Open Loop AC/DC Hall Effect Current Sensor CYHCS-ST

This Hall Effect current sensor is based on open loop principle and designed with a solid core and a high galvanic isolation between primary conductor and secondary circuit. It can be used for measurement of DC and AC current, pulsed currents etc. The output of the transducer reflects the true RMS value of the current carrying conductor.

Product Characteristics	Applications
• Excellent accuracy • Very good linearity • Light in weight • Less power consumption • Measurement of the true effective value (RMS) • Electrically isolating the output of the transducer from the current carrying conductor • No insertion loss • Current overload capability	• Frequency conversion timing equipment • Various power supply • Uninterruptible power supplies (UPS) • Electric welding machines • Numerical controlled machine tools • Electrolyzing and electroplating equipment • Electric powered locomotive • Microcomputer monitoring • Electric power network monitoring

Electrical Data

Primary Nominal Current I_r (A)	Primary Current Measuring Range I_p(A) at Vcc=24V	Output Voltage (analog) (V)	Part number
100	± 150	**x=3: 0-5VDC** for power supply of +12V and +15VDC **x=8: 0-10VDC** for power supply of +20V ~+32VDC	CYHCS-ST100A-xnC
200	± 300		CYHCS-ST200A-xnC
300	± 450		CYHCS-ST300A-xnC
400	± 600		CYHCS-ST-400A-xnC
500	± 750		CYHCS-ST-500A-xnC
600	± 900		CYHCS-ST-600A-xnC
1000	± 1200		CYHCS-ST-1000A-xnC

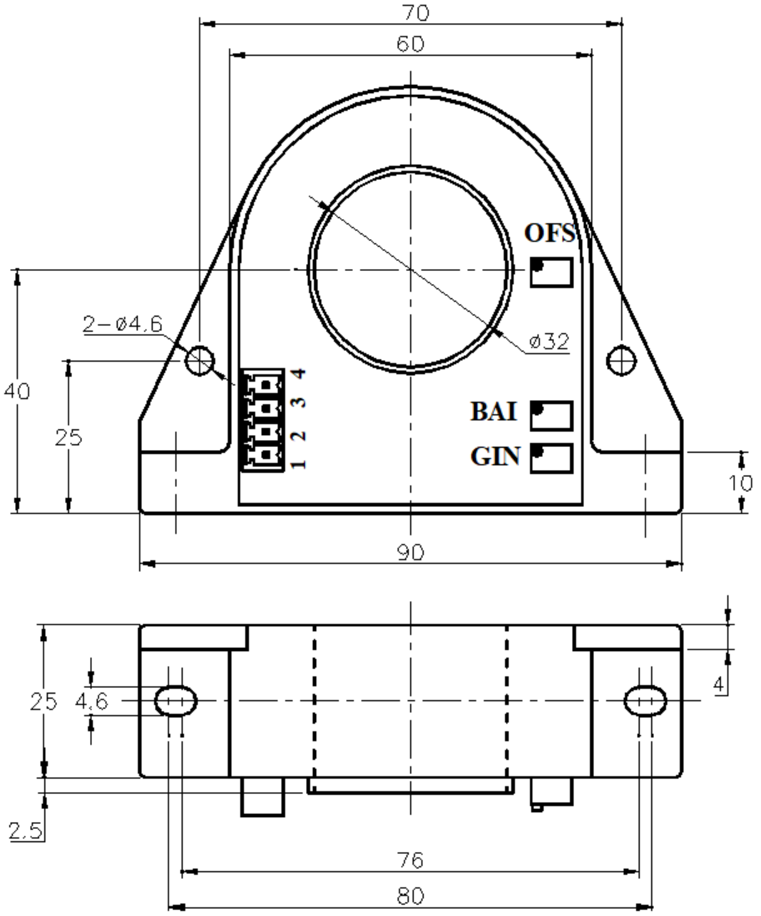
(n=2, *Vcc*= +12VDC; n=3, *Vcc* =+15VDC; n=4, *Vcc* =+20V ~+32VDC,
Connector: Phoenix Connector 3.81: C=P3, Phoenix Connector 5.08: C=P5)

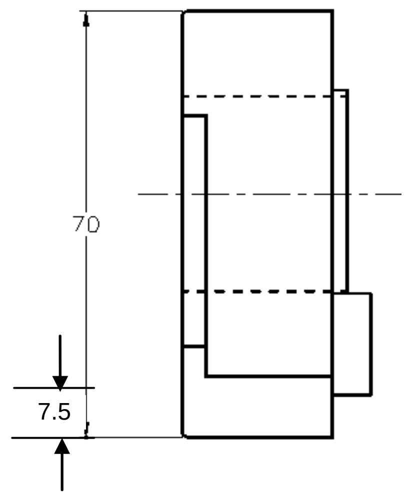
Current Consumption	I_c < 30mA
Galvanic isolation, 50/60Hz, 1min:	≥3.0kV
Output Impedance:	R_{out} < 150Ω
Load Resistor:	R_L > 10kΩ
Accuracy at I_r, T_A=25°C (without offset),	X <±1.0% FS
Linearity from 0 to I_r, T_A=25°C,	E_L <1.0% FS
Electric Offset Voltage, T_A=25°C,	V_{oe}=±35mV
Magnetic Offset Voltage ($I_r \rightarrow 0$)	V_{om} <±25mV
Thermal Drift of Offset Voltage,	V_{ot} <±2.0mV/°C
Thermal Drift (-10°C to 50°C),	T.C. < ±0.1% /°C
Response Time at 90% of I_P (f=1k Hz)	t_r < 150ms
Frequency Bandwidth (-3dB),	f_b = 20Hz ~ 6kHz
Used Standard	Q/320115QHKJ01-2016

General Data

Ambient Operating Temperature,	T_A = -25°C ~ +85°C
Ambient Storage Temperature,	T_S =-40°C ~ +100°C
Unit weight,	250g

PIN Definition and Dimensions

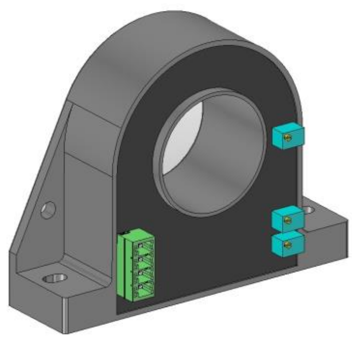




1(+): Vcc
2(N): NC
3(O): Output
4(G): GND

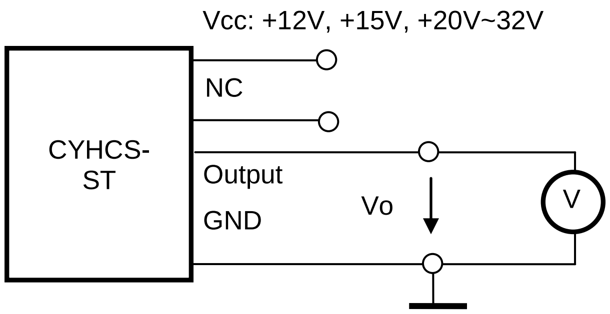
OFS: Offset Adjustment
BAI: Accuracy adjustment

GIN: Gain Adjustment



Phoenix Connector 3.81

Connection



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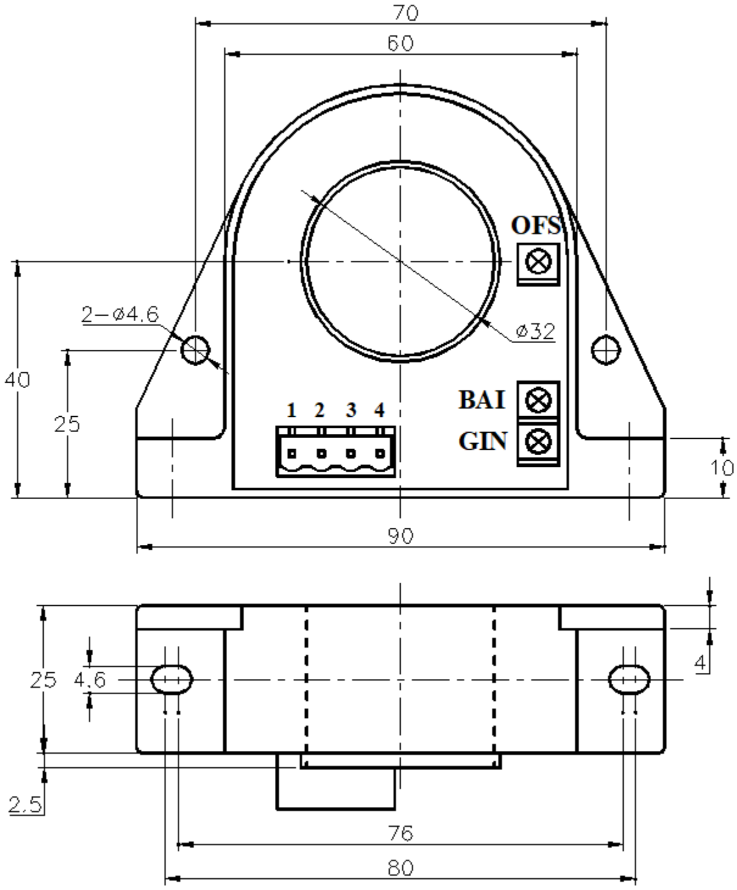

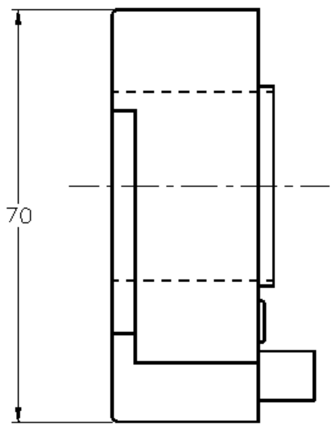

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Phoenix Connector 5.08

Notes:

1. Connect the terminals of power source, output respectively and correctly, never make wrong connection.
2. Two potentiometers can be adjusted, only if necessary, by turning slowly to the required accuracy with a small screwdriver.
3. The best accuracy can be achieved when the window is fully filled with bus-bar (current carrying conductor).
4. The in-phase output can be obtained when the direction of current of current carrying conductor is the same as the direction of arrow marked on the transducer