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Technologies GmbH & Co KG

AC/DC Open Loop Hall Current Sensor CYHCS-BS5

This Hall Effect current sensor is based on open loop principle and designed with a high galvanic isolation between primary conductor and secondary circuit. 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 - Light in weight - Less power consumption - Window structure - Electrically isolating the output of the transducer from the current carrying conductor - No insertion loss - Current overload capability	**Photovoltaic equipment** - Frequency conversion timing equipment - Various power supply - Uninterruptible power supplies (UPS) - Electric welding machines - Transformer substation - Numerical controlled machine tools - Electric powered locomotive - Microcomputer monitoring - Electric power network monitoring

Electrical Data

Primary Nominal Current I_r (A)	Measuring Range (A)	Output voltage (analog)	Window sizes (mm)	Part number
50	$\pm$ 100			CYHCS-BS5-050A
100	$\pm$ 200			CYHCS-BS5-100A
200	$\pm$ 400	+2.5VDC $\pm$1V +1.0%	20.5x10.5	CYHCS-BS5-200A
300	$\pm$ 600			CYHCS-BS5-300A
400	$\pm$800			CYHCS-BS5-400A
500	$\pm$900			CYHCS-BS5-500A
600	$\pm$900			CYHCS-BS5-600A

Supply Voltage	V_{cc}= +5V $\pm$ 5%,
Current Consumption	I_c < 25mA
Galvanic isolation, 50/60Hz, 1min:	2.5kV
Isolation resistance @ 500 VDC	> 500 MΩ

Accuracy and Dynamic performance data

Accuracy at I_r, T_A=25°C (without offset),	X <1.0%
Linearity from 0 to I_r, T_A=25°C,	E_L <1.0% FS
Electric Offset Voltage, T_A=25°C,	V_{oe}=+2.5VDC$\pm$0.5%
Magnetic Offset Voltage ($I_r \rightarrow$0)	V_{om} <$\pm$15mV
Thermal Drift of Offset Voltage,	V_{ot} <±1.0mV/°C
Frequency bandwidth (- 3 dB):	DC-50kHz
Response Time at 90% of I_P (*f*=1k Hz)	t_r < 3µs

General Data

Ambient Operating Temperature,	T_A = -40°C ~ +85°C
Ambient Storage Temperature,	T_S = -40°C ~ +125°C

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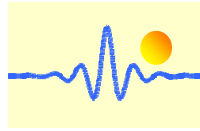
PIN Definition and Dimensions

Pin Arrangement
1 (+): +5VDC,
2 (G): Ground,
3 (O): Output,
4 (G): Ground
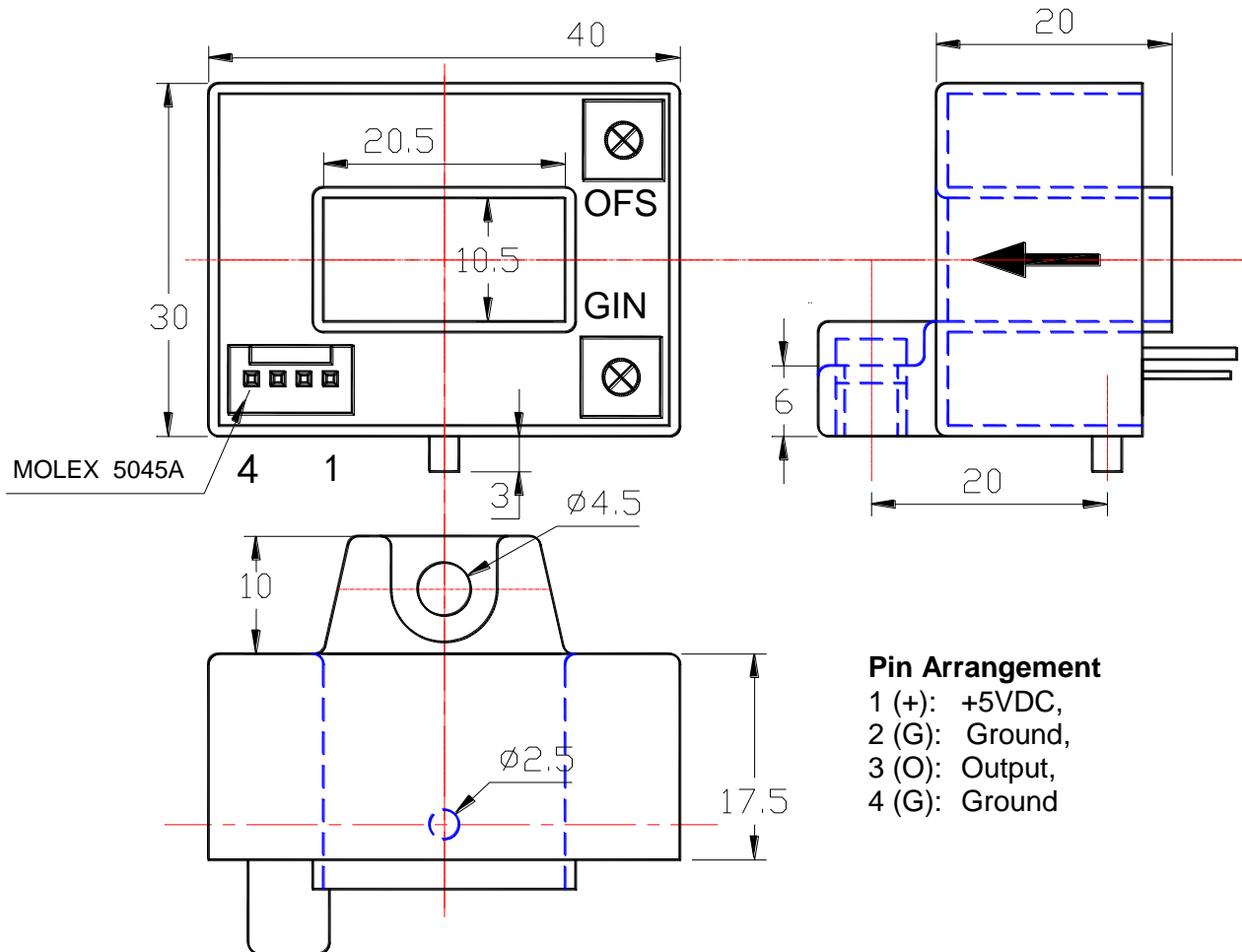
Notes:

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
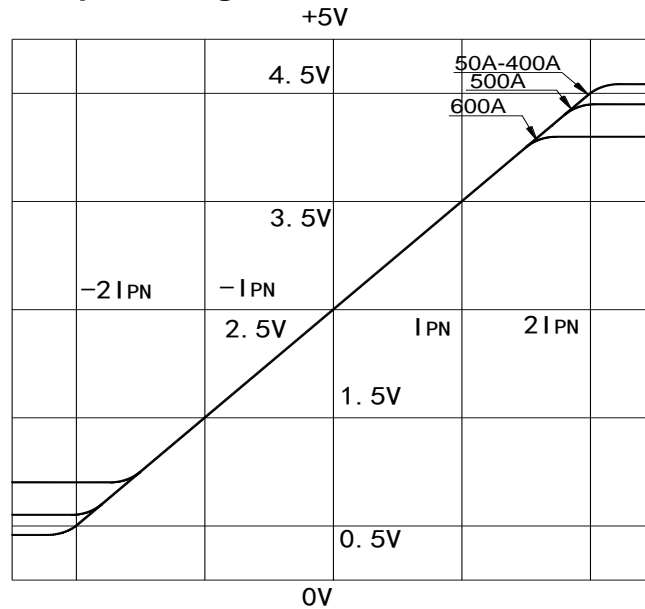
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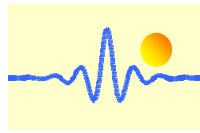
Response Characteristic of Pulse Current
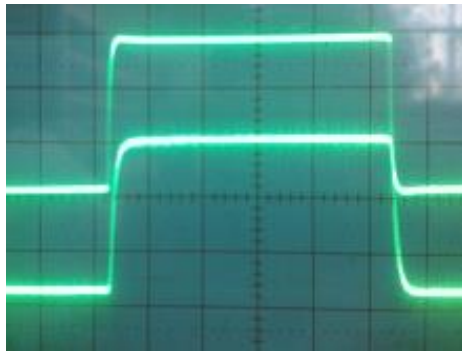
⟵ Input Current

⟵ Output Voltage

Input Current and Output Voltage characteristic

Sensor Circuit