# Split Core Hall Effect AC Current Sensor CYHCS-K104C

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 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 |
|---|---|
| • Excellent accuracy<br>• Very good linearity<br>• Using split cores and easy mounting<br>• Less power consumption<br>• Window structure<br>• Electrically isolating the output of the transducer from the current carrying conductor<br>• No insertion loss<br>• Current overload capability | • **Photovoltaic equipment**<br>• Frequency conversion timing equipment<br>• Various power supply<br>• Uninterruptible power supplies (UPS)<br>• Electric welding machines<br>• Transformer substation<br>• Numerical controlled machine tools<br>• Electric powered locomotive<br>• Microcomputer monitoring<br>• Electric power network monitoring |

## Electrical Data

| Primary Nominal Current $I_r$ (A), rms | Measuring Range (A) | DC Output Current (mA) | Window Size (mm) | Part number |
|---|---|---|---|---|
| 500 | 0~±500 | 4-20 ±1.0% | 104 x 36 | CYHCS-K104C-500A-n |
| 1000 | 0~±1000 | | | CYHCS-K104C-1000A-n |
| 1500 | 0~±1500 | | | CYHCS-K104C-1500A-n |
| 2000 | 0~±2000 | | | CYHCS-K104C-2000A-n |
| 3000 | 0~±3000 | | | CYHCS-K104C-3000A-n |
| 4000 | 0~±4000 | | | CYHCS-K104C-4000A-n |
| 5000 | 0~±5000 | | | CYHCS-K104C-5000A-n |

(n=3, *Vcc*= +12VDC ±5%; n=4, *Vcc* =+15VDC ±5%; n=5, *Vcc* =+24VDC±5%)

| | |
|---|---|
| Supply Voltage | $V_{cc}$= +12V, +15V, +24VDC ± 5% |
| Output current: | 4-20mADC |
| Current Consumption | $I_c$ < 25mA + Output current |
| Galvanic isolation, 50/60Hz, 1min: | 3kV rms |
| Isolation resistance @ 500 VDC | > 500 MΩ |

## Accuracy and Dynamic performance data

| | |
|---|---|
| Accuracy at $I_r$, $T_A$=25°C, | $X$ <±1.0% FS |
| Linearity from 0 to $I_r$, $T_A$=25°C, | $E_L$ <±0.5% FS |
| Electric Offset current, $T_A$=25°C, | 4mA DC |
| Thermal Drift of Offset Current, | <±0.005mA/°C |
| Response Time at 90% of $I_P$ | $t_r$ < 200ms |
| Load resistance: | 80-450Ω |
| Frequency Bandwidth (-3dB), | $f_b$ = 20Hz - 20 kHz |
| Case Material: | PBT |

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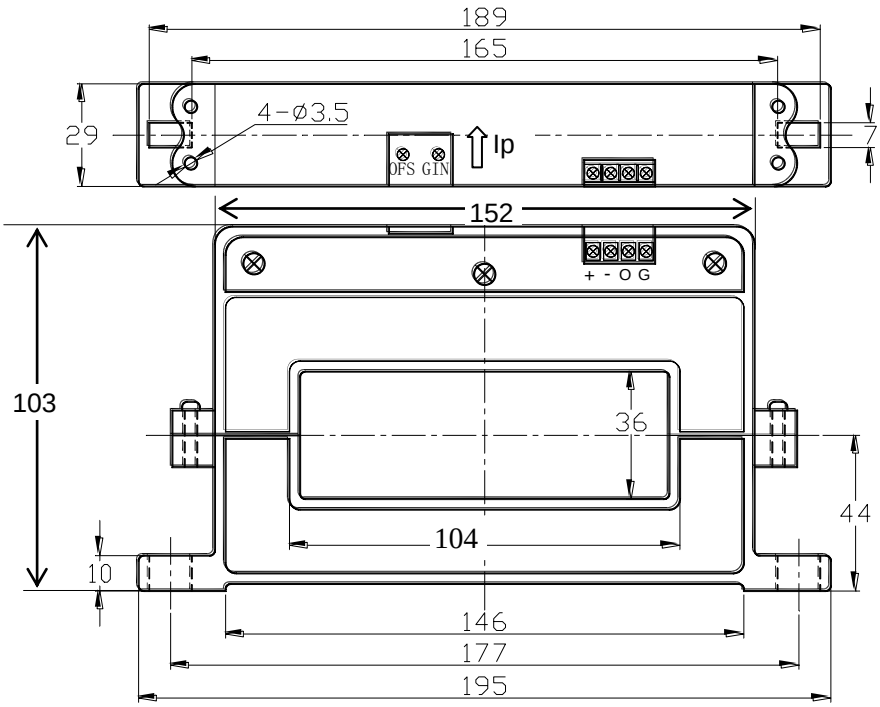
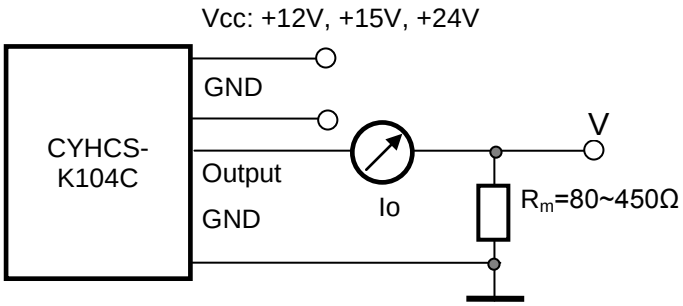
## General Data

| | |
|---|---|
| Ambient Operating Temperature, | $T_A$ = -25°C ~ +85°C |
| Ambient Storage Temperature, | $T_S$ =-40°C ~ +100°C |

## Dimensions




**Pin Arrangement**

1(+): Vcc
2(-): Ground (GND)
3(O): Output
4(G): Ground (GND)

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

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