | ≤0.1% for rated current 500A~2000A |
| Bandwidth(-3dB) | DC...150kHz |
| di/dt | >100A/μs |

GENERAL DATA

| | |
|-----------------------|----------------|
| Operating temperature | -25°C ~ +85°C |
| Storage temperature | -40°C ~ +100°C |
| Unit weight | 1150g |



Dimensions (mm)



Terminal Arrangement

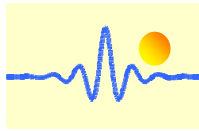
+: +15V ~ +24VDC

-: -15V ~ -24VDC

M: Output

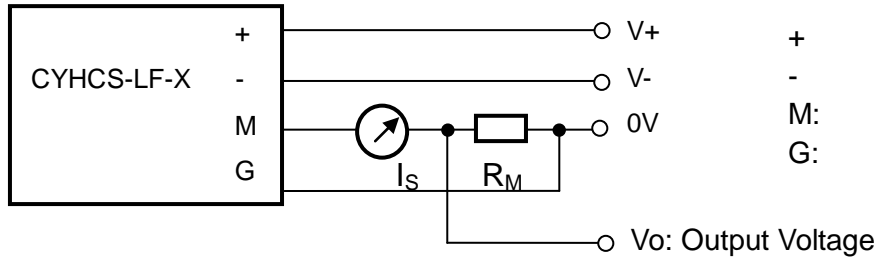
G: ground





Sensor Connections

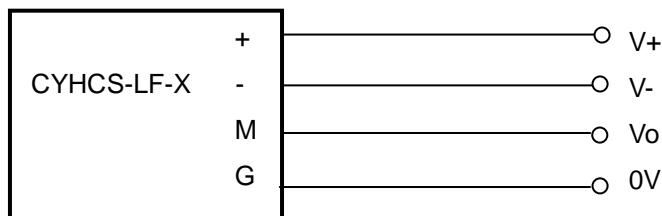
1) Current Output



Pin Definition:

+ V+: +15~+24VDC
- V-: -15~ -24VDC
M: Output current
G: ground

2) Voltage Output



Pin Definition:

+ V+: +15~+24VDC
- V-: -15~ -24VDC
M: Output current
G: Ground

Operating instructions

1. Connect the terminals of power source, output 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 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.