Split Core Hall Effect AC Current Sensor CYHCS-KF2V

This Hall Effect current sensor is based on open loop principle and designed with a high galvanic isolation between primary and secondary circuits. 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
- Excellent accuracy
- Very good linearity
- Using split cores and easy mounting
- Less power consumption
- Window structure
- Electrically isolating the output of the transducer from the current carrying conductor
- No insertion loss
- Current overload capability

### Applications
- 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

<table>
<thead>
<tr>
<th>Primary Nominal Current, I_r (A), rms</th>
<th>Measuring Range (A)</th>
<th>DC Output Voltage (V)</th>
<th>Window size (mm)</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>500</td>
<td>0~±500</td>
<td>x=0: 0-4V ±1.0%</td>
<td>85 x 27</td>
<td>CYHCS-KF2V-500A-xn</td>
</tr>
<tr>
<td>600</td>
<td>0~±600</td>
<td>x=3: 0-5V ±1.0%</td>
<td></td>
<td>CYHCS-KF2V-600A-xn</td>
</tr>
<tr>
<td>800</td>
<td>0~±800</td>
<td>x=8: 0-10V ±1.0%</td>
<td></td>
<td>CYHCS-KF2V-800A-xn</td>
</tr>
<tr>
<td>1000</td>
<td>0~±1000</td>
<td></td>
<td></td>
<td>CYHCS-KF2V-1000A-xn</td>
</tr>
<tr>
<td>1500</td>
<td>0~±1500</td>
<td></td>
<td></td>
<td>CYHCS-KF2V-1500A-xn</td>
</tr>
<tr>
<td>2000</td>
<td>0~±2000</td>
<td></td>
<td></td>
<td>CYHCS-KF2V-2000A-xn</td>
</tr>
<tr>
<td>3000</td>
<td>0~±3000</td>
<td></td>
<td></td>
<td>CYHCS-KF2V-3000A-xn</td>
</tr>
</tbody>
</table>

(n=2, Vcc= +12VDC; n=3, Vcc =+15VDC; n=4, Vcc =+24VDC)

Supply Voltage: \( V_{cc}= +12V, +15V, +24VDC \pm 5\%

Output Voltage at \( I_r, T_A=25^\circ C \):
\( V_{out}=0-4V, 0-5V, 0-10VDC \)

Current Consumption: \( I_c < 25mA \)

Galvanic isolation, 50/60Hz, 1min: \( 3kV \) rms

Load resistance: \( R_{out} < 150\Omega \)

### Accuracy and Dynamic performance data

- Accuracy at \( I_r, T_A=25^\circ C \), \( X \leq 1.0\% \) FS
- Linearity from 0 to \( I_r, T_A=25^\circ C \), \( E_L \leq 0.5\% \) FS
- Electric Offset Voltage, \( T_A=25^\circ C \), \( V_{oe} < 50mV \)
- Magnetic Offset Voltage (\( I_r \to 0 \)), \( V_{om} < 20mV \)
- Thermal Drift of Offset Voltage, \( V_{ot} < 1.0mV/^\circ C \)
- Response Time at 90% of \( I_r \) (\( f=1kHz \)), \( t_r < 200ms \)
- Frequency Bandwidth (-3dB), \( f_b = 20Hz - 20kHz \)

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General Data

Ambient Operating Temperature,
Ambient Storage Temperature,
Case Material:

\[ T_A = -25^\circ C \sim +85^\circ C \]
\[ T_S = -40^\circ C \sim +100^\circ C \]
PBT

Dimensions

![Diagram of the device with dimensions labeled]

Pin Arrangement

1: Vcc
2: Ground (GND)
3: Ground (GND)
4: NC
5: Output

GIN: gain adjustment
OFS: offset adjustment

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.