

Split Core AC Hall Effect Current Sensor CYHCS-KDA

This Split Core 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 AC current, pulse currents etc. The output of the transducer reflects the rectified average value of the current in the carrying conductor.

Product Characteristics	Applications
<ul style="list-style-type: none"> • Excellent accuracy • Very good linearity • With Split Core, easy installation • Less power consumption • Window structure • Electrically isolating the output of the transducer from the current carrying conductor • No insertion loss • Current overload capability 	<ul style="list-style-type: none"> • 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 RMS Current I_r (A), (AC)	Measuring Range (A), AC	Output current I_o (DC)	Window Size (mm)	Part number
300	± 600	4 -20mA	64 x 16	CYHCS-KDA300A
500	± 1000			CYHCS-KDA500A
800	± 1600			CYHCS-KDA800A
1000	± 2000			CYHCS-KDA1000A
1500	± 2500			CYHCS-KDA1500A
2000	± 3000			CYHCS-KDA2000A

Supply Voltage
Current Consumption
Galvanic isolation, 50/60Hz, 1min:
Isolation resistance @ 500 VDC

$V_{CC} = +24\text{VDC} \pm 5\%$
 $I_C < 25\text{mA} + I_o$
3kV rms
> 500 M Ω

Accuracy and Dynamic performance data

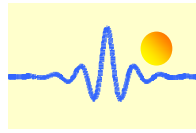
Accuracy at I_r , $T_A = 25^\circ\text{C}$ (without offset),
Linearity from 0 to I_r , $T_A = 25^\circ\text{C}$,
Electric Offset Current, $T_A = 25^\circ\text{C}$,
Thermal Drift of Offset Current,
Frequency bandwidth (- 3 dB):
Response Time at 90% of I_P ($f = 1\text{k Hz}$)
Load resistance:

$X < 1.0\%$
 $E_L < 0.5\%$ FS
 $4\text{mA} \pm 0.05\text{mA}$
 $< \pm 0.05\text{mA}/^\circ\text{C}$
20Hz-20kHz
 $t_r \leq 200\text{ms}$
80-450 Ω

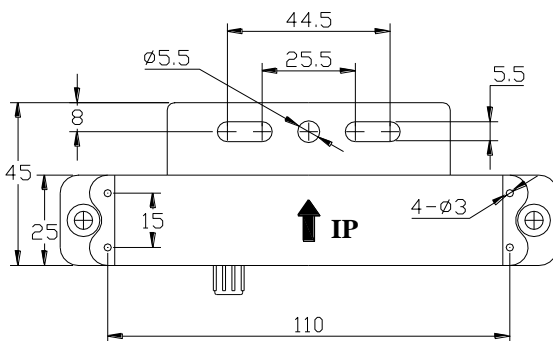
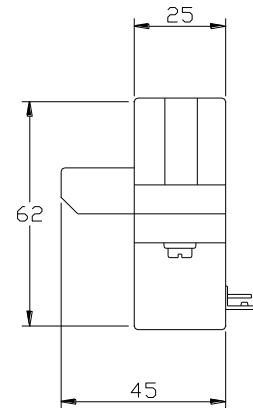
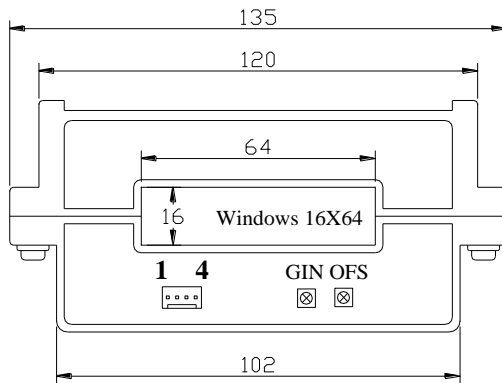
General Data

Ambient Operating Temperature,
Ambient Storage Temperature,

$T_A = -25^\circ\text{C} \sim +85^\circ\text{C}$
 $T_S = -40^\circ\text{C} \sim +100^\circ\text{C}$



Dimensions



Pin Arrangement

- 1: +24V
- 2: 0V (GND)
- 3: Output
- 4: GND



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.