

Catalogue Open Loop AC Hall Effect Current Sensors Transducers with Rectangle Windows

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Hall Effect AC Current Sensor CYHCS-BTV

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	acteristics 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), rms	Measuring Range (A)	DC Output voltage	Window Sizes (mm)	Part number
50	0 ~ ±50			CYHCS-BTV-50A-xn
100	0 ~ ± 100]		CYHCS-BTV-100A-xn
200	0 ~ ± 200	x=0: 0-4V ±1.0%		CYHCS-BTV-200A-xn
300	0 ~ ± 300	x=3: 0-5V ±1.0% x=8: 0-10V ±1.0%	20.5x10.5	CYHCS-BTV-300A-xn
400	0 ~ ±400	X=0. 0-10V ±1.076		CYHCS-BTV-400A-xn
500	0 ~ ±500			CYHCS-BTV-500A-xn
600	0 ~ ±600			CYHCS-BTV-600A-xn

(n=2, Vcc= +12VDC ±5%; n=3, Vcc =+15VDC ±5%; n=4, Vcc =+24VDC±5%)

Supply Voltage: V_{cc} =+12V, +15V, +24V± 5% Output Voltage at I_c , T_A =25°C: V_{out} =0- 4V, 0-5V, 0-10VDC

Current Consumption $I_c < 25 \text{mA}$ Galvanic isolation, 50/60Hz, 1min: 2.5kV rms Isolation resistance @ 500 VDC > 500 M Ω

Accuracy and Dynamic performance data

Accuracy at I_r , T_A =25°C, <1.0% FS Linearity from 0 to I_r , T_A =25°C, <0.5% FS Zero Output Voltage, T_A =25°C, <50mV Hysteresis offset voltage: $<\pm25$ mV Thermal Drift of Offset Voltage, $<\pm1.0$ mV/°C Frequency bandwidth (- 3 dB): <20Hz-20kHz Response Time at 90% of I_P (f=1k Hz) <200ms

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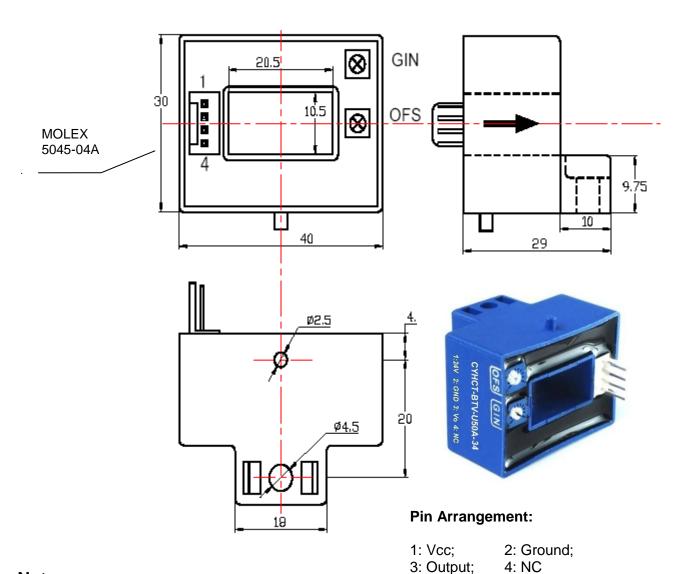
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Ambient Operating Temperature, Ambient Storage Temperature,

 $T_A = -25^{\circ}\text{C} \sim +85^{\circ}\text{C}$ $T_S = -55^{\circ}\text{C} \sim +100^{\circ}\text{C}$

PIN Definition and Dimensions



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.





Hall Effect AC Current Sensor CYHCS-BTC

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 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), rms	Measuring Range (A)	DC Output Current (mA)	Window Size (mm)	Part number
50	0 ~ ±50			CYHCS-BTC-50A-n
100	0 ~ ± 100			CYHCS-BTC-100A-n
200	0 ~ ± 200			CYHCS-BTC-200A-n
300	0 ~ ± 300	4-20±1.0%	20.5x10.5	CYHCS-BTC-300A-n
400	0 ~ ±400			CYHCS-BTC-400A-n
500	0 ~ ±500			CYHCS-BTC-500A-n
600	0 ~ ±600			CYHCS-BTC-600A-n

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

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

Output current: 4-20mADC

Current Consumption $I_c < 25\text{mA} + \text{Output current}$

Galvanic isolation, 50/60Hz, 1min: 3kV rms Isolation resistance @ 500 VDC $> 500 \text{ M}\Omega$

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, T_R 4mA DC Thermal Drift of Offset Current, T_R <±0.005mA/°C Response Time at 90% of T_R T_R < 200ms Load resistance: T_R =20Hz - 20 kHz

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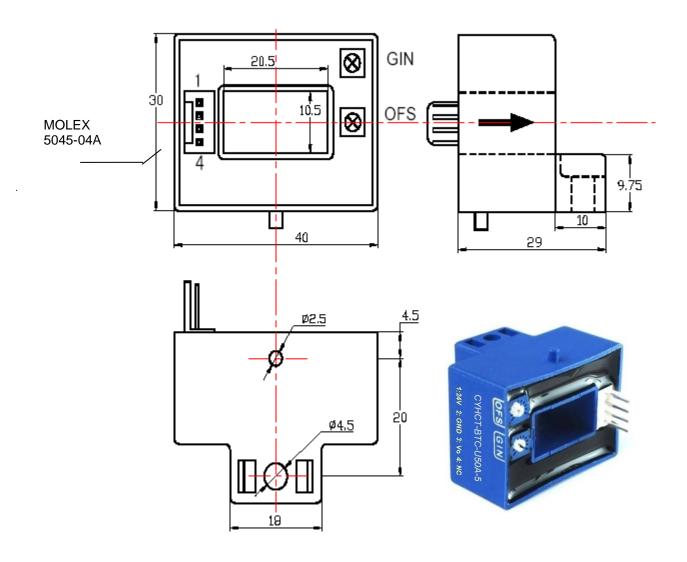
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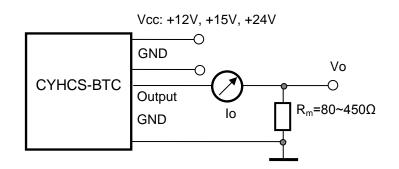


Ambient Operating Temperature, Ambient Storage Temperature,

$T_A = -25^{\circ}\text{C} \sim +85^{\circ}\text{C}$ $T_S = -55^{\circ}\text{C} \sim +100^{\circ}\text{C}$

PIN Definition and Dimensions





Pin Arrangement:

- 1: Vcc;
- 2: Ground;
- 3: Output;
- 4: NC

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Version 1 Released in January 2020 Dr.-Ing. habil. Jigou Liu





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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Hall Effect AC Current Sensor CYHCS-FV

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

Electrical Data

Primary Nominal Current I_r (A), rms	Measuring Range (A)	DC Output Voltage (V)	Window Size (mm)	Part number
200	0~±200			CYHCS-FV-200A-xn
400	0~±400	0. 0. 4) / . 4. 00/		CYHCS-FV-400A-xn
500	0~±500	x=0: 0-4V ±1.0%		CYHCS-FV-500A-xn
600	0~±600	x=3: 0-5V ±1.0% x=8: 0-10V ±1.0%	41x14	CYHCS-FV-600A-xn
800	0~±800	X=0. U-10V ±1.0/6		CYHCS-FV-800A-xn
1000	0~±1000			CYHCS-FV-1000A-xn
2000	0~±2000			CYHCS-FV-2000A-xn

(n=2, *Vcc*= +12VDC±5%; n=3, *Vcc* =+15VDC±5%;; n=4, *Vcc* =+24VDC±5%)

Supply Voltage V_{cc} = +12V, +15V, +24VDC \pm 5% Output Voltage at I_r , T_A =25°C: V_{out} =0- 4V, 0-5V, 0-10VDC

 $\begin{array}{ll} \text{Current Consumption} & I_c < 25 \text{mA} \\ \text{Galvanic isolation, 50/60Hz, 1min:} & 3 \text{kV rms} \\ \text{Output Impedance:} & R_{\text{out}} < 150 \Omega \\ \text{Load resistance:} & 10 \text{k} \Omega \\ \end{array}$

Accuracy and Dynamic performance data

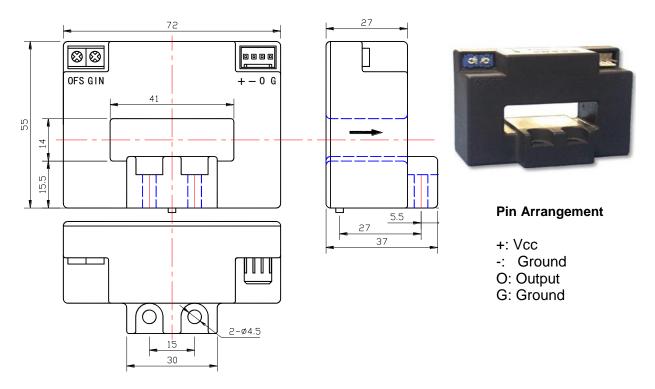
Accuracy at I_r , T_A =25°C, $X < \pm 1.0\%$ FS Linearity from 0 to I_r , T_A =25°C, $E_L < \pm 0.5\%$ FS Electric Offset Voltage, T_A =25°C, $V_{oe} < 50$ mV Magnetic Offset Voltage ($I_r \rightarrow 0$) $V_{om} < \pm 20$ mV Thermal Drift of Offset Voltage, $V_{ot} < \pm 1.0$ mV/°C Response Time at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

Case Material: PBT



Ambient Operating Temperature, Ambient Storage Temperature, Unit weight: T_A = -25°C ~ +85°C T_S =-40°C ~ +100°C 217g/unit

Dimensions



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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Hall Effect AC Current Sensor CYHCS-FC

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	Photovoltaic equipment
 Very good linearity 	 Frequency conversion timing equipment
 Using split cores and easy mounting 	 Various power supply
Less power consumption	 Uninterruptible power supplies (UPS)
Window structure	 Electric welding machines
 Electrically isolating the output of the 	 Transformer substation
transducer from the current carrying	 Numerical controlled machine tools
conductor	Electric powered locomotive
No insertion loss	Microcomputer monitoring
 Current overload capability 	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
200	0~±200			CYHCS-FC-200A-n
400	0~±400			CYHCS-FC-400A-n
500	0~±500			CYHCS-FC-500A-n
600	0~±600	4-20 ±1.0%	41x14	CYHCS-FC-600A-n
800	0~±800			CYHCS-FC-800A-n
1000	0~±1000			CYHCS-FC-1000A-n
2000	0~±2000			CYHCS-FC-2000A-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 $I_c < 25 \text{mA} + \text{Output current}$

Galvanic isolation, 50/60Hz, 1min: 3kV rms Isolation resistance @ 500 VDC $> 500 \text{ M}\Omega$

Accuracy and Dynamic performance data

Accuracy at I_n , T_A =25°C, $X < \pm 1.0\%$ FS Linearity from 0 to I_n , T_A =25°C, $E_L < \pm 0.5\%$ FS Electric Offset current, T_A =25°C, T_A =25

Frequency Bandwidth (-3dB), $f_b = 20$ Hz- 20 kHz

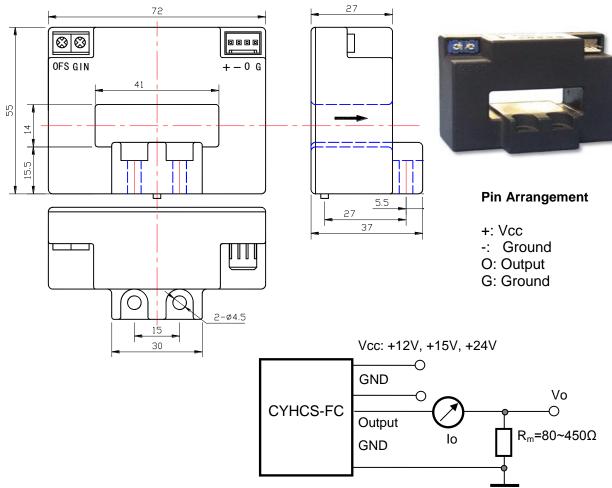
Case Material: PBT



Ambient Operating Temperature, Ambient Storage Temperature, Unit weight:

$$T_A$$
 = -25°C ~ +85°C T_S =-40°C ~ +100°C 217g/unit

Dimensions



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





Hall Effect AC Current Sensor CYHCS-FAV

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 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 	 Photovoltaic 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), rms	Measuring Range (A)	DC Output Voltage (V)	Window size (mm)	Part number
400	0~±400			CYHCS-FAV-400A-xn
500	0~±500	v. 0. 0. 4\/ . 4. 00/		CYHCS-FAV-500A-xn
600	0~±600	x=0: 0-4V ±1.0% x=3: 0-5V ±1.0%		CYHCS-FAV-600A-xn
800	0~±800	x=3. 0-5 v ±1.0% x=8: 0-10 V ±1.0%	51x13	CYHCS-FAV-800A-xn
1000	0~±1000	X=0. U-10V ±1.0/0		CYHCS-FAV-1000A-xn
1500	0~±1500			CYHCS-FAV-1500A-xn
2000	0~±2000			CYHCS-FAV-2000A-xn

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

Supply Voltage V_{cc} = +12V, +15V, +24VDC ± 5% V_{out} =0- 4V, 0-5V, 0-10VDC Output Voltage at I_r , T_A =25°C:

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Current Consumption $I_c < 25 \text{mA}$ 3kV rms Galvanic isolation, 50/60Hz, 1min: $R_{\rm out}$ < 150 Ω Output Impedance: Load resistance: $10k\Omega$

Accuracy and Dynamic performance data

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

PBT

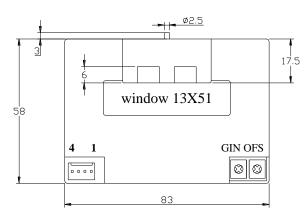
Case Material:

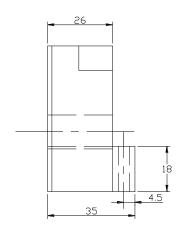


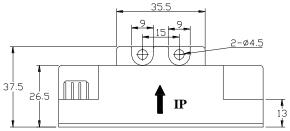
Ambient Operating Temperature, Ambient Storage Temperature, Unit weight:

$$T_A = -25$$
°C ~ +85°C $T_S = -40$ °C ~ +100°C 300g/unit

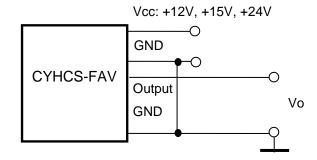
Dimensions











Pin Arrangement

1: Vcc

2: Ground

3: Output

4: Ground

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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Hall Effect AC Current Sensor CYHCS-FAC

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 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	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
No insertion lossCurrent overload capability	Microcomputer monitoringElectric power network monitoring

Electrical Data

Primary Nominal Current I_r (A), rms	Measuring Range (A)	DC Output Current (mA)	Aperture Diameter (mm)	Part number
400	0~±400			CYHCS-FAC-400A-n
500	0~±500			CYHCS-FAC-500A-n
600	0~±600			CYHCS-FAC-600A-n
800	0~±800	4-20 ±1.0%	51x13	CYHCS-FAC-800A-n
1000	0~±1000			CYHCS-FAC-1000A-n
1500	0~±1500			CYHCS-FAC-1500A-n
2000	0~±2000			CYHCS-FAC-2000A-n

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

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

Output current: 4-20mADC

Current Consumption $I_c < 25\text{mA} + \text{Output current}$

Galvanic isolation, 50/60Hz, 1min: 3kV rms Isolation resistance @ 500 VDC $> 500 \text{ M}\Omega$

Accuracy and Dynamic performance data

Accuracy at I_n , T_A =25°C, $X < \pm 1.0\%$ FS Linearity from 0 to I_n , T_A =25°C, $E_L < \pm 0.5\%$ FS Electric Offset current, T_A =25°C, + 0.005 4mA DC Thermal Drift of Offset Current, + 0.005 4mA DC Response Time at 90% of + 0.005 4mA DC + 0.005 4

Frequency Bandwidth (-3dB), $f_b = 20$ Hz - 20 kHz

Case Material: PBT

Tel:

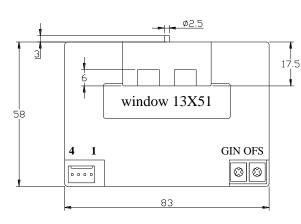
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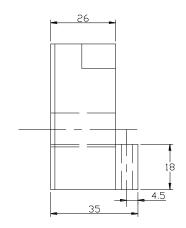


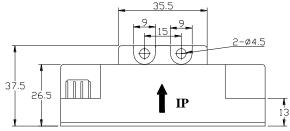
Ambient Operating Temperature, Ambient Storage Temperature, Unit weight:

$$T_A = -25$$
°C ~ +85°C
 $T_S = -40$ °C ~ +100°C
300g/unit

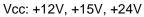
Dimensions

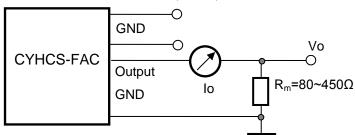












Pin Arrangement

1: Vcc 2: Ground

3: Output

4: Ground

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



Split Core Hall Effect AC Current Sensor CYHCS-KD

This Spilt 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
 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 	 Photovoltaic equipment Frequency conversion timing equipment Various power supply Uninterruptible power supplies (UPS) Electric welding machines Transformer substation Numerical controlled machine tools
conductor No insertion loss	Electric powered locomotiveMicrocomputer monitoring
Current overload capability	Electric power network monitoring

Electrical Data

Primary Nominal RMS Current <i>I_r</i> (A), (AC)	Measuring Range (A), AC	Output current Vo (DC)	Window Size (mm)	Part number
300	± 300	·		CYHCS-KD300A
500	± 1000			CYHCS-KD500A
600	± 1200	E\/	64 v 46	CYHCS-KD600A
800	± 1600	5V	64 x 16	CYHCS-KD800A
1000	± 2000			CYHCS-KD1000A
2000	± 3000			CYHCS-KD2000A

Supply Voltage V_{cc} = ±12~15VDC ± 5%

Current Consumption $I_c < 25 \text{mA}$ Galvanic isolation, 50/60Hz, 1min: 3kV rms

Isolation resistance @ 500 VDC $> 500 \text{ M}\Omega$

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, $E_L < 0.5\%$ FS Electric Offset Voltage, T_A =25°C, 20mV

Thermal Drift of Offset Voltage, $V_{ot} < \pm 0.5 \text{mV/}^{\circ}\text{C}$ Frequency bandwidth (- 3 dB): DC-10kHz

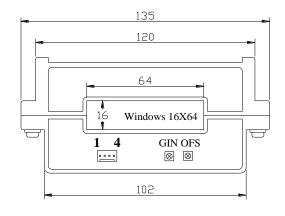
Response Time at 90% of I_P (f=1k Hz) $t_r \le 200$ ms Load resistance: ≥ 10 k Ω

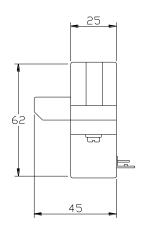
General Data

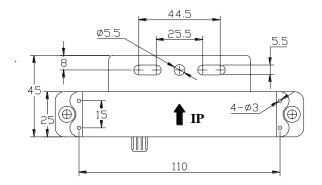
Ambient Operating Temperature, $T_A = -25^{\circ}\text{C} \sim +85^{\circ}\text{C}$ Ambient Storage Temperature, $T_S = -40^{\circ}\text{C} \sim +100^{\circ}\text{C}$



Dimensions







Pin Arrangement

1: +15V 2: -15V 3: Output 4: GND



Notes:

- 5. Connect the terminals of power source, output respectively and correctly, never make wrong connection.
- 6. Two potentiometers can be adjusted, only if necessary, by turning slowly to the required accuracy with a small screwdriver.
- 7. The best accuracy can be achieved when the window is fully filled with bus-bar (current carrying conductor).
- 8. 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.



Split Core Hall Effect AC Current Sensor CYHCS-KDA

This Spilt 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
 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 	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
No insertion lossCurrent overload capability	Microcomputer monitoringElectric power network monitoring

Electrical Data

Primary Nominal RMS	Measuring	Output current	Window Size	Part number
Current I_r (A), (AC)	Range (A), AC	lo (DC)	(mm)	
300	± 600			CYHCS-KDA300A
500	± 1000			CYHCS-KDA500A
800	± 1600	4 -20mA	64 x 16	CYHCS-KDA800A
1000	± 2000	4 -2011IA	04 X 10	CYHCS-KDA1000A
1500	± 2500			CYHCS-KDA1500A
2000	± 3000			CYHCS-KDA2000A

Supply Voltage V_{cc} = +24VDC \pm 5% Current Consumption I_c < 25mA +lo Galvanic isolation, 50/60Hz, 1min: 3kV rms Isolation resistance @ 500 VDC > 500 M Ω

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, $E_L < 0.5\%$ FS Electric Offset Current, T_A =25°C, T_A =25°C, T_A =25°C, T_A =25°C, T_A =25°C, T_A =25°C, T_A =20.05mA/°C Frequency bandwidth (- 3 dB): T_A =20Hz-20kHz Response Time at 90% of T_A =1k Hz) T_A =200ms Load resistance: T_A =25°C, T_A =200ms

General Data

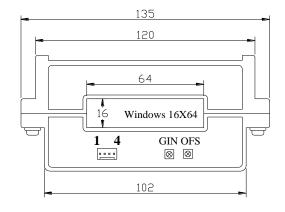
Ambient Operating Temperature, $T_A = -25^{\circ}\text{C} \sim +85^{\circ}\text{C}$ Ambient Storage Temperature, $T_S = -40^{\circ}\text{C} \sim +100^{\circ}\text{C}$

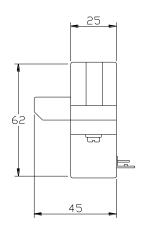
+49 (0) 8121-25 74 100 +49 (0) 8121-25 74 101

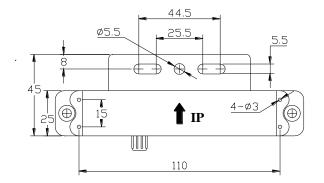
Fax: +49 (0) 8121-25 74 1 Email: info@chenyang.de Internet: www.chenyang.de



Dimensions







Pin Arrangement

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

4: GND



Notes:

- 9. Connect the terminals of power source, output respectively and correctly, never make wrong connection.
- 10. Two potentiometers can be adjusted, only if necessary, by turning slowly to the required accuracy with a small screwdriver.
- 11. The best accuracy can be achieved when the window is fully filled with bus-bar (current carrying conductor).
- 12. 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.





Split Core Hall Effect AC Current Sensor CYHCS-KV

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 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 	 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), rms	Measuring Range (A)	DC Output Voltage (V)	Window size (mm)	Part number
300	0~±300			CYHCS-KV-300A-xn
500	0~±500	0. 0. 4) / . 4. 00/		CYHCS-KV-500A-xn
600	0~±600	x=0: 0-4V ±1.0% x=3: 0-5V ±1.0%		CYHCS-KV-600A-xn
800	0~±800	x=8: 0-10V ±1.0%	64x16	CYHCS-KV-800A-xn
1000	0~±1000	X=0. U-10V ±1.0/0		CYHCS-KV-1000A-xn
1500	0~±1500			CYHCS-KV-1500A-xn
2000	0~±2000			CYHCS-KV-2000A-xn

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

Supply Voltage V_{cc} = +12V, +15V, +24VDC ± 5% Output Voltage at I_r , $T_A=25$ °C: $V_{\text{out}} = 0-4\text{V}, 0-5\text{V}, 0-10\text{VDC}$ **Current Consumption** $I_c < 25 \text{mA}$ Galvanic isolation, 50/60Hz, 1min: 3kV rms Output Impedance: $R_{\rm out}$ < 150 Ω Load resistance: $10k\Omega$ Accuracy at I_r , $T_A=25^{\circ}$ C, X <±1.0% FS Linearity from 0 to I_r , $T_A=25$ °C, $E_L < \pm 0.5\% FS$ V_{oe} < 50 mV Electric Offset Voltage, T_A =25°C, Magnetic Offset Voltage $(I_r \rightarrow 0)$ V_{om} < ± 20 mV Thermal Drift of Offset Voltage, $V_{ot} < \pm 1.0 \text{mV/}^{\circ}\text{C}$ Response Time at 90% of I_P (f=1k Hz) t_r < 200ms Frequency Bandwidth (-3dB), $f_b = 20 \text{Hz} - 20 \text{ kHz}$ Ambient Operating Temperature, $T_A = -25^{\circ}\text{C} \sim +85^{\circ}\text{C}$ Ambient Storage Temperature, $T_S = -40^{\circ}\text{C} \sim +100^{\circ}\text{C}$ Unit weight: 300g/unit

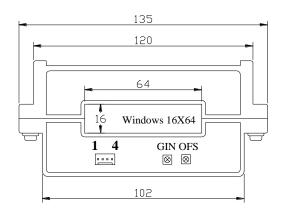
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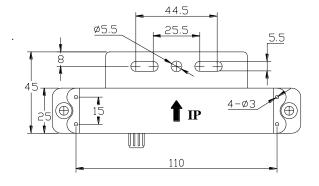
Email: info@chenyang.de Internet: www.chenyang.de

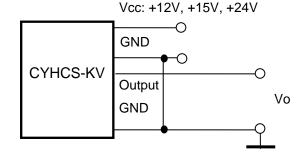
PBT

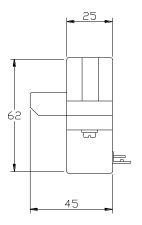


Dimensions











Pin Arrangement

1: Vcc

2: Ground

3: Output

4: Ground

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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Split Core Hall Effect AC Current Sensor CYHCS-KC

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 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 	 Photovoltaic equipment Frequency conversion timing equipment Various power supply Uninterruptible power supplies (UPS) Electric welding machines Transformer substation Numerical controlled machine tools
conductor No insertion loss	Electric powered locomotiveMicrocomputer monitoring
 Current overload capability 	 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
300	0~±300			CYHCS-KC-300A-n
500	0~±500			CYHCS-KC-500A-n
600	0~±600			CYHCS-KC-600A-n
800	0~±800	4-20 ±1.0%	64x16	CYHCS-KC-800A-n
1000	0~±1000			CYHCS-KC-1000A-n
1500	0~±1500			CYHCS-KC-1500A-n
2000	0~±2000			CYHCS-KC-2000A-n

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

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

Output current: 4-20mADC

Current Consumption $I_c < 25 \text{mA} + \text{Output current}$

Galvanic isolation, 50/60Hz, 1min: 3kV rms Isolation resistance @ 500 VDC > 500 M Ω

Accuracy and Dynamic performance data

Accuracy at I_r , T_A =25°C, $X < \pm 1.0\%$ FS Linearity from 0 to I_r , T_A =25°C, $E_L < \pm 0.5\%$ FS Electric Offset current, T_A =25°C, $+ \pm 0.005$ AmA DC Thermal Drift of Offset Current, $+ \pm 0.005$ AmA/°C Response Time at 90% of I_P $+ \pm 0.005$ $+ \pm 0.005$ Examples at 200 MeV $+ \pm 0.005$ $+ \pm 0.$

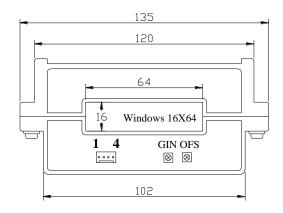
Frequency Bandwidth (-3dB), $f_b = 20$ Hz - 20 kHz

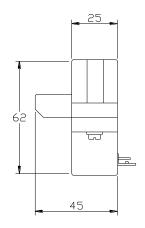
General Data

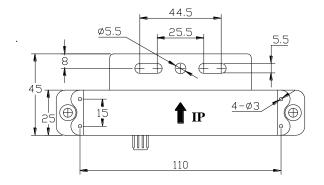
Ambient Operating Temperature, $T_A = -25^{\circ}\text{C} \sim +85^{\circ}\text{C}$ Ambient Storage Temperature, $T_S = -40^{\circ}\text{C} \sim +100^{\circ}\text{C}$ Unit weight: 300g/unit Case Material: PBT



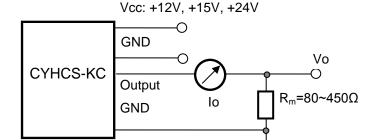
Dimensions











Pin Arrangement

1: Vcc

2: Ground (GND)

3: Output

4: 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





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

Electrical Data

Primary Nominal Current I_r (A), rms	Measuring Range (A)	DC Output Voltage (V)	Window size (mm)	Part number
500	0~±500			CYHCS-KF2V-500A-xn
600	0~±600	0. 0. 4)/ .4 00/		CYHCS-KF2V-600A-xn
800	0~±800	x=0: 0-4V ±1.0%		CYHCS-KF2V-800A-xn
1000	0~±1000	x=3: 0-5V ±1.0% x=8: 0-10V ±1.0%	85 x 27	CYHCS-KF2V-1000A-xn
1500	0~±1500	X=0. 0-10V ±1.0/6		CYHCS-KF2V-1500A-xn
2000	0~±2000			CYHCS-KF2V-2000A-xn
3000	0~±3000			CYHCS-KF2V-3000A-xn

(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°C: V_{out} =0- 4V, 0-5V, 0-10VDC

Current Consumption $I_c < 25 \text{mA}$ Galvanic isolation, 50/60Hz, 1min: 3kV rms Output Impedance: $R_{\text{out}} < 150 \Omega$ Load resistance: 10k Ω

Accuracy and Dynamic performance data

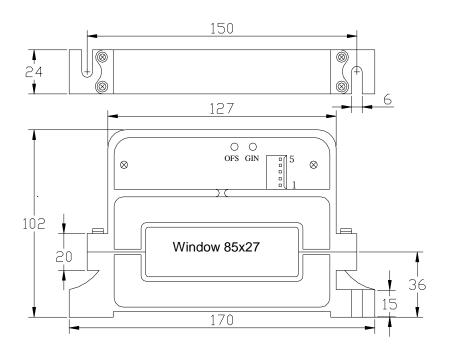
Accuracy at I_r , T_A =25°C, $X < \pm 1.0\%$ FS Linearity from 0 to I_r , T_A =25°C, $E_L < \pm 0.5\%$ FS Electric Offset Voltage, T_A =25°C, $V_{oe} < 50$ mV Magnetic Offset Voltage ($I_r \rightarrow 0$) $V_{om} < \pm 20$ mV Thermal Drift of Offset Voltage, $V_{ot} < \pm 1.0$ mV/°C Response Time at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



Ambient Operating Temperature, Ambient Storage Temperature, Case Material:

$$T_A = -25$$
°C ~ +85°C $T_S = -40$ °C ~ +100°C PBT

Dimensions





CYHCS-KF2V Output GND Vo

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





Split Core Hall Effect AC Current Sensor CYHCS-KF2C

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 accuracyVery good linearity	Photovoltaic equipment Frequency conversion timing equipment
 Using split cores and easy mounting Less power consumption 	 Various power supply Uninterruptible power supplies (UPS)
Window structure	Electric welding machines
 Electrically isolating the output of the transducer from the current carrying conductor 	 Transformer substation Numerical controlled machine tools Electric powered locomotive
No insertion lossCurrent overload capability	Microcomputer monitoring 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			CYHCS-KF2C-500A-n
600	0~±600			CYHCS-KF2C-600A-n
800	0~±800			CYHCS-KF2C-800A-n
1000	0~±1000	4-20 ±1.0%	85 x 27	CYHCS-KF2C-1000A-n
1500	0~±1500			CYHCS-KF2C-1500A-n
2000	0~±2000			CYHCS-KF2C-2000A-n
3000	0~±3000			CYHCS-KF2C-3000A-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 $I_c < 25 \text{mA} + \text{Output current}$

Galvanic isolation, 50/60Hz, 1min: 3kV rms Isolation resistance @ 500 VDC $> 500 \text{ M}\Omega$

Accuracy and Dynamic performance data

Accuracy at I_r , T_A =25°C, $X < \pm 1.0\%$ FS Linearity from 0 to I_r , T_A =25°C, $E_L < \pm 0.5\%$ FS Electric Offset current, T_A =25°C, $E_L < \pm 0.005$ mA/°C Thermal Drift of Offset Current, $E_L < \pm 0.005$ mA/°C Response Time at 90% of $E_L < \pm 0.005$ mA/°C

Response Time at 90% of I_P $t_r < 200$ ms Load resistance: 80-450 Ω

Frequency Bandwidth (-3dB), $f_b = 20$ Hz - 20 kHz

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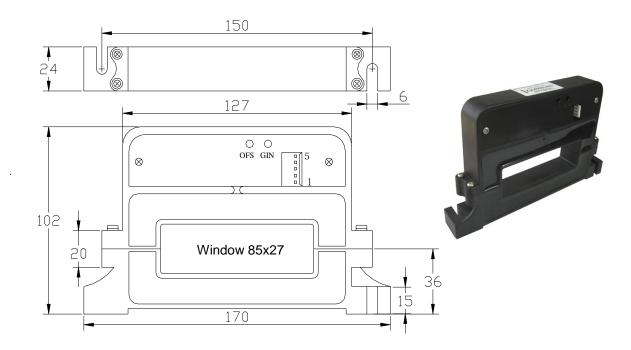
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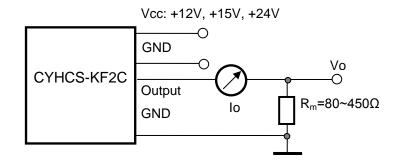
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Ambient Operating Temperature, Ambient Storage Temperature, Case Material: T_A = -25°C ~ +85°C T_S =-40°C ~ +100°C PBT

Dimensions





Pin Arrangement

1: Vcc

2: Ground (GND)

3: Ground (GND)

4: NC

5: Output

GIN: gain adjustment OFS: offset adjustment

Notes:

- 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





Split Core Hall Effect AC Current Sensor CYHCS-K104V

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 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	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
 No insertion loss 	Microcomputer monitoring
 Current overload capability 	 Electric power network monitoring

Electrical Data

Primary Nominal Current I_r (A), rms	Measuring Range (A)	DC Output Voltage (V)	Window size (mm)	Part number
500	0~±500			CYHCS-K104V-500A-xn
1000	0~±1000	0. 0. 4) / . 4. 00/		CYHCS-K104V-1000A-xn
1500	0~±1500	x=0: 0-4V ±1.0%		CYHCS-K104V-1500A-xn
2000	0~±2000	x=3: 0-5V ±1.0% x=8: 0-10V ±1.0%	104 x 36	CYHCS-K104V-2000A-xn
3000	0~±3000	X=0. U-10V ±1.0/0		CYHCS-K104V-3000A-xn
4000	0~±4000			CYHCS-K104V-4000A-xn
5000	0~±5000			CYHCS-K104V-5000A-xn

(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_p , T_A =25°C: V_{out} =0- 4V, 0-5V, 0-10VDC

 $\begin{array}{ll} \text{Current Consumption} & I_c < 25 \text{mA} \\ \text{Galvanic isolation, 50/60Hz, 1min:} & 3 \text{kV rms} \\ \text{Output Impedance:} & R_{\text{out}} < 150 \Omega \\ \text{Load resistance:} & 10 \text{k} \Omega \\ \end{array}$

Accuracy and Dynamic performance data

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

Frequency Bandwigth (-30B), $I_b = 20$ Hz - 20 KHz

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Internet: www.chenyang.de

Case Material: PBT

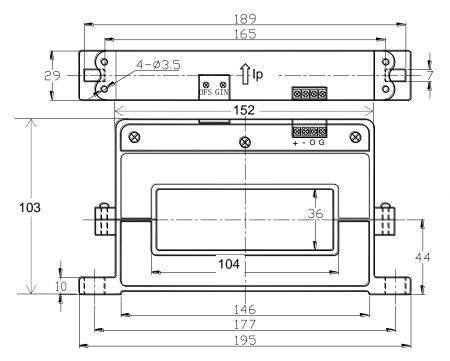


Ambient Operating Temperature, Ambient Storage Temperature,

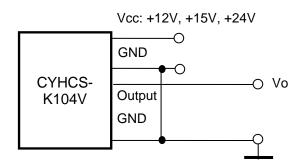
$$T_A = -25^{\circ}\text{C} \sim +85^{\circ}\text{C}$$

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

Dimensions







Pin Arrangement

1(+): 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





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	Photovoltaic equipment
 Very good linearity 	 Frequency conversion timing equipment
 Using split cores and easy mounting 	 Various power supply
Less power consumption	 Uninterruptible power supplies (UPS)
Window structure	Electric welding machines
Electrically isolating the output of the	Transformer substation
transducer from the current carrying	 Numerical controlled machine tools
conductor	Electric powered locomotive
No insertion loss	Microcomputer monitoring
 Current overload capability 	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			CYHCS-K104C-500A-n
1000	0~±1000			CYHCS-K104C-1000A-n
1500	0~±1500			CYHCS-K104C-1500A-n
2000	0~±2000	4-20 ±1.0%	104 x 36	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%

Tel:

Fax:

Email: info@chenyang.de

Internet: www.chenyang.de

Output current: 4-20mADC

Current Consumption $I_c < 25 \text{mA} + \text{Output current}$

Galvanic isolation, 50/60Hz, 1min: 3kV rms Isolation resistance @ 500 VDC > 500 M Ω

Accuracy and Dynamic performance data

Accuracy at I_r , T_A =25°C, $X < \pm 1.0\%$ FS Linearity from 0 to I_r , T_A =25°C, $E_L < \pm 0.5\%$ FS Electric Offset current, T_A =25°C, $E_L < \pm 0.005$ mA/°C Thermal Drift of Offset Current, $E_L < \pm 0.005$ mA/°C Response Time at 90% of $E_L < \pm 0.005$ mS Load resistance: 80-450 $E_L < \pm 0.005$ mS

Load resistance: $80-450\Omega$ Frequency Bandwidth (-3dB), $f_b = 20$ Hz - 20 kHz

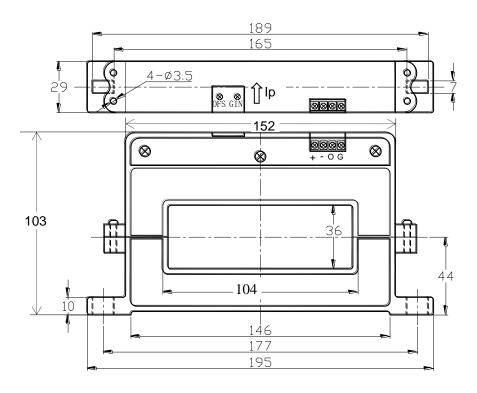
Case Material: PBT



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

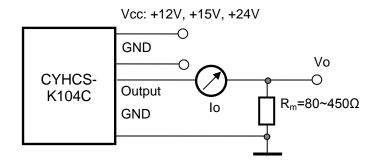
1(+): Vcc

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





Split Core Hall Effect AC Current Sensor CYHCS-C5

This Hall Effect current sensor is based on open loop principle and can be used for measurement of AC currents.

Product Characteristics	Applications
 Excellent accuracy Very good linearity Small size 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 Electrolyzing and electroplating equipment Electric powered locomotive Microcomputer monitoring Electric power network monitoring

Electrical Data

Measuring range M	300A ~ 6000A AC	
Linearity range	1.5 x M (for 300A ~ 4000A), 6500A (for >4000A)	
Overload capacity	5 x M _{max} (maximum measuring range)	
Nominal output signals	0-4V, 0-5V, 0-10V, -5V~+5V, 0-20mA, 4-20mA, -20mA~+20mA,	
Supply voltage	+12VDC, +15VDC, +24VDC, ±12VDC, ±15VDC	
Current consumption	18mA ~ 50mA + output current	
Galvanic isolation	3KV RMS/50Hz/min	

Accuracy and Dynamic Performances

Zero offset voltage	±20	mV
Hysteresis error	±10	mV
Thermal drift of offset current	≤500	ppm/°C
Response time (tracing output)	≤10 (di/dt=50A/μs)	μs
Accuracy	±1.0	%
Linearity	≤1.0	%FS

General Data

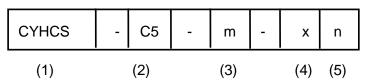
Operating temperature	-10 ~ +80	°C
Storage temperature	-25 ~ +85	°C

Tel:

Fax:



Definition of Part number:



(1)	(2)	(3)	(4)	(5)
Series name	Case style	Rated Input current rms (m)	Output signal	Power supply
СҮНСТ	C5	m = 300A, 400A, 500A, 600A, 800A, 1000A, 2000A, 3000A, 4000A, 5000A, 6000A	x=0: 0-4V DC x=3: 0-5V DC x=4: 0-20mA DC x=5: 4-20mA DC x=8: 0-10V DC	n=2: +12V DC n=3: +15V DC n=4: +24V DC n=5: ±12V DC n=6: ±15V DC

Example 1: CYHCS-C5-1000A -34, Hall Effect AC Current sensor with

Output signal: 0-5V DC Power supply: +24V DC

Rated input current: 0-1000A AC

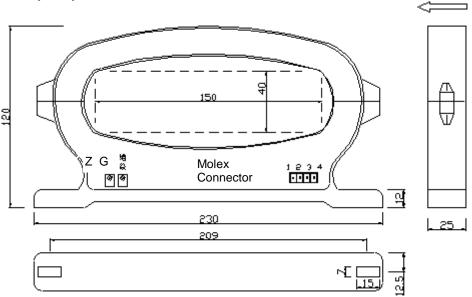
Example 2: CYHCS-C5-1000A -56, Hall Effect

AC Current sensor with Output current: 4-20mA DC Power supply: ±15V DC

Rated input current: 0-1000A AC



DIMENSIONS (mm)





CONNECTION

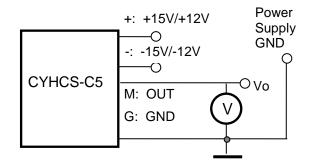
The current carrying cable must pass through the window. The phase of output is the same as that of the current passing the window in the direction of the arrow indicated on the case.

a) Wiring of Sensors Using Double Power Supplies

Voltage Output

1(+): +15V/+12V Power Supply 2(-): -15V/-12V Power Supply

3(M): Output 4(G): Ground



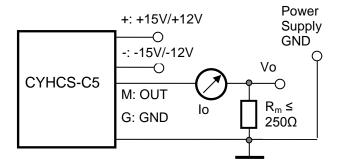
Relation between Input and Output:

Sensor CYHCS-C5-1000A-35			
Input current (A)	Output voltage (V)		
0	0		
250	1.25		
500	2.5		
750	3.75		
1000	5		

Current Output

1(+): +15V/+12V Power Supply 2(-): -15V/-12V Power Supply

3(M): Output 4(G): Ground



Relation between Input and Output (for $R_m=250 \Omega$):

Sensor CYHCS-C5-1000A-45				
Input current (A)	Output current Io(mA)	Output voltage Vo (V)		
0	0	0		
250	5	1.25		
500	10	2.5		
750	15	3.75		
1000	20	5		

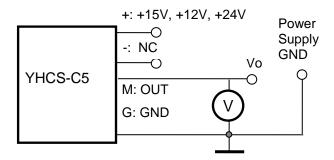


B) Wiring of Sensors Using Single Power Supply

Voltage Output

1(+): +15V, +12V, +24V

2(-): NC 3(M): Output 4(G): Ground



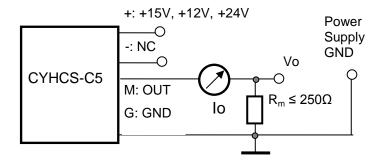
Relation between Input and Output:

Sensor CYHCS-C5-1000A-84		
Output voltage (V)		
0	0	
250	2.5	
500	5	
750	7.5	
1000	10	

Current Output

1(+): +15V, +12V, +24V

2(-): NC 3(M): Output 4(G): Ground



Relation between Input and Output (for $R_m=250 \Omega$):

Sensor CYHCS-C5-1000A-54			
Input current (A)	Output current Io(mA)	Output voltage Vo (V)	
0	4	1	
250	8	2	
500	12	3	
750	16	4	
1000	20	5	

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 case.



Hall Effect AC Current Sensor CYHCS-HBV

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

Electrical Data

Primary Nominal Current I_r (A), rms	Measuring Range (A)	DC Output Voltage (V)	Window Size (mm)	Part number
2000	0~±2000			CYHCS-HBV-2000A-xn
3000	0~±3000	x=0: 0-4V ±1.0% x=3: 0-5V ±1.0% x=8: 0-10V ±1.0%		CYHCS-HBV-3000A-xn
4000	0~±4000		140 x 50	CYHCS-HBV-4000A-xn
5000	0~±5000			CYHCS-HBV-50000A-xn
6000	0~±6000			CYHCS-HBV-6000A-xn
8000	0~±8000			CYHCS-HBV-8000A-xn
9000	0~±9000			CYHCS-HBV-9000A-xn

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

Supply Voltage V_{cc} = +12V, +15V, +24VDC ± 5% V_{out} =0- 4V, 0-5V, 0-10VDC Output Voltage at I_r , T_A =25°C:

Tel:

Fax:

+49 (0) 8121-25 74 100

+49 (0) 8121-25 74 101

Email: info@chenyang.de

Internet: www.chenyang.de

Current Consumption $I_c < 25 \text{mA}$ 3kV rms Galvanic isolation, 50/60Hz, 1min: $R_{\rm out}$ < 150 Ω Output Impedance: Load resistance: $10k\Omega$

Accuracy and Dynamic performance data

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

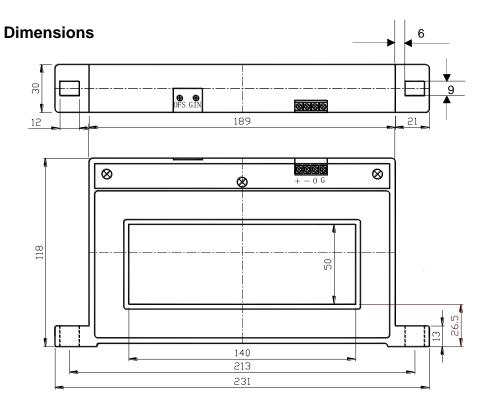
PBT

Case Material:



Ambient Operating Temperature, Ambient Storage Temperature,

$$T_A$$
 = -25°C ~ +85°C
 T_S =-40°C ~ +100°C



Pin Arrangement

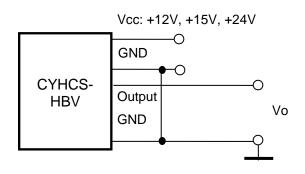
+: Vcc

-: Ground (GND)

O: Output

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





Hall Effect AC Current Sensor CYHCS-HBC

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	Photovoltaic equipment
 Very good linearity 	 Frequency conversion timing equipment
 easy mounting 	 Various power supply
 Less power consumption 	 Uninterruptible power supplies (UPS)
 Window structure 	Electric welding machines
 Electrically isolating the output of the 	Transformer substation
transducer from the current carrying	Numerical controlled machine tools
conductor	Electric powered locomotive
 No insertion loss 	Microcomputer monitoring
 Current overload capability 	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
2000	0~±2000			CYHCS-HBC-2000A-n
3000	0~±3000			CYHCS-HBC-3000A-n
4000	0~±4000			CYHCS-HBC-4000A-n
5000	0~±5000	4-20 ±1.0%	140 x 50	CYHCS-HBC-5000A-n
6000	0~±6000			CYHCS-HBC-6000A-n
8000	0~±8000			CYHCS-HBC-8000A-n
9000	0~±9000			CYHCS-HBC-9000A-n

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

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

Output current: 4-20mADC

Current Consumption $I_c < 25 \text{mA} + \text{Output current}$

Galvanic isolation, 50/60Hz, 1min: 3kV rms Isolation resistance @ 500 VDC $> 500 \text{ M}\Omega$

Accuracy and Dynamic performance data

Accuracy at I_n , T_A =25°C, $X < \pm 1.0\%$ FS Linearity from 0 to I_n , T_A =25°C, $E_L < \pm 0.5\%$ FS Electric Offset current, T_A =25°C, $E_L < \pm 0.005$ mA/°C Thermal Drift of Offset Current, $E_L < \pm 0.005$ mA/°C Response Time at 90% of $E_L < \pm 0.005$ mA/°C $E_L < \pm 0.005$ mA/°C

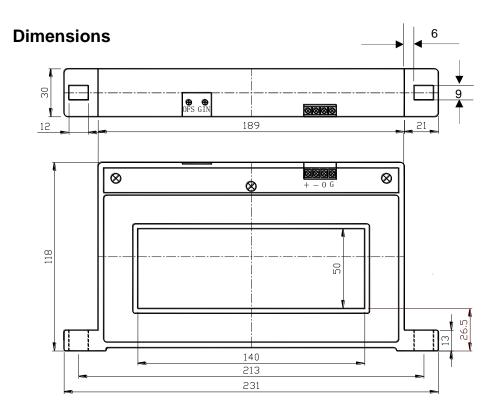
Case Material: PBT



Ambient Operating Temperature, Ambient Storage Temperature,

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

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



Pin Arrangement

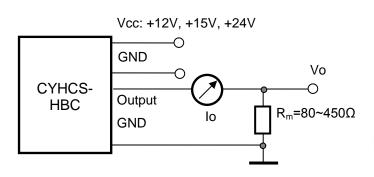
+: Vcc

-: Ground (GND)

O: Output

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