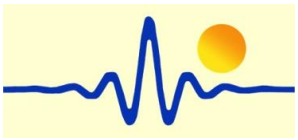

Catalogue

Open Loop Hall Effect AC/DC Current Sensors

Transducers with Round Window

Contact Address:

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Fax: +49 (0) 8121-2574 101
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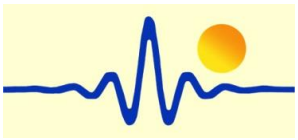

Contents

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Hall Effect AC/DC Current Sensor CYHCS-K200

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 • Small size and encapsulated • Less power consumption • Current overload capability	• **Photovoltaic equipment** • General Purpose Inverters • AC/DC Variable Speed Drivers • Battery Supplied Applications • Uninterruptible Power Supplies (UPS) • Switched Mode Power Supplies

ELECTRICAL CHARACTERISTIC

Part number	CYHCS-K200-10A	CYHCS-K200-20A	CYHCS-K200-30A	CYHCS-K200-50A
Nominal current	10A	20A	30A	50A
Measuring range	0 ~ 20A	0 ~ 40A	0 ~ 60A	0 ~100A
Nominal analogue output voltage	+2.5VDC ± (1V ± 1.0%)			
Supply voltage	+5V ±5%			
Galvanic isolation	50Hz,1min, 2.5kV			

ACCURACY DYNAMIC PERFORMANCE

Zero offset voltage at +25°C	2.5 ±0.5%	V
Magnetic offset voltage	25	mV
Thermal drift of offset voltage	≤ ±0.5	mV/°C
Measuring accuracy	≤1.0	% FS
Linearity	≤1.0	%FS
Response time	<3	μS
Bandwidth (-1db)	DC ~ 200	kHz
Load resistance	≥10	kΩ

GENERAL CHARACTERISTIC

Operating temperature	-25 ~ +85	°C
Storage temperature	-40 ~ +100	°C
Current consumption	20	mA

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Relation between Input Current and Output Voltage

Take the sensor CYHCS-K200-30A as sample, the relation between the input current and output voltage is shown in the table 1, Fig.1 and Fig. 2

Table 1. Relation between the input current and output voltage

Input current (A)	-60	-45	-30	-15	0	15	30	45	60
Output voltage (V)	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5

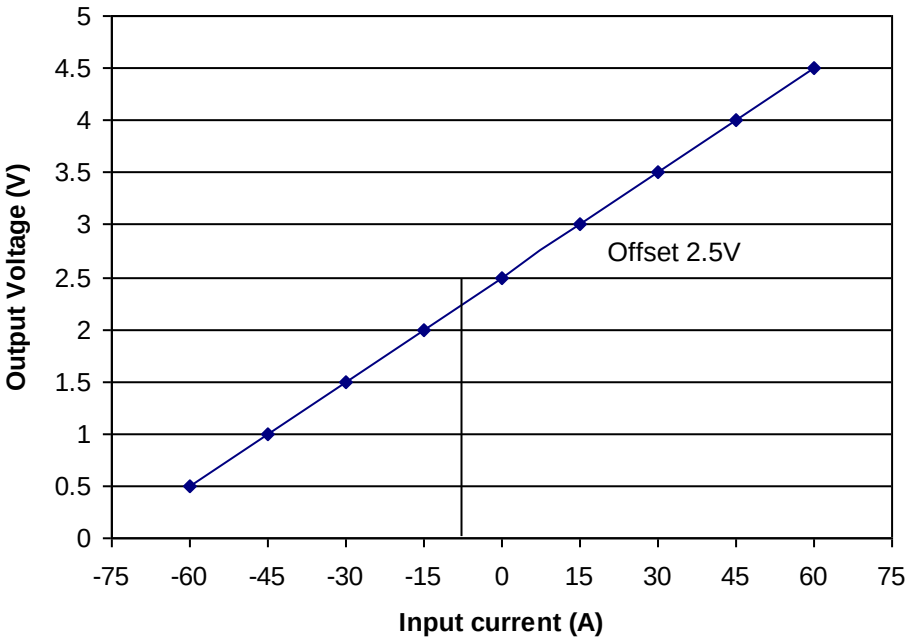


Fig. 1 Relation between the input current (DC) and output voltage (DC)

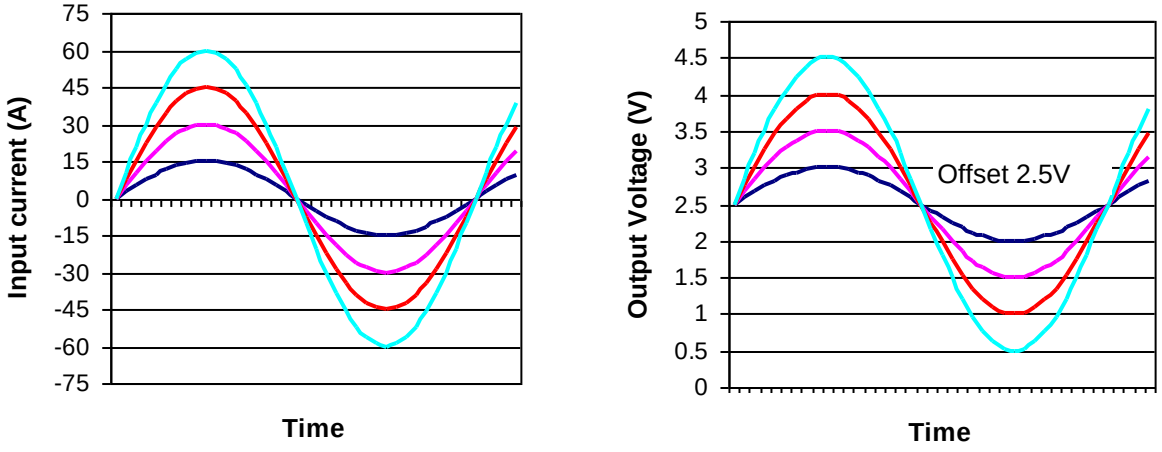
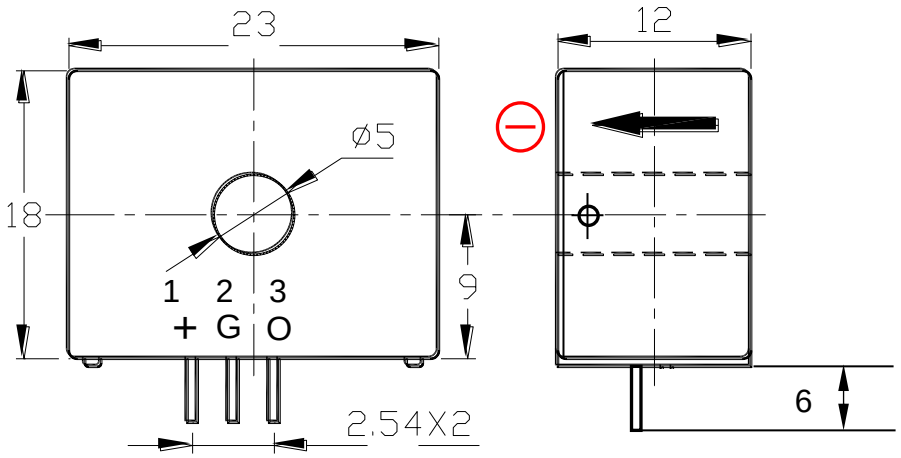


Fig. 2 Relation between the input current (AC) and output voltage (AC)

Dimensions (mm)



Terminal:

1(+): +5V
2(G): Ground
3(O): Output

Fig. 3 Dimensions of CYHCS-K200

Connection

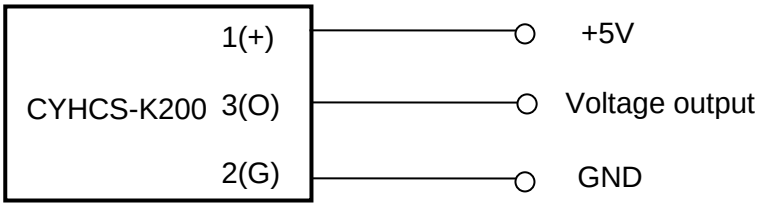
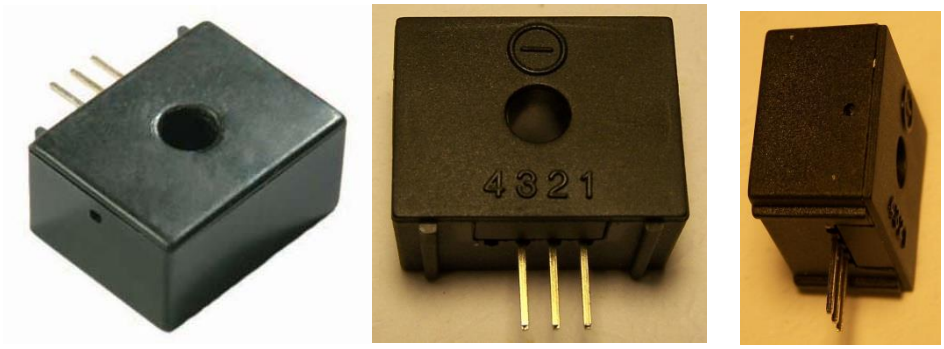


Fig. 4 Connection of CYHCS-K200



Notes:

1. Connect the terminals of power source, output respectively and correctly, never make wrong connection.

2. The in-phase output can be obtained when the current direction of current carrying conductor is the same as the direction of arrow marked above.

3. The best accuracy can be achieved when the window is fully filled with cable (current carrying conductor).

High Accurate Hall Effect AC/DC Current Sensor CYHCS-LTH

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 • 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 RMS Current I_r (A)	Measuring Range (A)	Output voltage (V)	Aperture Diameter (mm)	Part number
10	± 30	4 ±0.2%	Ø20.2	CYHCS-LTH10A
20	± 60			CYHCS-LTH20A
50	± 150			CYHCS-LTH50A
75	± 225			CYHCS-LTH75A
100	± 300			CYHCS-LTH100A
200	± 500			CYHCS-LTH200A
300	± 600			CYHCS-LTH300A
500	± 1000			CYHCS-LTH500A

Supply Voltage	V_{cc}= ±15V ± 5%,
Current Consumption	I_c < 25mA
Galvanic isolation, 50/60Hz, 1min:	5kV
Isolation resistance @ 500 VDC	> 500 MΩ

Accuracy and Dynamic performance data

Accuracy at I_r, T_A=25°C (without offset),	X <0.5%
Linearity from 0 to I_r, T_A=25°C,	E_L <0.2% FS
Electric Offset Voltage, T_A=25°C,	V_{oe} <±15mV
Magnetic Offset Voltage ($I_r \rightarrow 0$)	V_{om} <±15mV
Thermal Drift of Offset Voltage,	V_{ot} <±0.5mV/°C
Response Time at 90% of I_P (f=1k Hz)	t_r < 3µs
Frequency bandwidth (- 3 dB):	DC-20kHz

General Data

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

PIN Definition and Dimensions

Terminal Definition:

+: +15V -: -15V O: Output 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

Hall Effect AC/DC Current Sensor CYHCS-WF2

The sensor CYHCS-WF2 is Hall Effect current sensor for the measurement of AC/DC current. The sensor has a galvanic isolation between the primary conductor and the secondary electronic circuit.

Features and Advantages	Applications
• AC/DC current measurement • Output signal option (±4VAC/DC, ±5VAC/DC) • 35mm DIN Rail • High isolation between primary and secondary circuits • No insertion losses • Easy installation	• **Photovoltaic equipment** • Battery banks, such as, monitoring load current and charge current, verifying operation • Transportation, measuring traction power or auxiliary loads • Phase fired controlled heaters • Directly connect to PLC • Sense motor stalls and short circuits

Specifications

Rated input current (DC current calibration)	5A, 10A, 15A, 20A, 25A, 30A, 40A, 50A, 100A
Linear measuring range	1.2 times of rated input current
Output signals	±4VAC/DC, ±5VAC/DC,
Power supply	±12V DC, ±15V DC
Measuring accuracy	±1.0%
Linearity (10% - 100%), 25°C	≤ ±0.5%
Zero offset voltage	±25mV
Hysteresis error	±25mV
Thermal drift of offset voltage	≤300PPM/°C
Galvanic isolation	3 kV AC, 50Hz, 1min
Isolation resistance	≥20MΩ
Response time	≤15μs
Frequency range	DC/25Hz ~ 20kHz
Overload capacity	20 times of rated current, 1s, interval 300s, repeat 5times
Static Current	10mA
Output load	5mA
Mounting	35mm DIN Rail
Case style and Window size	WF2 with aperture Ø20mm
Operating temperature	-25°C ~ +70°C
Storage temperature	-45°C ~ + 85°C
Relative humidity	≤90%
Mean Time Between Failures (MTBF)	≥ 100k hours

Definition of Part number:

CYHCS	-	WF2	-	m	-	x	n
(1)		(2)		(3)		(4)	(5)

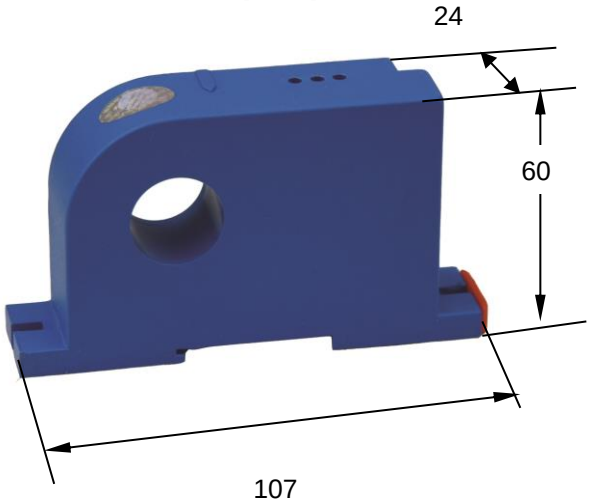
(1)	(2)	(3)	(4)	(5)
Series name	Case style	Rated Input current (m)	Output signal	Power supply
CYHCS	WF2	m = 5A, 10A, 15A, 20A, 25A, 30A, 40A, 50A, 100A	**x=0:** ±4V AC/DC x=**1:** ±5V AC/DC	n**=5:** ±12V DC n**=6:** ±15V DC

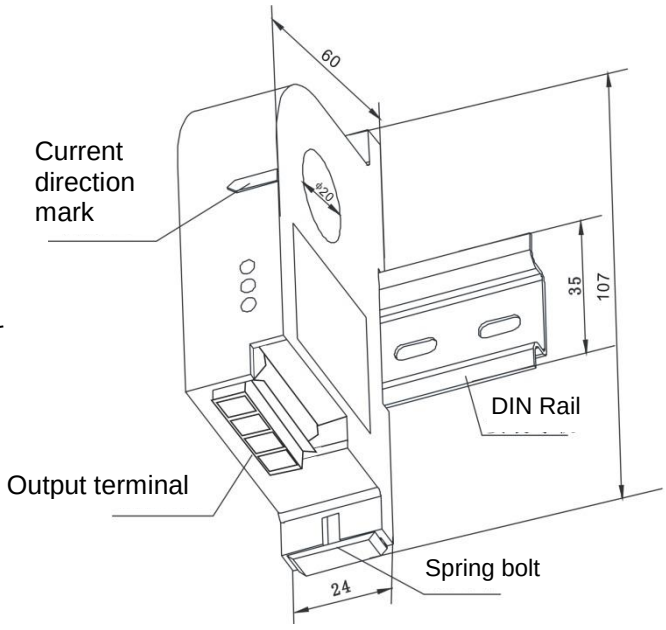
Example 1: CYHCS-WF2-100A -15, Hall Effect AC/DC Current sensor with
Output signal: ±5V AC/DC
Power supply: ±12V DC
Rated input current: 100A AC/DC

Example 2: CYHCS-WF2-10A -05, Hall Effect AC/DC Current sensor with
Output signal: ±4V AC/DC
Power supply: ±12V DC
Rated input current: 10A AC/DC

Example 3: CYHCS-WF2-5A -16, Hall Effect AC/DC Current sensor with
Output signal: ±5V AC/DC
Power supply: ±15V DC
Rated input current: 5A AC/DC

DIMENSIONS (mm)



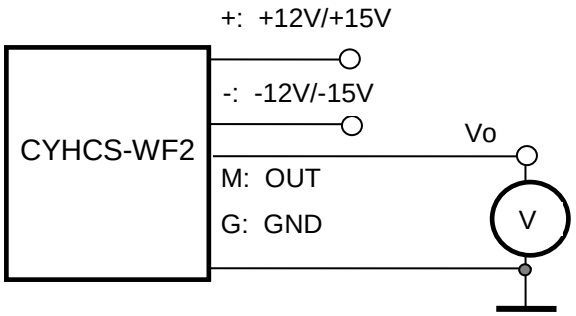


Dimensions: 107x 24 x 60mm, Aperture: Ø20 mm

Pin Arrangement:
1(+): Power supply V+
2(-): Power supply V-
3(G): Ground
4(M): Output

CONNECTION

1(+): +15V/+12V Power Supply
2(-): -15V/-12V Power Supply
3(G): Ground
4(M): Output



Relation between Input and Output:

Sensor CYHCS-WF2-100A-15	
Input current (A)	Output voltage (V)
-100	-5
-75	-3.75
-50	-2.5
-25	-1.25
0	0
25	1.25
50	2.5
75	3.75
100	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 the primary input current is the same as the direction of arrow marked on the transducer case.

Hall Effect AC/DC Current Sensor CYHCS-RC1S

This Hall Effect current sensor can be used for measurement of DC and AC current, pulsed 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	• Frequency conversion timing equipment • Various power supply • Uninterruptible power supplies (UPS) • Electric welding machines • Numerical controlled machine tools • Electrolyzing and electroplating equipment • Electric powered locomotive • Microcomputer monitoring • Electric power network monitoring

Electrical Data

Primary Nominal Current I_r (A)	Primary Current Measuring Range I_p(A) at Vcc=12V	Output Voltage (analog) (V)	Part number
25	± 50	5VDC±2V	CYHCS-RC1S-025A-XC
50	± 100		CYHCS-RC1S-050A-XC
100	± 200		CYHCS-RC1S-100A-XC
200	± 400		CYHCS-RC1S-200A-XC
300	± 600		CYHCS-RC1S-300A-XC
400	± 800		CYHCS-RC1S-400A-XC
500	± 900		CYHCS-RC1S-400A-XC

(Connector: Molex connector C=M; Phoenix Connector: C=P)

Supply Voltage: X=3, V_{cc}= +12VDC± 5%, ; X=4, V_{cc} =+15VDC± 5%; X=5, V_{cc} =+24VDC± 5%,

Current Consumption	I_c < 25mA
RMS Voltage for 2.5kV AC isolation test, 50/60Hz, 1min,	V_{is} <10mA
Output Impedance:	R_{out} < 150Ω
Load Resistance:	R_L > 10kΩ
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} =5.0VDC ±1.0%
Magnetic Offset Voltage (I_r →0)	V_{om} <±15mV
Thermal Drift of Offset Voltage,	V_{ot} <±1.0mV/°C
Thermal Drift (-10°C to 50°C),	T.C. < ±0.1% /°C
Response Time at 90% of I_P (f=1k Hz)	t_r < 5μs
Frequency Bandwidth (-3dB),	f_b = 50 kHz

General Data

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

Relation between Input Current and Output Voltage

Taking the sensor CYHCS-RC1S-100A-3 as sample, the relation between the input current and output voltage is shown in the table 1, Fig.1 and Fig. 2

Table 1. Relation between the input current and output voltage

Input current (A)	-200	-150	-100	-50	0	50	100	150	200
Output voltage (V)	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0

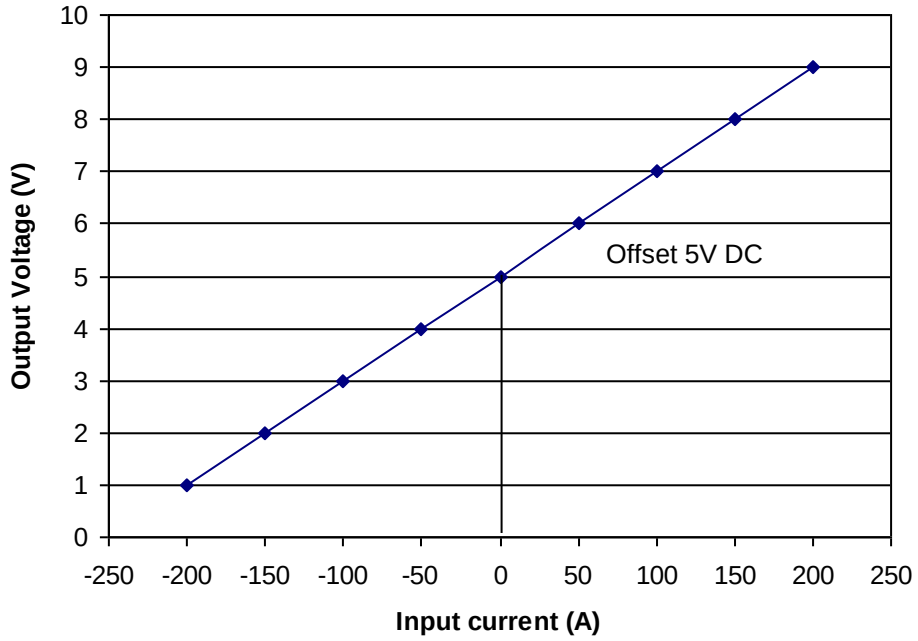


Fig. 1 Relation between the input current (DC) and output voltage (DC)

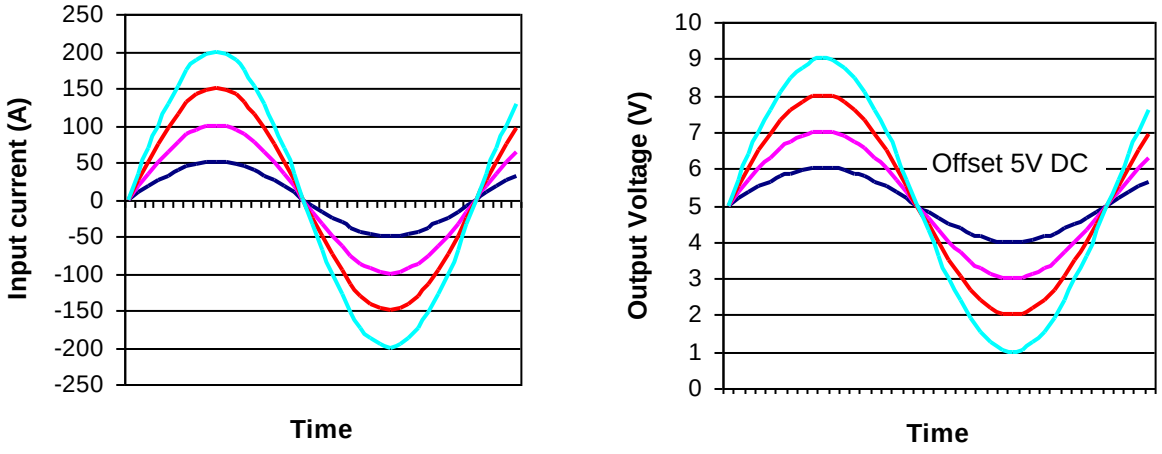
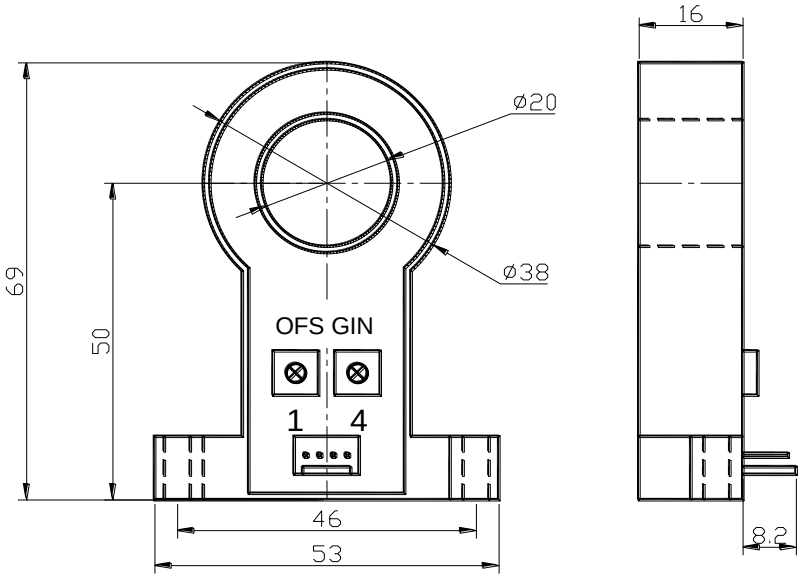
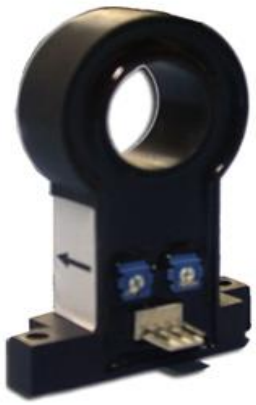


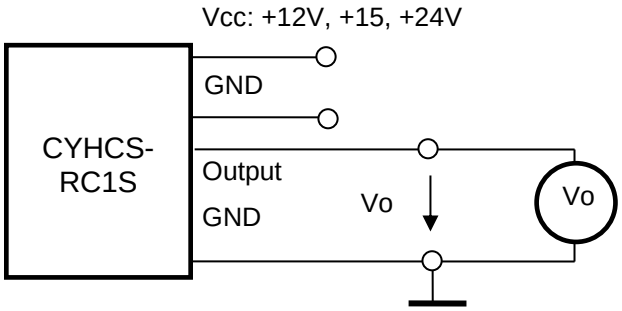
Fig. 2 Relation between the input current (AC) and output voltage (AC)

PIN Definition and Dimensions





1: Vcc
2: NC
3: Output
4: 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

Hall Effect AC/DC Current Sensor CYHCS-C1T

This Hall Effect current sensor is based on open loop principle and designed with a solid core and a high galvanic isolation between primary conductor and secondary circuit. It can be used for measurement of DC and AC current, pulsed 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 with split core • Electrically isolating the output of the transducer from the current carrying conductor • No insertion loss • Current overload capability	• Frequency conversion timing equipment • Various power supply • Uninterruptible power supplies (UPS) • Electric welding machines • Numerical controlled machine tools • Electrolyzing and electroplating equipment • Electric powered locomotive • Microcomputer monitoring • Electric power network monitoring

Electrical Data

Primary Nominal Current I_r (A)	Primary Current Measuring Range I_p(A) at Vcc=12V	Output Voltage (analog) (V)	Part number
30	± 30	x=3: 2.5VDC±2.5V x=8: 5VDC ± 5V	CYHCS-C1T-30A-xnC
50	± 50		CYHCS-C1T-50A-xnC
100	± 100		CYHCS-C1T-100A-xnC
200	± 200		CYHCS-C1T-200A-xnC
300	± 300		CYHCS-C1T-300A-xnC
400	± 400		CYHCS-C1T-400A-xnC
500	± 500		CYHCS-C1T-500A-xnC

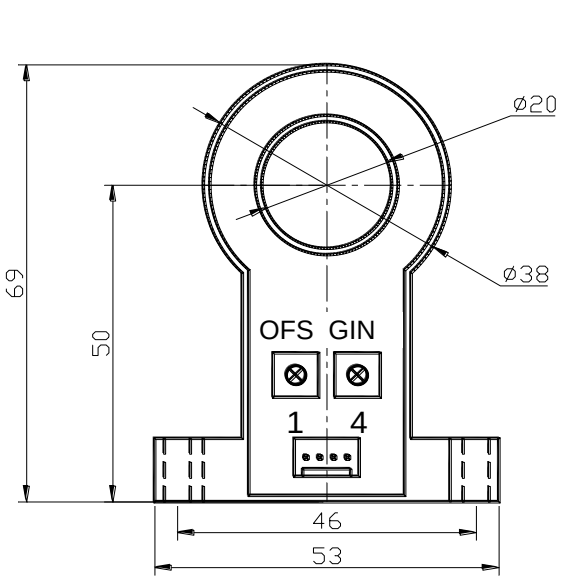
(n=2, *Vcc*= +12VDC; n=3, *Vcc* =+15VDC; n=4, *Vcc* =+24VDC,
Connector: Molex connector C=M; Phoenix Connector: C=P)

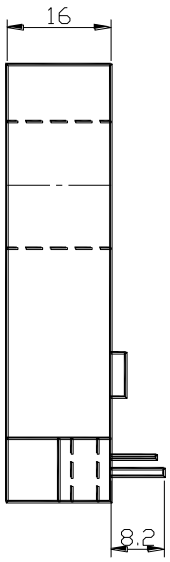
Current Consumption	I_c < 25mA
RMS Voltage for 2.5kV AC isolation test, 50/60Hz, 1min,	V_{is} <10mA
Output Impedance:	R_{out} < 150Ω
Load Resistor:	R_L > 10kΩ
Accuracy at I_r, T_A=25°C (without offset),	X <1.0%
Linearity from 0 to I_r, T_A=25°C,	E_L <1.0% FS
Electric Offset Voltage, T_A=25°C,	V_{oe}=2.5VDC±1.0% or 5VDC±1.0%
Magnetic Offset Voltage (I_r →0)	V_{om} <±15mV
Thermal Drift of Offset Voltage,	V_{ot} <±1.0mV/°C
Thermal Drift (-10°C to 50°C),	T.C. < ±0.1% /°C
Response Time at 90% of I_P (f=1k Hz)	t_r < 7µs
Frequency Bandwidth (-3dB),	f_b = 0-20 kHz
Mean Time Between Failures (MTBF):	50k - 100k hours

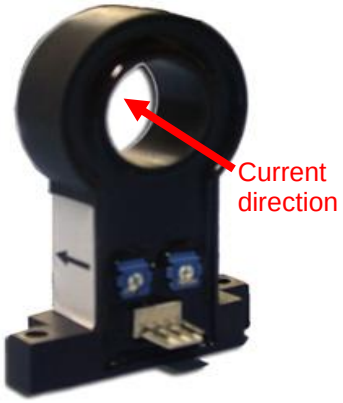
General Data

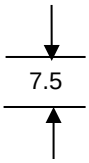
Ambient Operating Temperature,	T_A = -25°C ~ +85°C
Ambient Storage Temperature,	T_S =-40°C ~ +100°C

PIN Definition and Dimensions





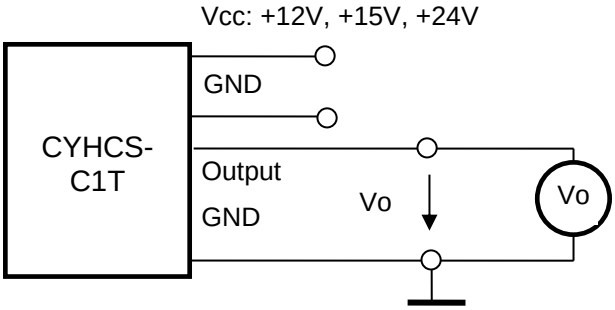




1(+): Vcc
2(G): GND
3(O): Output
4(G): GND

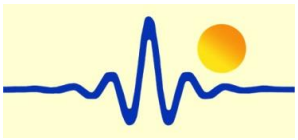
OFS: Offset Adjustment GIN: Gain Adjustment

Connection



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/DC Current Sensor CYHCS-RC4

This Hall Effect current sensor can be used for measurement of DC and AC current, pulsed currents etc. The output of the transducer reflects the real wave of the current carrying conductor.

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	• Frequency conversion timing equipments • Various power supply • Uninterruptible power supplies (UPS) • Electric welding machines • Transformer substation • Numerical controlled machine tools • Electrolyzing and electroplating equipments • Electric powered locomotive • Microcomputer monitoring • Electric power network monitoring

Electrical Data/Input

Primary Nominal Current I_r (A)	Primary Current Measuring Range I_p(A) at Vcc=15V	Aperture Diameter (mm)	Part number
50	± 150	16	CYHCS-RC4-050A
100	± 200	16	CYHCS-RC4-100A
150	± 300	16	CYHCS-RC4-150A
200	± 400	16	CYHCS-RC4-200A
250	± 500	16	CYHCS-RC4-250A
300	± 450	16	CYHCS-RC4-300A

Technical Data:

Supply Voltage	V_{cc}= ±15V ± 5%,
Current Consumption	I_c < 20mA
RMS Voltage for 2.5kV AC isolation test, 50/60Hz, 1min,	V_{is} <10mA
Isolation Resistance at 500V DC	R_{is} >500 MΩ
Output Voltage (analog) at I_r, T_A=25°C:	V_{out} = 4V
Output Impedance:	R_{out} < 150Ω
Load Resistor:	R_L > 10kΩ
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} <20mV
Magnetic Offset Voltage (I_r →0)	V_{om} <±15mV
Thermal Drift of Offset Voltage,	V_{ot} <±1.0mV/°C

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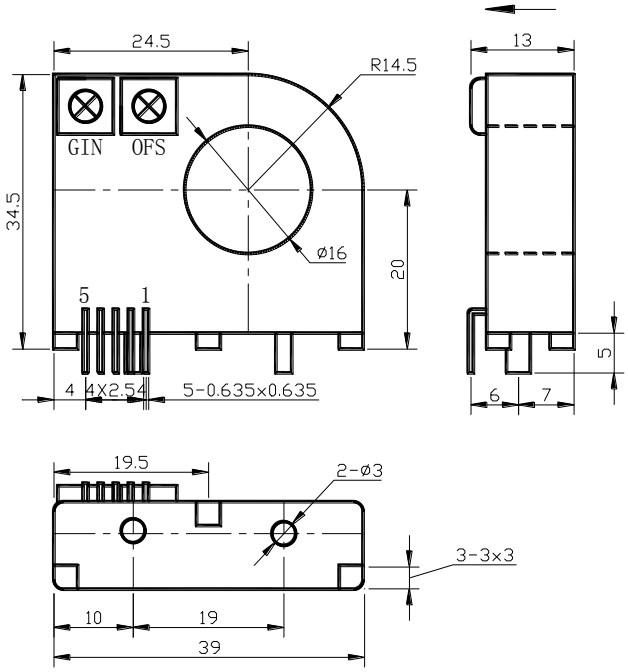
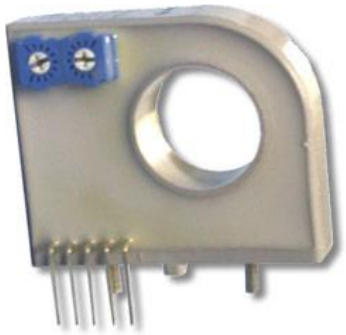
Internet: www.chenyang.de

Thermal Drift (-10°C to 50°C),	T.C. < ±0.1% /°C
Response Time at 90% of I_P (f=1k Hz)	t_r < 7µs
Frequency Bandwidth (-3dB),	f_b = 50 kHz
Ambient Operating Temperature,	T_A = -25°C ~ +85°C
Ambient Storage Temperature,	T_S =-40°C ~ +100°C

PIN Definition and Dimensions





1: V+
2: V-
3: Output
4: Ground
5: NC

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/DC Current Sensor CYHCS-E

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) (V)	Aperture Diameter (mm)	Part number
25	± 75	4 +1.0%	Ø20.5	CYHCS-E25A-C
50	± 150			CYHCS-E50A-C
100	± 300			CYHCS-E100A-C
150	± 450			CYHCS-E150A-C
200	± 600			CYHCS-E200A-C
300	± 900			CYHCS-E300A-C
400	±1000			CYHCS-E400A-C
500	±1000			CYHCS-E500A-C

(Connector: Molex connector C=M; Phoenix Connector: C=P)

Supply Voltage	V_{cc}= ±15V ± 5%,
Current Consumption	I_c < 25mA
Galvanic isolation, 50/60Hz, 1min:	2.5kV
Isolation resistance @ 500 VDC	> 500 MΩ

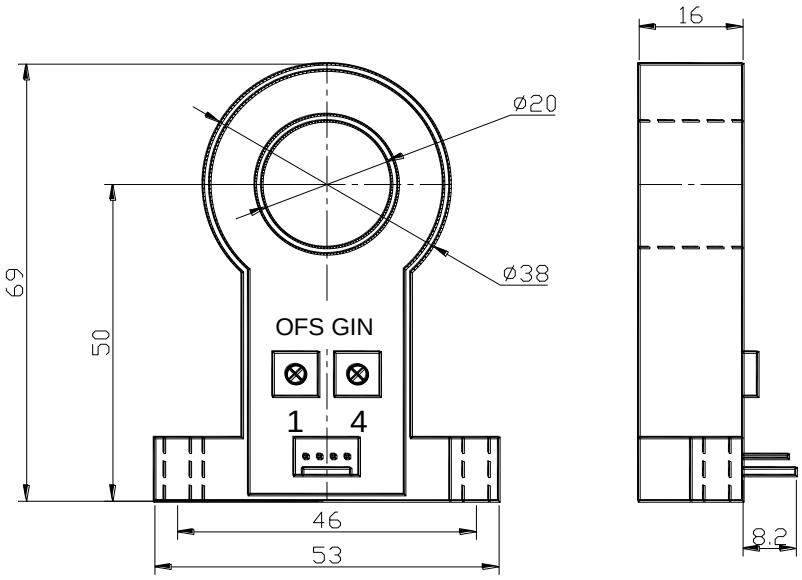
Accuracy and Dynamic performance data

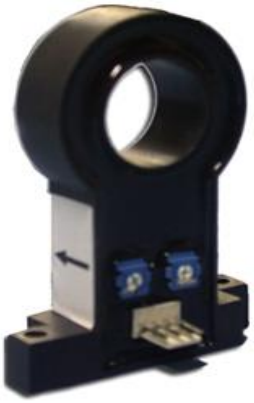
Accuracy at I_r, T_A=25°C (without offset),	X <1.0%
Linearity from 0 to I_r, T_A=25°C,	E_L <1.0% FS
Electric Offset Voltage, T_A=25°C,	V_{oe} <±25mV
Magnetic Offset Voltage ($I_r \rightarrow 0$)	V_{om} <±20mV
Thermal Drift of Offset Voltage,	V_{ot} <±0.5mV/°C
Thermal Drift (-10°C to 50°C),	T.C. < ±0.1% /°C
Frequency bandwidth (- 3 dB):	DC-50kHz
Response Time at 90% of I_P (f=1k Hz)	t_r < 3µs

General Data

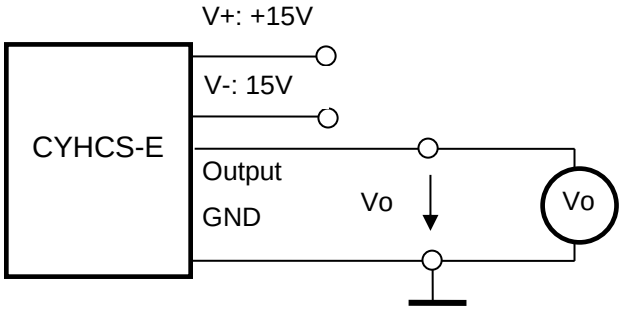
Ambient Operating Temperature,	T_A = -25°C ~ +85°C
Ambient Storage Temperature,	T_S =-40°C ~ +100°C

PIN Definition and Dimensions





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

Split Core Hall Effect AC/DC Current Sensor CYHCS-C2S

This Hall Effect current sensor can be used for measurement of DC and AC current, pulsed 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	• Frequency conversion timing equipment • Various power supply • Uninterruptible power supplies (UPS) • Electric welding machines • Numerical controlled machine tools • Electrolyzing and electroplating equipment • Electric powered locomotive • Microcomputer monitoring • Electric power network monitoring

Electrical Data

Primary Nominal Current I_r (A)	Primary Current Measuring Range I_p(A) at Vcc=5V	Output Voltage (analog) (V)	Part number
30	± 40.5	2.5VDC±1.5V	CYHCS-C2S-30A-C
50	± 67.5		CYHCS-C2S-50A-C
100	± 135		CYHCS-C2S-100A-C
200	± 270		CYHCS-C2S-200A-C
300	± 405		CYHCS-C2S-300A-C
400	± 540		CYHCS-C2S-400A-C
500	± 675		CYHCS-C2S-500A-C
600	± 810		CYHCS-C2S-600A-C

(Connector: Molex connector C=M; Phoenix Connector: C=P)

Supply Voltage	V_{cc}= +5V ± 5%
Current Consumption	I_c < 25mA
RMS Voltage for 2.5kV AC isolation test, 50/60Hz, 1min,	V_{is} <10mA
Output Impedance:	R_{out} < 150Ω
Load Resistance:	R_L > 10kΩ
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 ±1.0%
Magnetic Offset Voltage (I_r →0)	V_{om} <±15mV
Thermal Drift of Offset Voltage,	V_{ot} <±1.0mV/°C
Thermal Drift (-10°C to 50°C),	T.C. < ±0.1% /°C
Response Time at 90% of I_P (f=1k Hz)	t_r < 7μs
Frequency Bandwidth (-3dB),	f_b = 0-20 kHz

General Data

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

Relation between Input Current and Output Voltage

Take the sensor CYHCS-C2S-100A as sample, the relation between the input current and output voltage is shown in the table 1, Fig.1 and Fig. 2

Table 1. Relation between the input current and output voltage

Input current (A)	-135	-100	-75	-50	0	50	75	100	135
Output voltage (V)	0.475	1.0	1.375	1.75	2.5	3.25	3.625	4.0	4.525

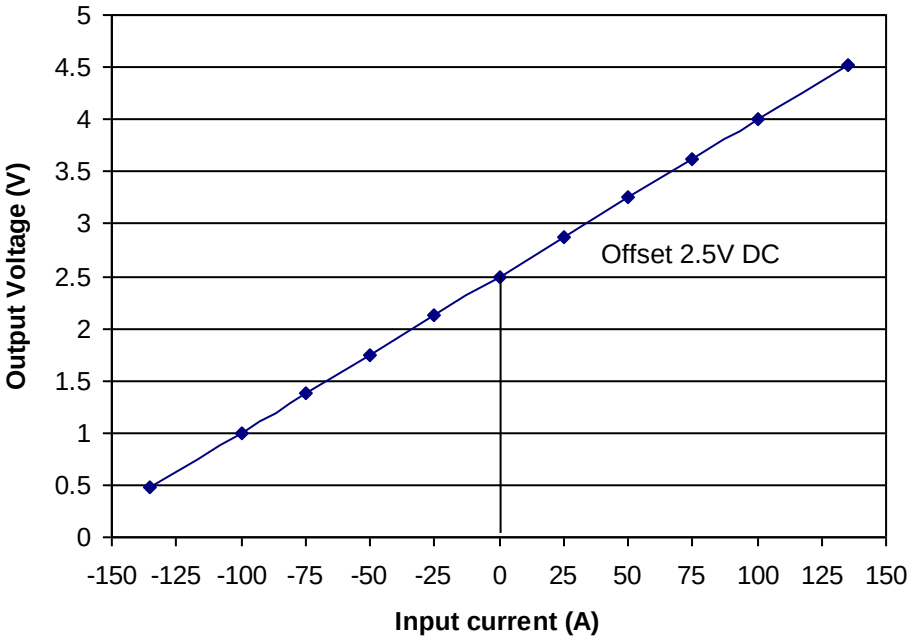


Fig. 1 Relation between the input current (DC) and output voltage (DC)

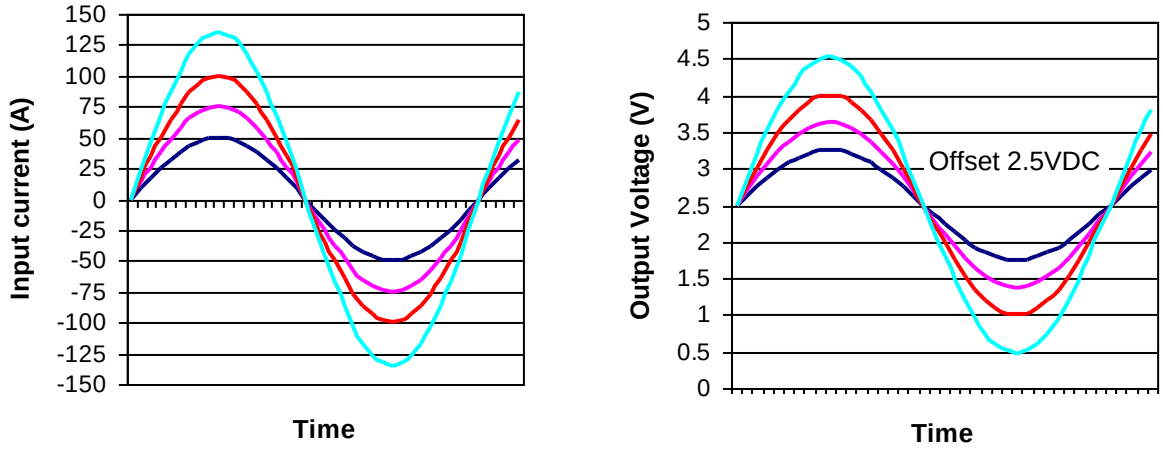
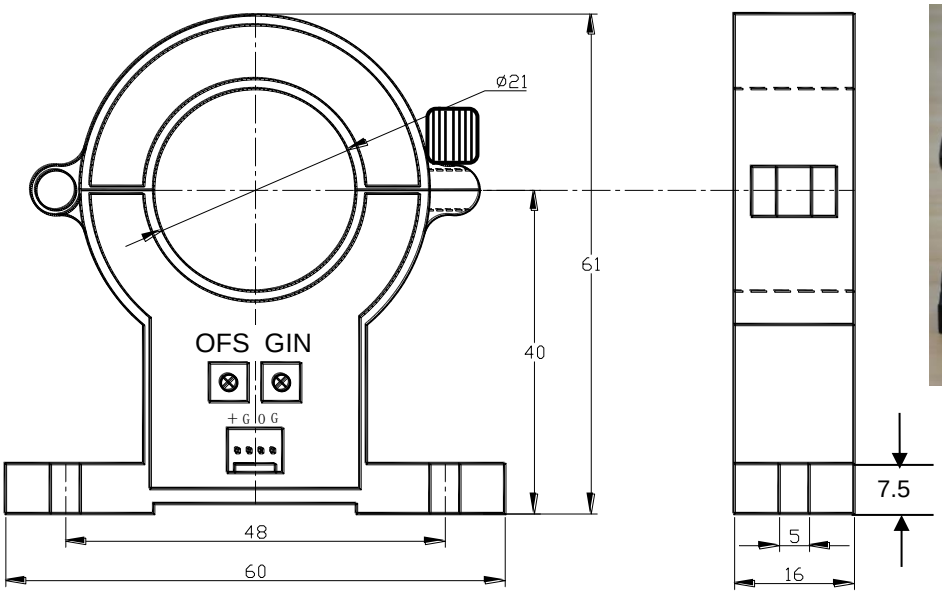
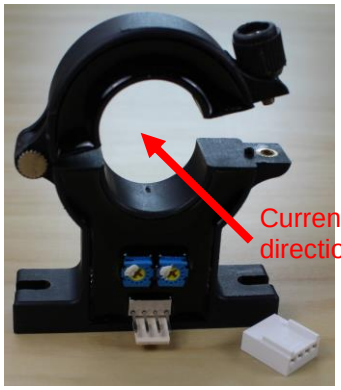


Fig. 2 Relation between the input current (AC) and output voltage (AC)

PIN Definition and Dimensions

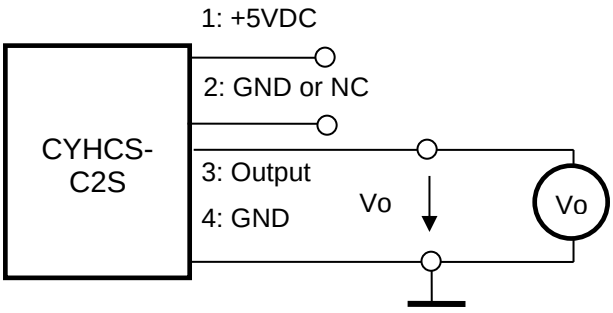




1(+): 5VDC
2(G): GND or NC
3(O): Output
4(G): GND

OFS: Offset Adjustment GIN: Gain Adjustment

Connection

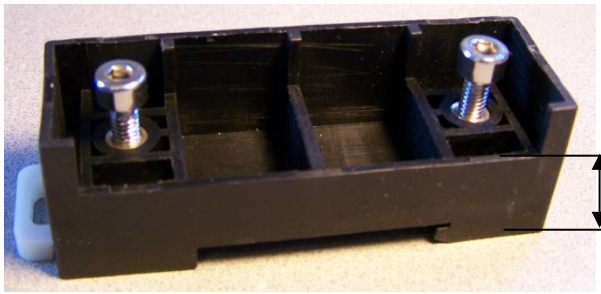


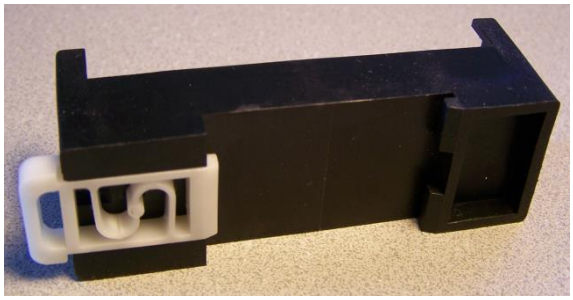
Notes:

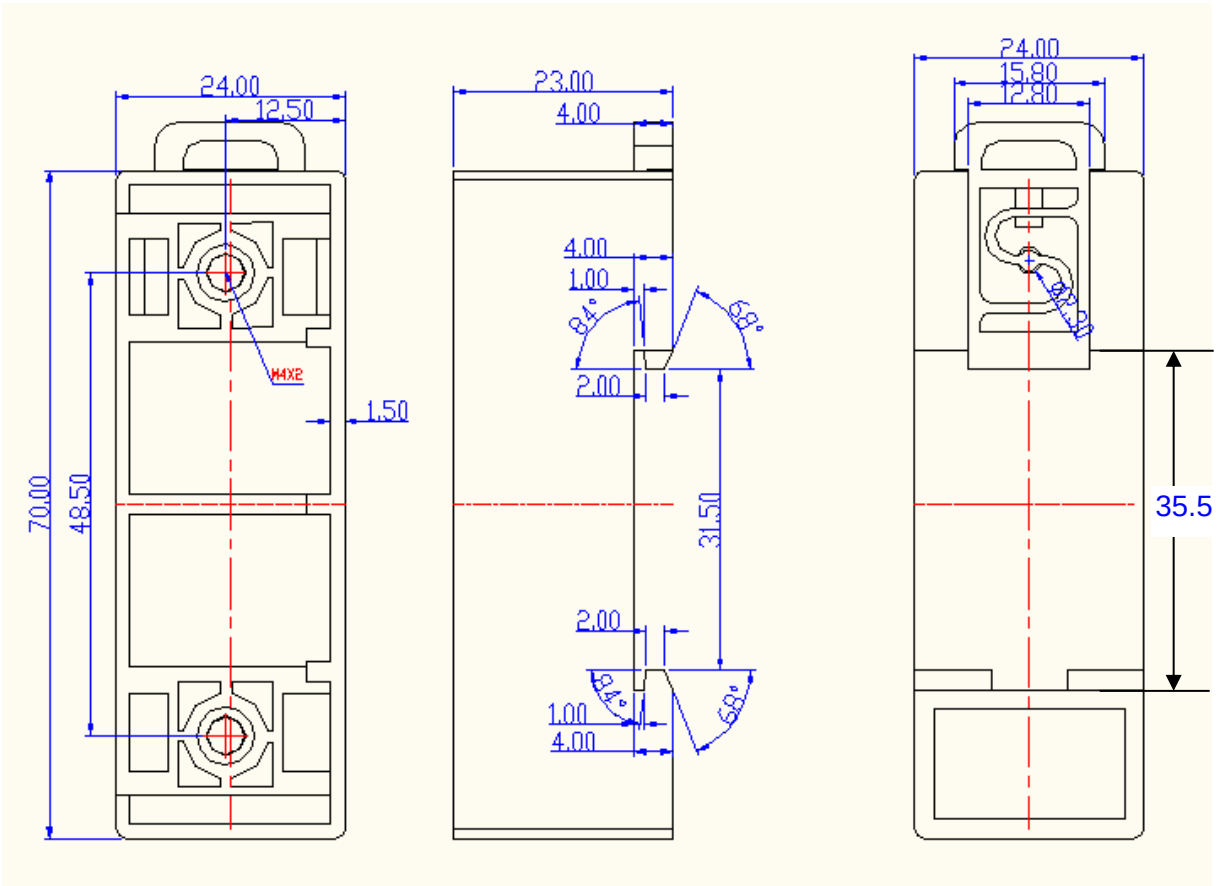
1. Connect the terminals of power source, output respectively and correctly, never make wrong connection.
2. Two potentiometers can be adjusted, only if necessary, by turning slowly to the required accuracy with a small screwdriver.
3. The best accuracy can be achieved when the window is fully filled 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

DIN Rail Adapter CY-DRA88

The DIN Rail Adapter CY-DRA88 is designed for mounting the sensor on 35mm DIN Rail. It has the size 70 x 24 x 23mm. The height from bottom to mounting surface is 14.8mm.







Mounting of Sensors

Sensor with Molex Connector
(The distance between the bottom und the middle of hole is 54.8mm)

Sensor with Phoenix Connector
(The distance between the bottom und the middle of hole is 54.8mm)

Split Core Hall Effect AC/DC Current Sensor CYHCS-RC2S

This Hall Effect current sensor can be used for measurement of DC and AC current, pulsed 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	• Frequency conversion timing equipment • Various power supply • Uninterruptible power supplies (UPS) • Electric welding machines • Numerical controlled machine tools • Electrolyzing and electroplating equipment • Electric powered locomotive • Microcomputer monitoring • Electric power network monitoring

Electrical Data

Primary Nominal Current I_r (A)	Primary Current Measuring Range I_p(A) at Vcc=12V	Output Voltage (analog) (V)	Part number
30	± 60	5VDC±2V	CYHCS-RC2S-30A-XC
50	± 100		CYHCS-RC2S-50A-XC
100	± 200		CYHCS-RC2S-100A-XC
200	± 400		CYHCS-RC2S-200A-XC
300	± 600		CYHCS-RC2S-300A-XC
400	± 800		CYHCS-RC2S-400A-XC
500	± 900		CYHCS-RC2S-500A-XC
600	± 900		CYHCS-RC2S-600A-XC

Supply Voltage: X=3, V_{cc}= +12VDC± 5%, ; X=4, V_{cc} =+15VDC± 5%; X=5, V_{cc} =+24VDC± 5%,
(Connector: Molex connector C=M; Phoenix Connector: C=P)

Current Consumption	I_c < 25mA
RMS Voltage for 2.5kV AC isolation test, 50/60Hz, 1min,	V_{is} <10mA
Output Impedance:	R_{out} < 150Ω
Load Resistor:	R_L > 10kΩ
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} =5.0VDC ±1.0%
Magnetic Offset Voltage (I_r →0)	V_{om} <±15mV
Thermal Drift of Offset Voltage,	V_{ot} <±1.0mV/°C
Thermal Drift (-10°C to 50°C),	T.C. < ±0.1% /°C
Response Time at 90% of I_P (f=1k Hz)	t_r < 7µs
Frequency Bandwidth (-3dB),	f_b = 0-20 kHz
Mean Time Between Failures (MTBF):	50k - 100k hours

General Data

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

Relation between Input Current and Output Voltage

Taking the sensor CYHCS-RC2S-100A-3 as sample, the relation between the input current and output voltage is shown in the table 1, Fig.1 and Fig. 2

Table 1. Relation between the input current and output voltage

Input current (A)	-200	-150	-100	-50	0	50	100	150	200
Output voltage (V)	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0

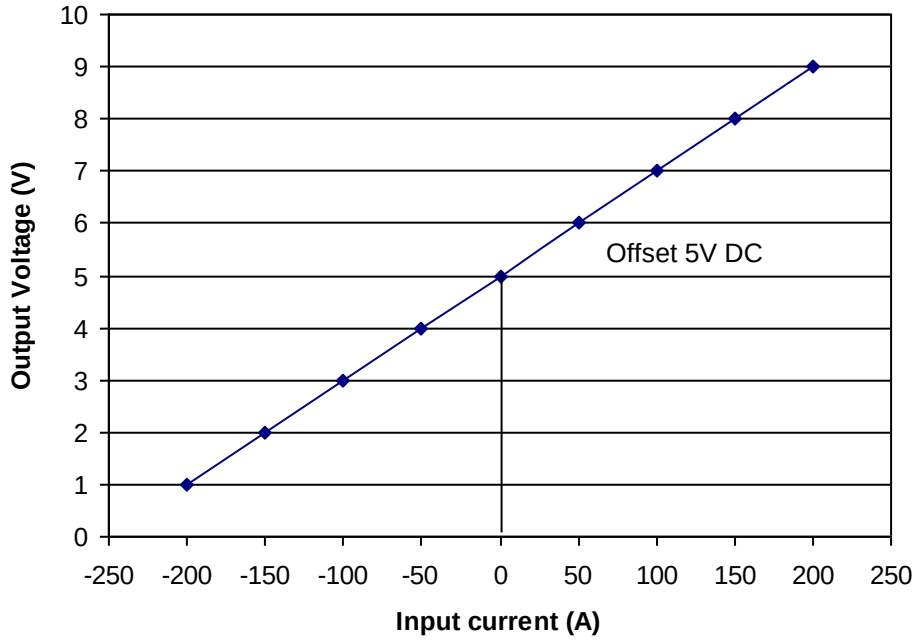


Fig. 1 Relation between the input current (DC) and output voltage (DC)

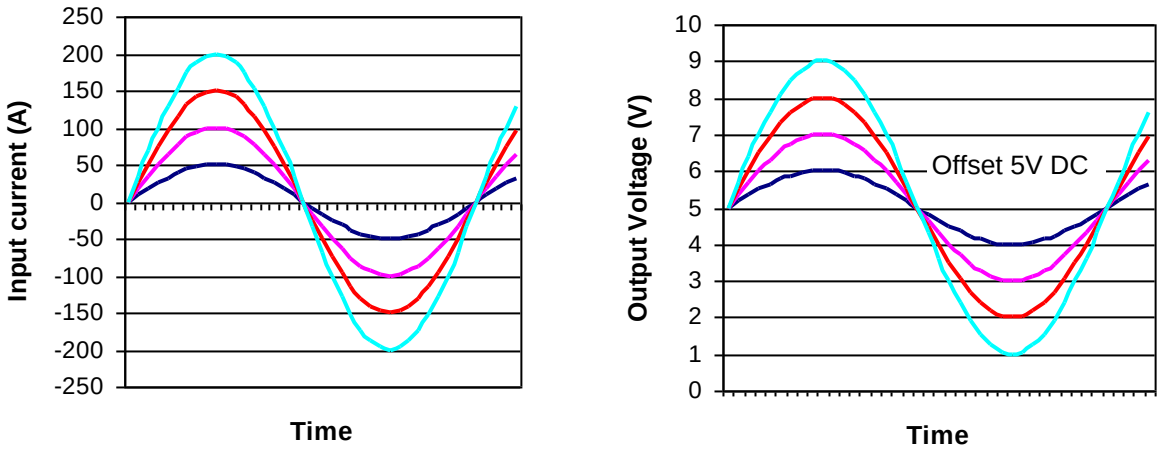
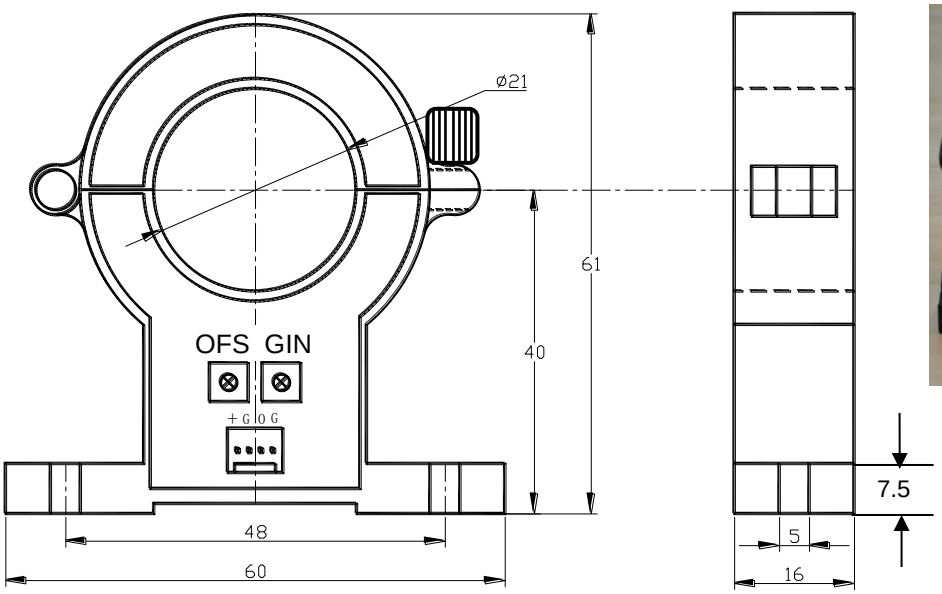
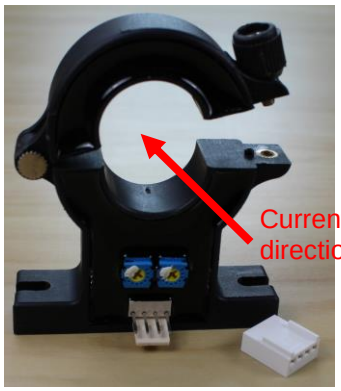


Fig. 2 Relation between the input current (AC) and output voltage (AC)

PIN Definition and Dimensions

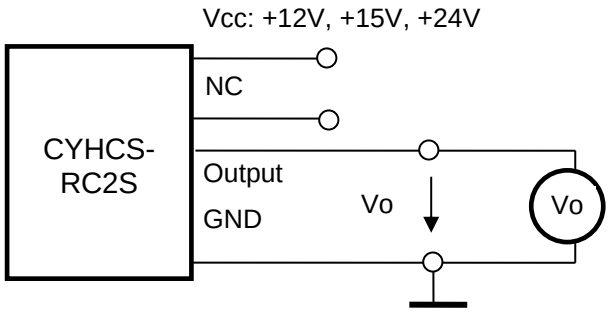




1(+): Vcc
2(G): NC
3(O): Output
4(G): GND

OFS: Offset Adjustment GIN: Gain Adjustment

Connection

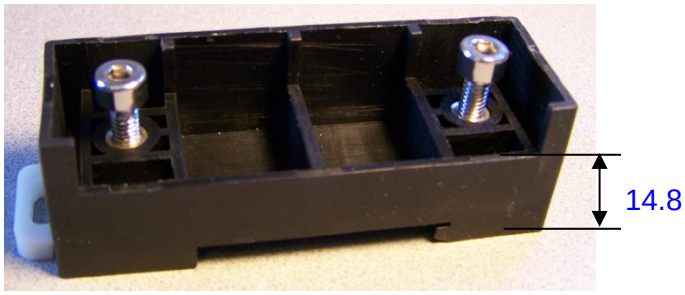


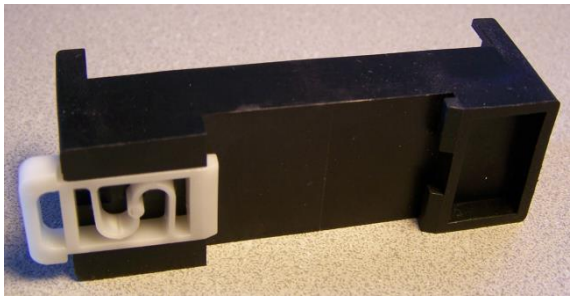
Notes:

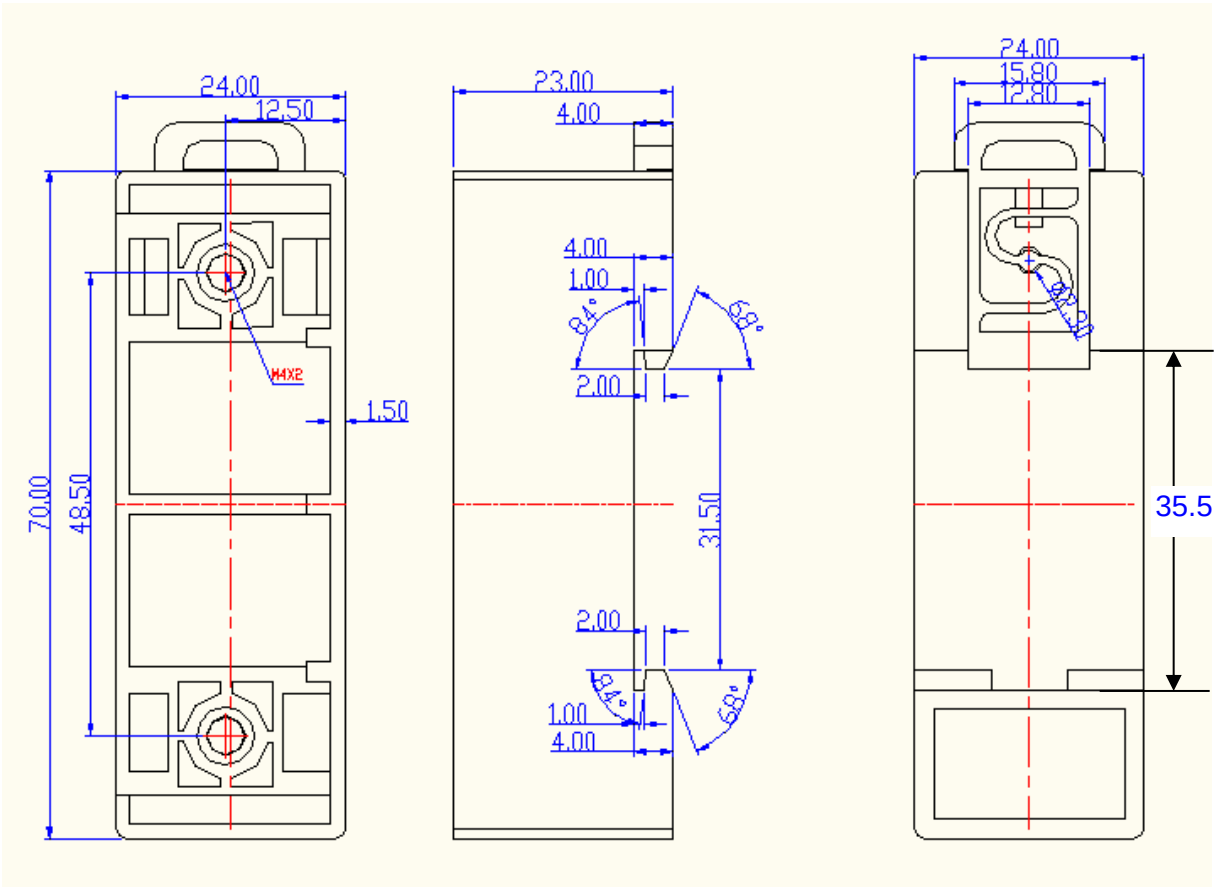
1. Connect the terminals of power source, output respectively and correctly, never make wrong connection.
2. Two potentiometers can be adjusted, only if necessary, by turning slowly to the required accuracy with a small screwdriver.
3. The best accuracy can be achieved when the window is fully filled 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

DIN Rail Adapter CY-DRA88

The DIN Rail Adapter CY-DRA88 is designed for mounting the sensor on 35mm DIN Rail. It has the size 70 x 24 x 23mm. The height from bottom to mounting surface is 14.8mm.







Mounting of Sensors

Sensor with Molex Connector
(The distance between the bottom und the middle of hole is 54.8mm)

Sensor with Phoenix Connector
(The distance between the bottom und the middle of hole is 54.8mm)

Split Core Hall Effect AC/DC Current Sensor CYHCS-C2T

This Hall Effect current sensor is based on open loop principle and designed with a split core and a high galvanic isolation between primary conductor and secondary circuit. It can be used for measurement of DC and AC current, pulsed 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 with split core • Electrically isolating the output of the transducer from the current carrying conductor • No insertion loss • Current overload capability	• Frequency conversion timing equipment • Various power supply • Uninterruptible power supplies (UPS) • Electric welding machines • Numerical controlled machine tools • Electrolyzing and electroplating equipment • Electric powered locomotive • Microcomputer monitoring • Electric power network monitoring

Electrical Data

Primary Nominal Current I_r (A)	Primary Current Measuring Range I_p(A) at Vcc=12V	Output Voltage (analog) (V)	Part number
30	± 30	x=3: 2.5VDC±2.5V x=8: 5VDC ± 5V	CYHCS-C2T-30A-xnC
50	± 50		CYHCS-C2T-50A-xnC
100	± 100		CYHCS-C2T-100A-xnC
200	± 200		CYHCS-C2T-200A-xnC
300	± 300		CYHCS-C2T-300A-xnC
400	± 400		CYHCS-C2T-400A-xnC
500	± 500		CYHCS-C2T-500A-xnC
600	± 600		CYHCS-C2T-600A-xnC

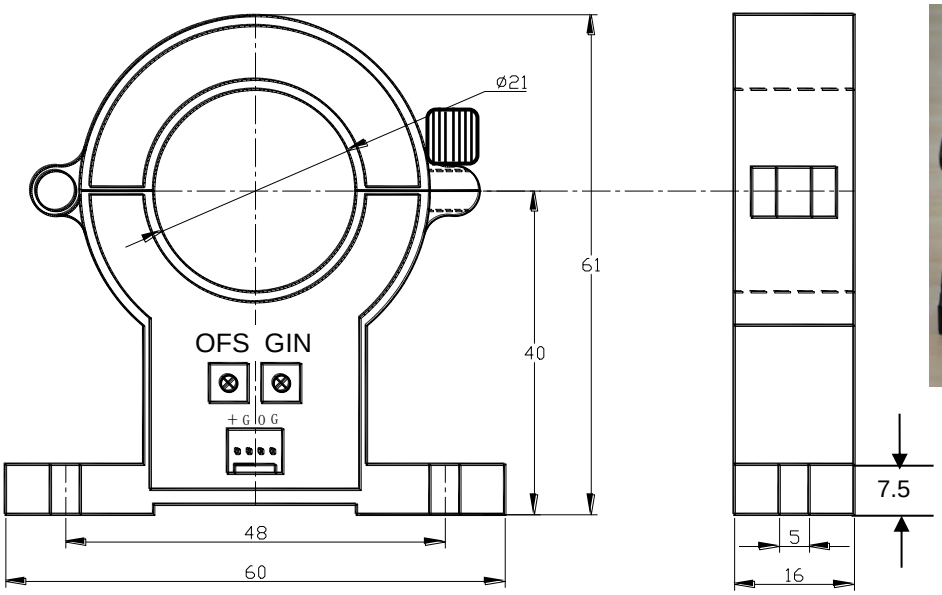
(n=2, *Vcc*= +12VDC; n=3, *Vcc* =+15VDC; n=4, *Vcc* =+24VDC,
Connector: Molex connector C=M; Phoenix Connector: C=P)

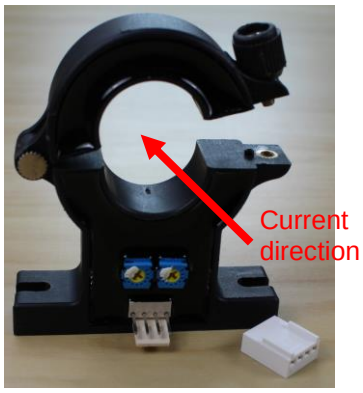
Current Consumption	I_c < 25mA
RMS Voltage for 2.5kV AC isolation test, 50/60Hz, 1min,	V_{is} <10mA
Output Impedance:	R_{out} < 150Ω
Load Resistor:	R_L > 10kΩ
Accuracy at I_r, T_A=25°C (without offset),	X <1.0%
Linearity from 0 to I_r, T_A=25°C,	E_L <1.0% FS
Electric Offset Voltage, T_A=25°C,	V_{oe}=2.5VDC±1.0% or 5VDC±1.0%
Magnetic Offset Voltage (I_r →0)	V_{om} <±15mV
Thermal Drift of Offset Voltage,	V_{ot} <±1.0mV/°C
Thermal Drift (-10°C to 50°C),	T.C. < ±0.1% /°C
Response Time at 90% of I_P (f=1k Hz)	t_r < 7μs
Frequency Bandwidth (-3dB),	f_b = 0-20 kHz
Mean Time Between Failures (MTBF):	50k - 100k hours

General Data

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

PIN Definition and Dimensions

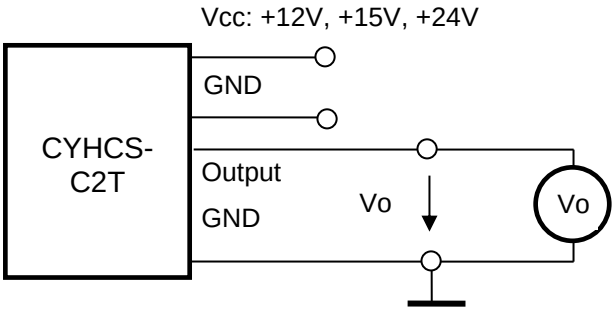




1(+): Vcc
2(G): GND
3(O): Output
4(G): GND

OFS: Offset Adjustment GIN: Gain Adjustment

Connection



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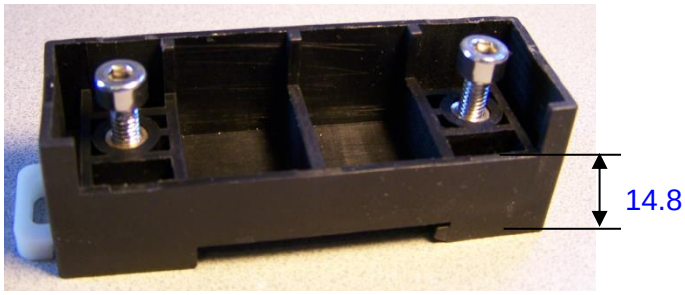
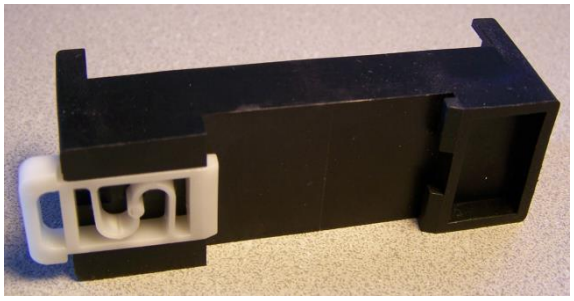
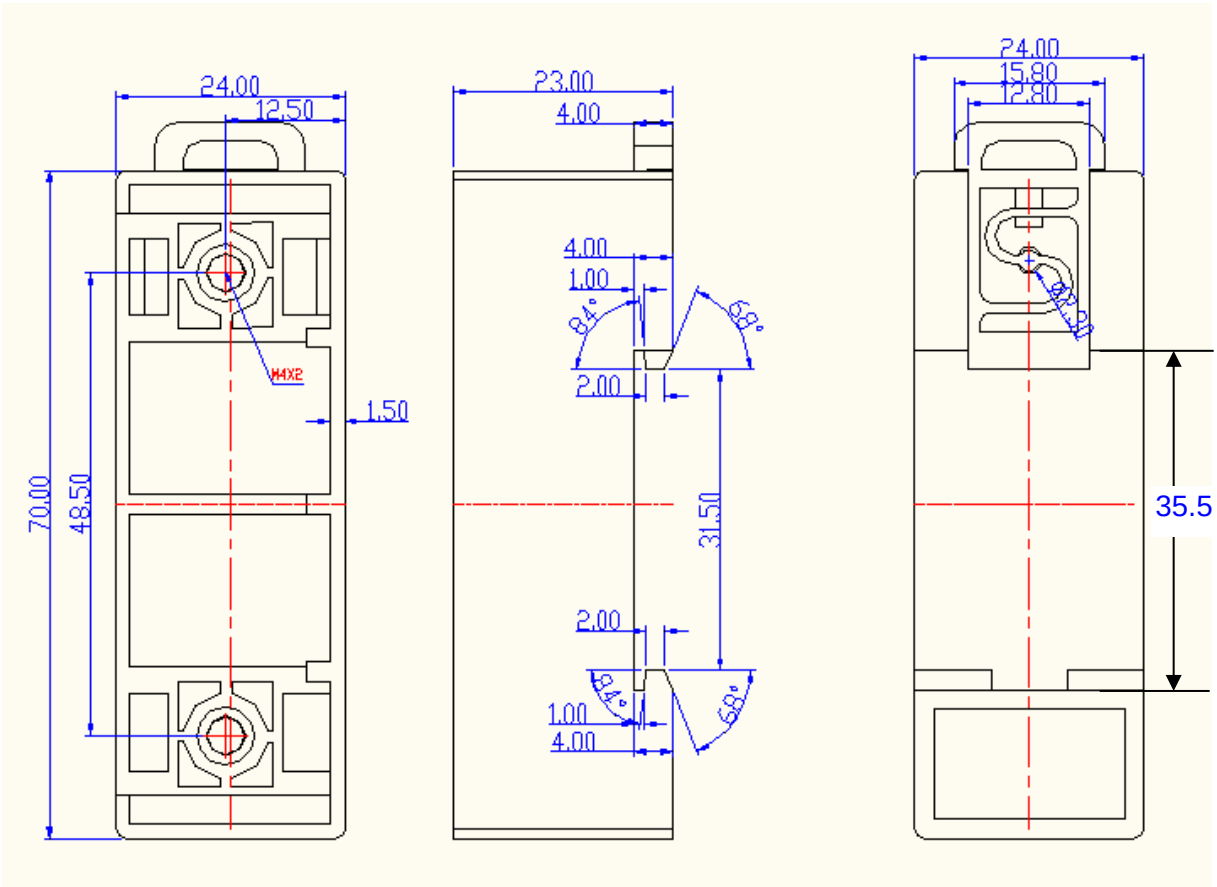
DIN Rail Adapter CY-DRA88

The DIN Rail Adapter CY-DRA88 is designed for mounting the sensor on 35mm DIN Rail. It has the size 70 x 24 x 23mm. The height from bottom to mounting surface is 14.8mm.







Mounting of Sensors

Sensor with Molex Connector
(The distance between the bottom und the middle of hole is 54.8mm)

Sensor with Phoenix Connector
(The distance between the bottom und the middle of hole is 54.8mm)

Spilt Core Hall Effect AC/DC Current Sensor CYHCS-RC2

This Hall Effect current sensor can be used for measurement of DC and AC current, pulsed currents etc. The output of the transducer reflects the real wave of the current carrying conductor. The sensor uses split core and is easily to mount.

Product Characteristics	Applications
• Excellent accuracy • Very good linearity • Using split cores and easy mounting • 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	• 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

Primary Nominal Current I_r (A)	Primary Current Measuring Range I_p(A) at Vcc=15V	Output voltage (Analog) (mm)	Part number
30	± 60	4V±1.0%	CYHCS-RC2-30A-C
50	± 100		CYHCS-RC2-50A-C
100	± 200		CYHCS-RC2-100A-C
200	± 400		CYHCS-RC2-200A-C
300	± 600		CYHCS-RC2-300A-C
400	± 800		CYHCS-RC2-400A-C
500	± 1000		CYHCS-RC2-500A-C
600	± 1000		CYHCS-RC2-600A-C

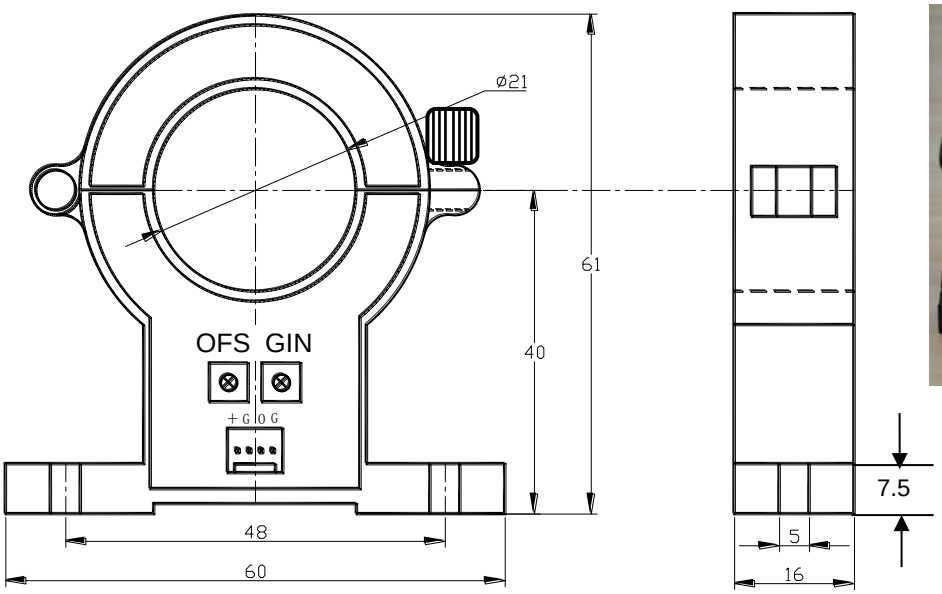
(Connector: Molex connector C=M; Phoenix Connector: C=P)

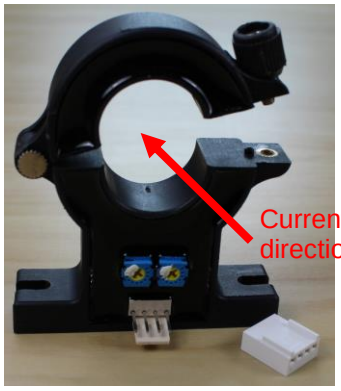
Supply Voltage	V_{cc}= ±15V ± 5%,
Current Consumption	I_c < 25mA
RMS Voltage for 2.5kV AC isolation test, 50/60Hz, 1min,	V_{is} <10mA
Isolation Resistance at 500V DC	R_{is} >500 MΩ
Output Voltage at I_r, T_A=25°C:	V_{out} = 4V
Output Impedance:	R_{out} < 150Ω
Load Resistor:	R_L > 10kΩ
Accuracy at I_r, 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} <20mV
Magnetic Offset Voltage (I_r →0)	V_{om} <±15mV
Thermal Drift of Offset Voltage,	V_{ot} <±1.0mV/°C
Thermal Drift (-10°C to 50°C),	T.C. < ±0.1% /°C
Response Time at 90% of I_P (f=1k Hz)	t_r < 7μs
Frequency Bandwidth (-3dB),	f_b = 50 kHz
Material of Case:	ABS (According to UL94V-0)

General Data

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

PIN Definition and Dimensions

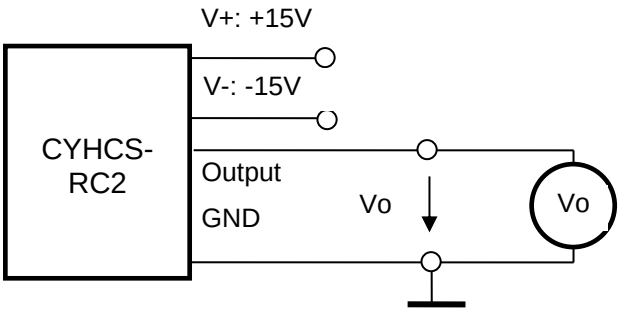




1(+): +15V
2(G): -15V
3(O): Output
4(G): GND

OFS: Offset Adjustment GIN: Gain Adjustment

Connection

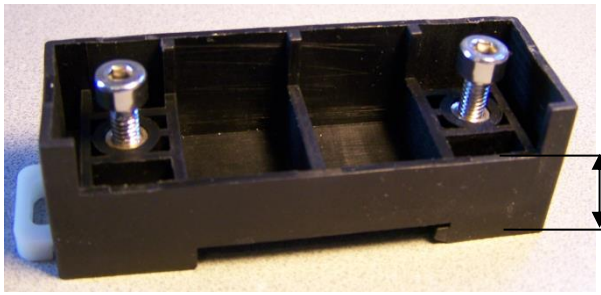


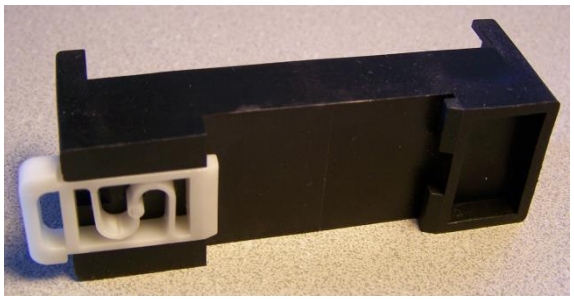
Notes:

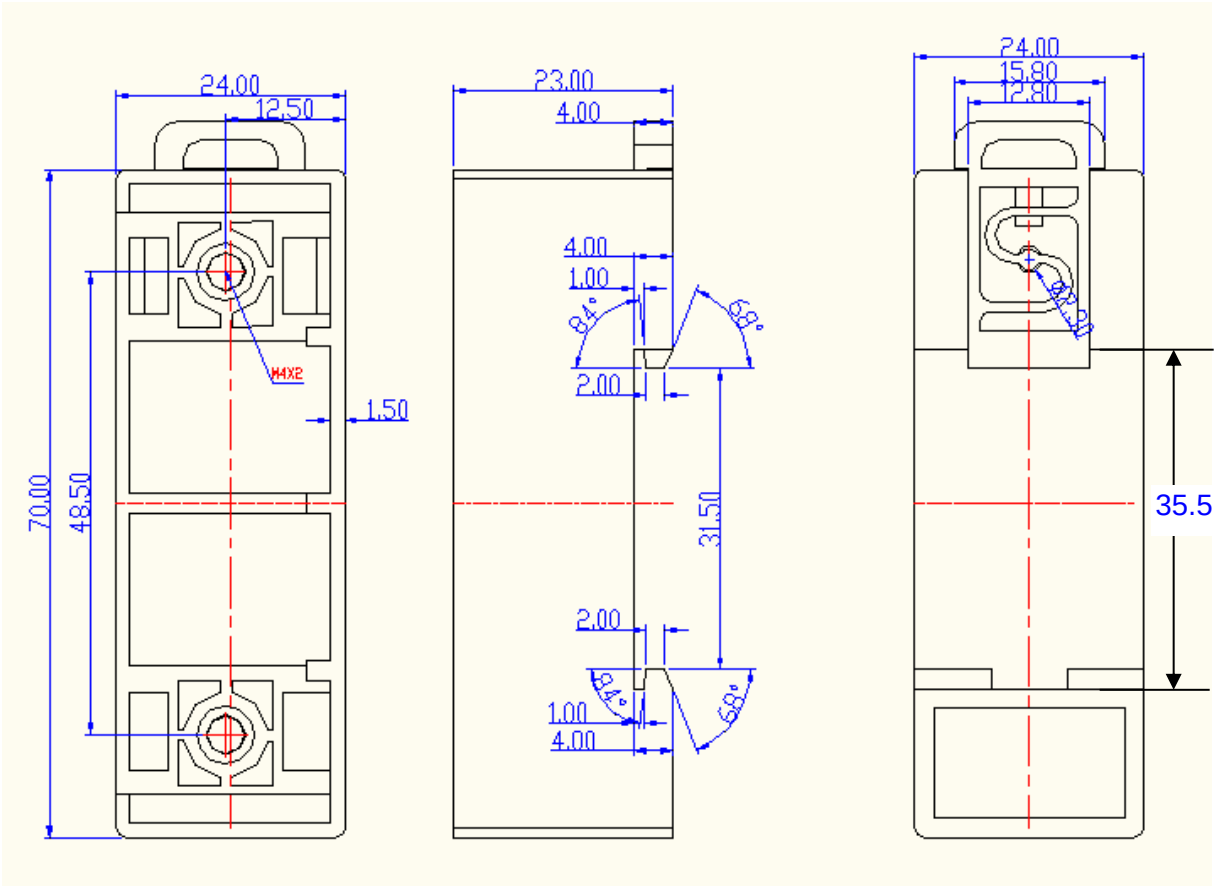
1. Connect the terminals of power source, output respectively and correctly, never make wrong connection.
2. Two potentiometers can be adjusted, only if necessary, by turning slowly to the required accuracy with a small screwdriver.
3. The best accuracy can be achieved when the window is fully filled 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

DIN Rail Adapter CY-DRA88

The DIN Rail Adapter CY-DRA88 is designed for mounting the sensor on 35mm DIN Rail. It has the size 70 x 24 x 23mm. The height from bottom to mounting surface is 14.8mm.







Mounting of Sensors

Sensor with Molex Connector
(The distance between the bottom und the middle of hole is 54.8mm)

Sensor with Phoenix Connector
(The distance between the bottom und the middle of hole is 54.8mm)

Split Core Hall AC/DC Current Sensor CYHCS-EKAA

This Hall Effect current sensor is based on open loop principle and designed with a split core and 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 • 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)	Measuring Range (A)	Output Current Is (analog) (mA)	Aperture Diameter (mm)	Part number
30	± 60	0 ~20mA ±1.0%	Ø21	CYHCS-EKAA30A-C
50	± 100			CYHCS-EKAA50A-C
100	± 200			CYHCS-EKAA100A-C
200	± 400			CYHCS-EKAA200A-C
300	± 600			CYHCS-EKAA300A-C
400	± 800			CYHCS-EKAA400A-C
500	± 1000			CYHCS-EKAA500A-C

(Connector: Molex connector C=M; Phoenix Connector: C=P)

Supply Voltage	V_{cc}= ±15V ± 5%,
Current Consumption	I_c < 25mA +Is
Galvanic isolation, 50/60Hz, 1min:	2.5kV
Load resistance:	10kΩ
Isolation resistance @ 500 VDC	> 500 MΩ

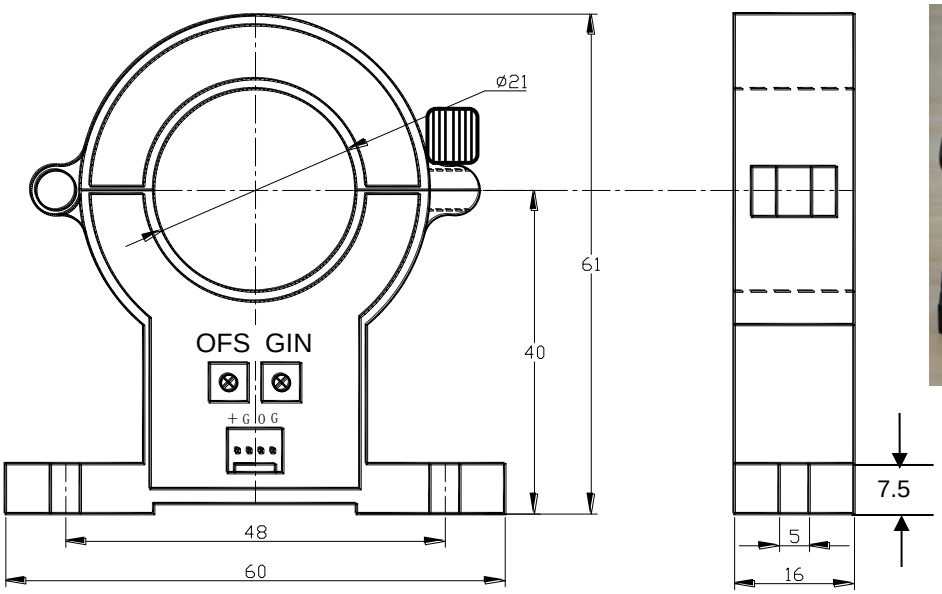
Accuracy and Dynamic performance data

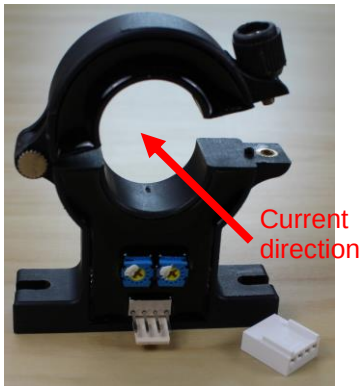
Accuracy at I_r, T_A=25°C (without offset),	X <1.0%
Linearity from 0 to I_r, T_A=25°C,	E_L <1.0% FS
Electric Offset Voltage, T_A=25°C,	V_{oe} <0.05mA
Magnetic Offset Voltage, T_A=25°C,	V_{oe} <0.05mA
Thermal Drift of Offset Voltage,	V_{ot} <±0.01mA/°C
Response Time at 90% of I_P (f=1k Hz)	t_r < 5µs
Frequency bandwidth (- 3 dB):	20Hz - 20kHz

General Data

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

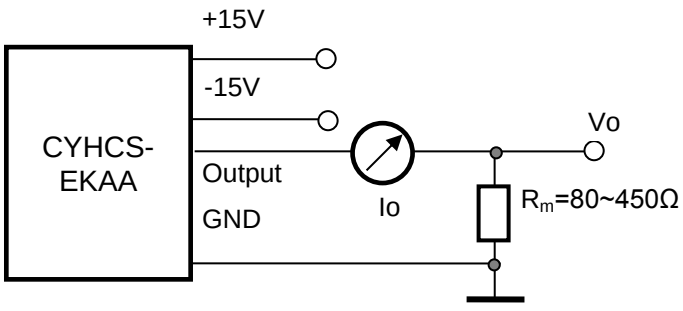
PIN Definition and Dimensions





1(+): +15V
2(G): -15V
3(O): Output
4(G): GND

OFS: Offset Adjustment GIN: Gain Adjustment

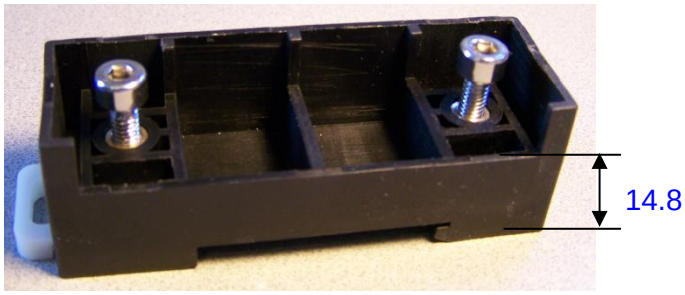


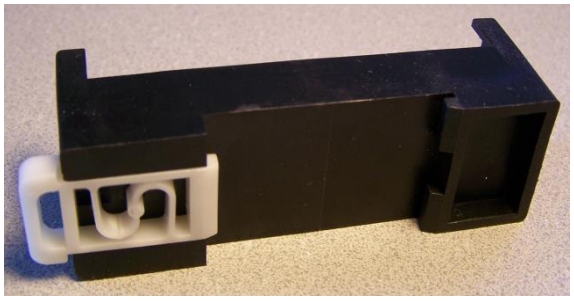
Notes:

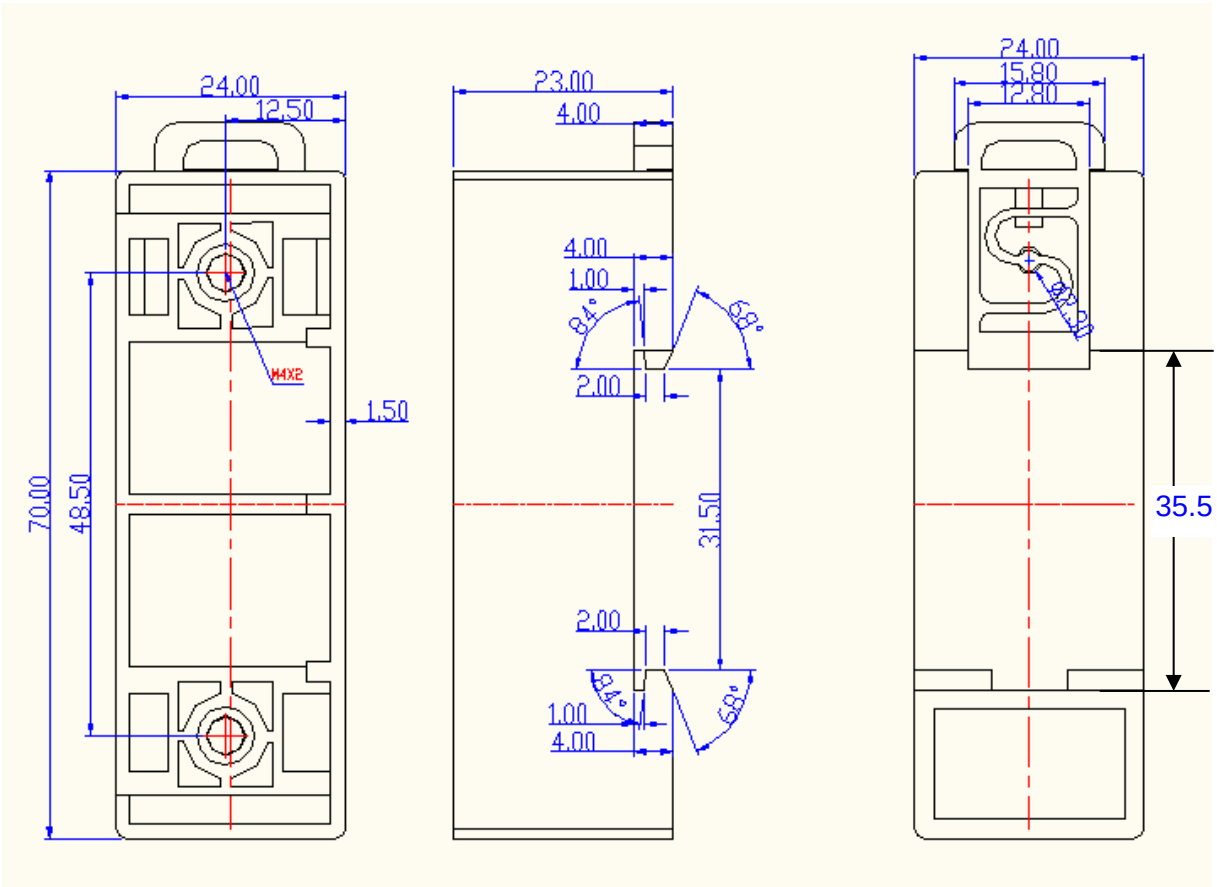
1. Connect the terminals of power source, output respectively and correctly, never make wrong connection.
2. Two potentiometers can be adjusted, only if necessary, by turning slowly to the required accuracy with a small screwdriver.
3. The best accuracy can be achieved when the window is fully filled 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

DIN Rail Adapter CY-DRA88

The DIN Rail Adapter CY-DRA88 is designed for mounting the sensor on 35mm DIN Rail. It has the size 70 x 24 x 23mm. The height from bottom to mounting surface is 14.8mm.







Mounting of Sensors

Sensor with Molex Connector
(The distance between the bottom und the middle of hole is 54.8mm)

Sensor with Phoenix Connector
(The distance between the bottom und the middle of hole is 54.8mm)

Split Core Hall Effect AC/DC Current Sensor CYHCS-EKB

This Hall Effect current sensor is based on open loop principle and designed with a split core and 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 • 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 (all data given under connecting a load resistance of 10kΩ)

Primary Nominal Current I_r (A)	Measuring Range (A)	Output voltage (Analog) (V)	Aperture Diameter (mm)	Part number
50	± 100	4 ±1.0%	Ø40.5	CYHCS-EKB50A-C
100	± 200			CYHCS-EKB100A-C
200	± 400			CYHCS-EKB200A-C
400	± 800			CYHCS-EKB400A-C
500	± 1000			CYHCS-EKB500A-C
800	± 1600			CYHCS-EKB800A-C
1000	± 2000			CYHCS-EKB1000A-C
2000	± 3000			CYHCS-EKB2000A-C

(Connector: Molex connector C=M; Phoenix Connector: C=P)

Supply Voltage	V_{cc}= ±12V~15VDC
Current Consumption	I_c < 25mA
Galvanic isolation, 50/60Hz, 1min:	5kV
Load resistance:	10kΩ
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} <20mV
Magnetic Offset Voltage ($I_r \rightarrow 0$)	V_{om} <±20mV
Thermal Drift of Offset Voltage,	V_{ot} <±0.5mV/°C
Thermal Drift (-10°C to 50°C),	T.C. < ±0.1% /°C
Response Time at 90% of I_P (f=1k Hz)	t_r < 5µs
Frequency bandwidth (- 3 dB):	DC-20kHz

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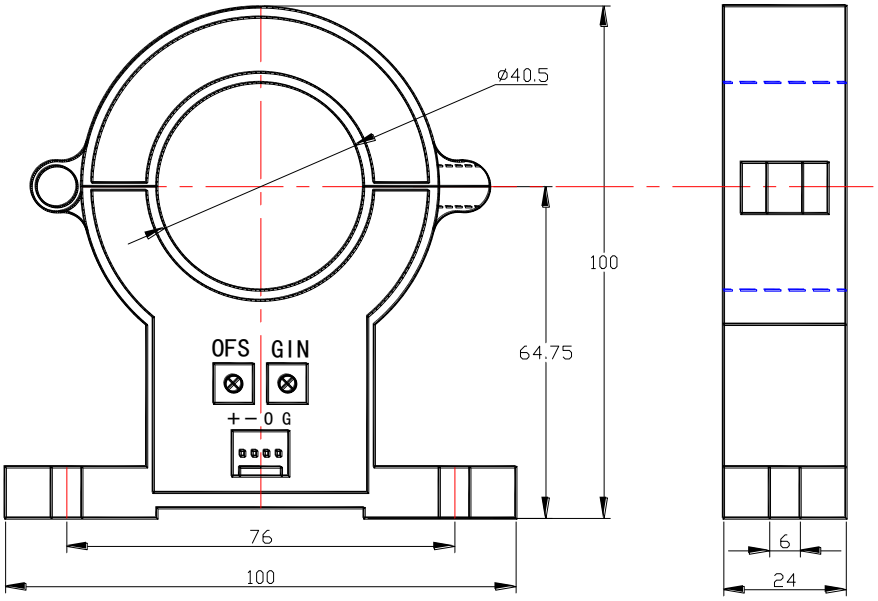
Internet: www.chenyang.de

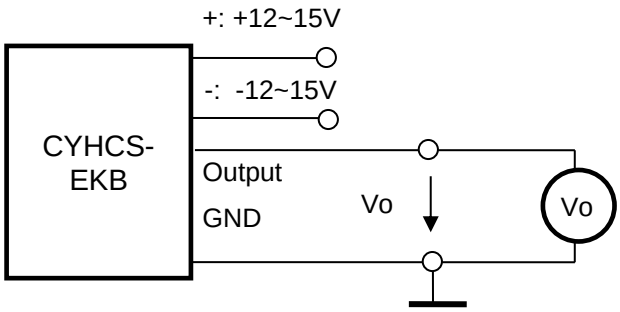
General Data

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

PIN Definition and Dimensions



+: +15V
-: -15V
O: Output
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

Split Core Hall Effect AC/DC Current Sensor CYHCS-C3S

This Hall Effect current sensor can be used for measurement of DC and AC current, pulsed 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	• Frequency conversion timing equipment • Various power supply • Uninterruptible power supplies (UPS) • Electric welding machines • Numerical controlled machine tools • Electrolyzing and electroplating equipment • Electric powered locomotive • Microcomputer monitoring • Electric power network monitoring

Electrical Data

Primary Nominal Current I_r (A)	Primary Current Measuring Range I_p(A) at Vcc=5V	Output Voltage (analog) (V)	Part number
50	± 67.5	2.5VDC±1.5V	CYHCS-C3S-50A-C
100	± 135		CYHCS-C3S-100A-C
200	± 270		CYHCS-C3S-200A-C
300	± 405		CYHCS-C3S-300A-C
400	± 540		CYHCS-C3S-400A-C
500	± 675		CYHCS-C3S-500A-C
800	± 1080		CYHCS-C3S-800A-C
1000	± 1350		CYHCS-C3S-1000A-C
2000	± 2700		CYHCS-C3S-2000A-C

(Connector: Molex connector C=M; Phoenix Connector: C=P)

Supply Voltage	V_{cc}= +5V ± 5%
Current Consumption	I_c < 25mA
RMS Voltage for 5kV AC isolation test, 50/60Hz, 1min,	V_{is} <10mA
Output Impedance:	R_{out} < 150Ω
Load Resistor:	R_L > 10kΩ
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±1.0%
Magnetic Offset Voltage (I_r →0)	V_{om} <±15mV
Thermal Drift of Offset Voltage,	V_{ot} <±1.0mV/°C
Thermal Drift (-10°C to 50°C),	T.C. < ±0.1% /°C
Response Time at 90% of I_P (f=1k Hz)	t_r < 7µs
Frequency Bandwidth (-3dB),	f_b = 0-20 kHz

General Data

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

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Relation between Input Current and Output Voltage

Take the sensor CYHCS-C3S-100A as sample, the relation between the input current and output voltage is shown in the table 1, Fig.1 and Fig. 2

Table 1. Relation between the input current and output voltage

Input current (A)	-135	-100	-75	-50	0	50	75	100	135
Output voltage (V)	0.475	1.0	1.375	1.75	2.5	3.25	3.625	4.0	4.525

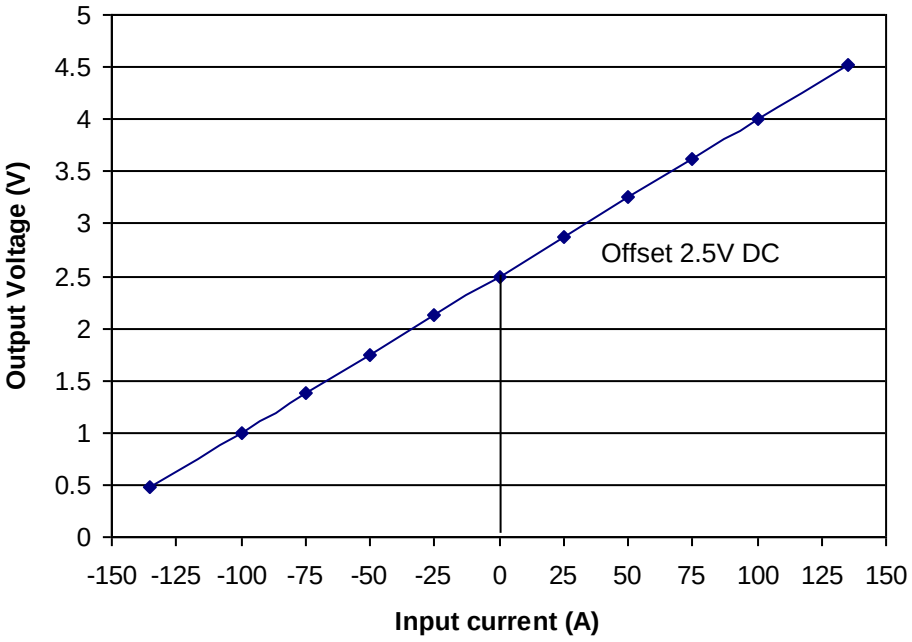


Fig. 1 Relation between the input current (DC) and output voltage (DC)

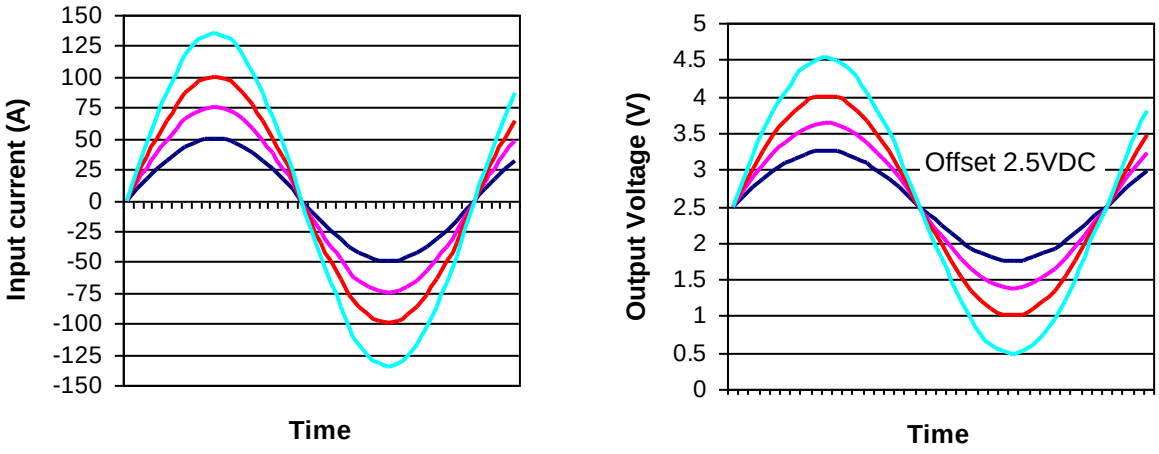
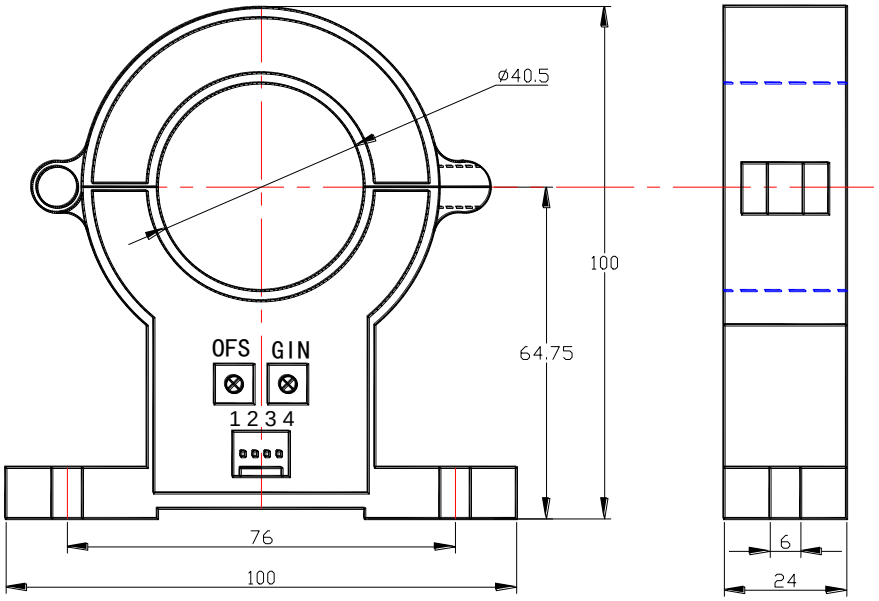
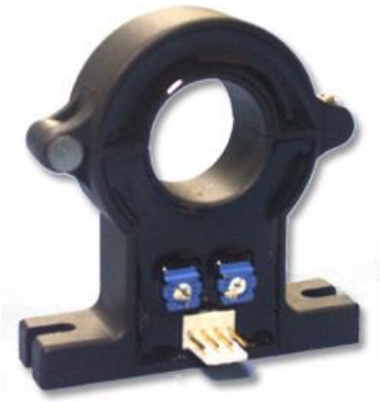


Fig. 2 Relation between the input current (AC) and output voltage (AC)

PIN Definition and Dimensions



1: +5V DC
2: NC
3: OUTPUT
4: 0V (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

Split Core Hall Effect AC/DC Current Sensor CYHCS-C3T

This Hall Effect current sensor is based on open loop principle and designed with a split core and a high galvanic isolation between primary conductor and secondary circuit. It can be used for measurement of DC and AC current, pulsed 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 with split core • Electrically isolating the output of the transducer from the current carrying conductor • No insertion loss • Current overload capability	• Frequency conversion timing equipment • Various power supply • Uninterruptible power supplies (UPS) • Electric welding machines • Numerical controlled machine tools • Electrolyzing and electroplating equipment • Electric powered locomotive • Microcomputer monitoring • Electric power network monitoring

Electrical Data

Primary Nominal Current I_r (A)	Primary Current Measuring Range I_p(A) at Vcc=12V	Output Voltage (analog) (V)	Part number
50	± 50	x=3: 2.5VDC±2.5V x=8: 5VDC ± 5V	CYHCS-C3T-50A-xnC
100	± 100		CYHCS-C3T-100A-xnC
200	± 200		CYHCS-C3T-200A-xnC
400	± 400		CYHCS-C3T-400A-xnC
500	± 500		CYHCS-C3T-500A-xnC
800	± 800		CYHCS-C3T-800A-xnC
1000	± 1000		CYHCS-C3T-1000A-xnC
1500	± 1500		CYHCS-C3T-1500A-xnC
2000	± 2000		CYHCS-C3T-2000A-xnC

(n=2, *Vcc*= +12VDC; n=3, *Vcc* =+15VDC; n=4, *Vcc* =+24VDC,
Connector: Molex connector C=M; Phoenix Connector: C=P)

Current Consumption	I_c < 25mA
RMS Voltage for 2.5kV AC isolation test, 50/60Hz, 1min,	V_{is} <10mA
Output Impedance:	R_{out} < 150Ω
Load Resistor:	R_L > 10kΩ
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}=5VDC±1.0% or 5VDC±1.0%
Magnetic Offset Voltage (I_r →0)	V_{om} <±15mV
Thermal Drift of Offset Voltage,	V_{ot} <±1.0mV/°C
Thermal Drift (-10°C to 50°C),	T.C. < ±0.1% /°C
Response Time at 90% of I_P (f=1k Hz)	t_r < 7µs
Frequency Bandwidth (-3dB),	f_b = 0-20 kHz
Mean Time Between Failures (MTBF):	50k - 100k hours

General Data

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

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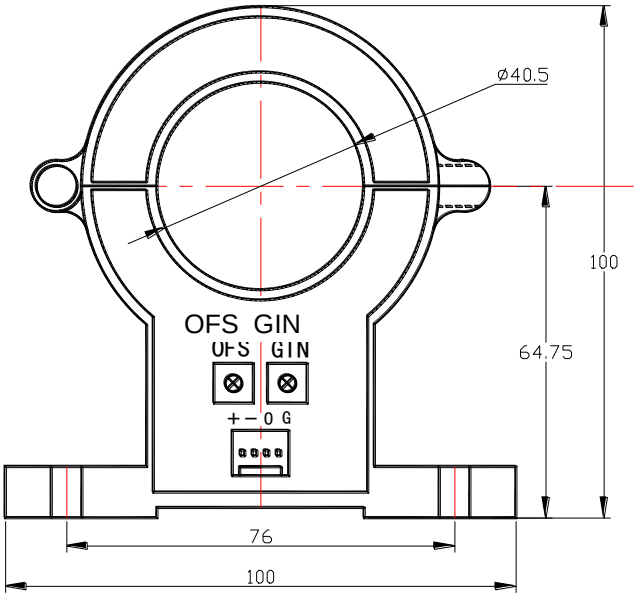
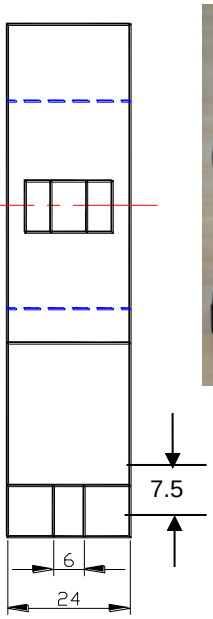
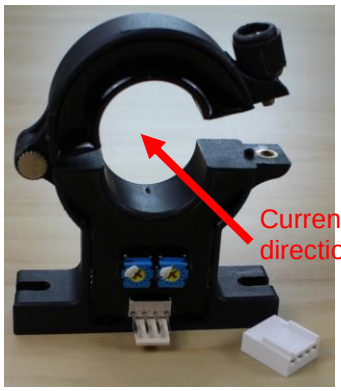
Internet: www.chenyang.de

PIN Definition and Dimensions



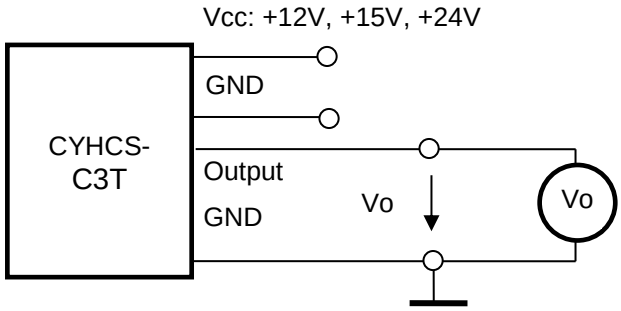




1(+): Vcc
2(G): GND
3(O): Output
4(G): GND

OFS: Offset Adjustment GIN: Gain Adjustment

Connection



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/DC Current Sensor CYHCS-EA

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) (V)	Aperture Diameter (mm)	Part number
50	± 100	4 +1.0%	Ø40.5	CYHCS-EA50A-C
100	± 200			CYHCS-EA100A-C
200	± 400			CYHCS-EA200A-C
400	± 800			CYHCS-EA400A-C
500	± 1000			CYHCS-EA500A-C
800	± 1600			CYHCS-EA800A-C
1000	± 2000			CYHCS-EA1000A-C
2000	± 3000			CYHCS-EA2000A-C

(Connector: Molex connector C=M; Phoenix Connector: C=P)

Supply Voltage	V_{cc}= ±15V ± 5%,
Current Consumption	I_c < 25mA
Galvanic isolation, 50/60Hz, 1min:	5kV
Load resistance:	10kΩ
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} <20mV
Magnetic Offset Voltage ($I_r \rightarrow 0$)	V_{om} <±40mV
Thermal Drift of Offset Voltage,	V_{ot} <±0.5mV/°C
Thermal Drift (-10°C to 50°C),	T.C. < ±0.1% /°C
Frequency bandwidth (- 3 dB):	DC-50kHz
Response Time at 90% of I_P (f=1k Hz)	t_r < 3µs
di/dt following accuracy:	70A/µs

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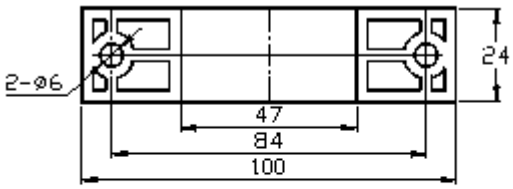
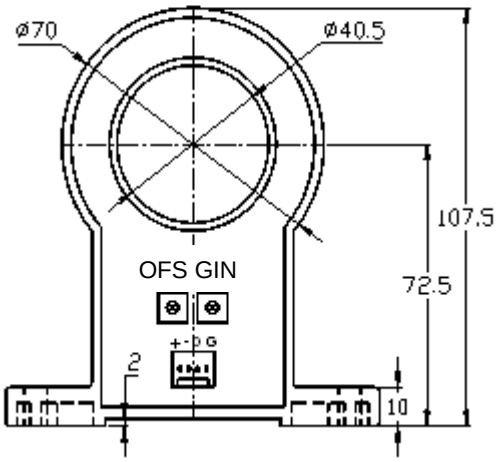
Internet: www.chenyang.de

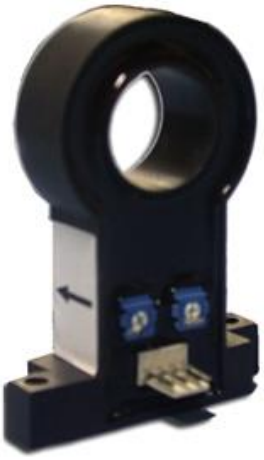
General Data

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

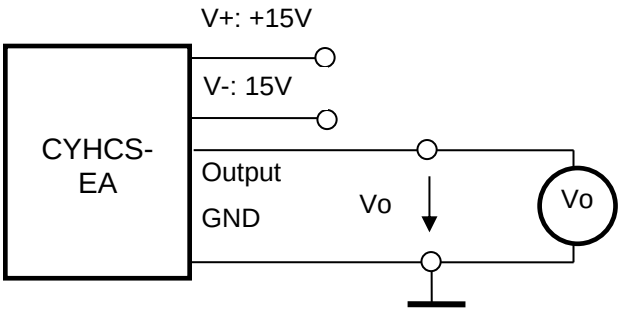
PIN Definition and Dimensions







1(+): +15V
2(-): -15V
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

Hall Effect AC/DC Current Sensor CYHCS-K2A

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 • 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 • Uninterruptible power supplies (UPS) • Electric welding machines • Transformer substation • Numerical controlled machine tools • Electric powered locomotive • Electric power network monitoring • Inverters etc.

Electrical Data

Primary Nominal Current I_r (A)	Measuring Range (A)	Output Signal (Voltage or current)	Aperture Diameter (mm)	Part number
500	1000	X=1: ±4V ±1.0% X=3: 0-5VDC ±1.0% X=5: 4-20mADC ±1.0%	Ø30	CYHCS-K2A500A-X
600	1200			CYHCS-K2A600A-X
700	1400			CYHCS-K2A700A-X
800	1600			CYHCS-K2A800A-X
900	1800			CYHCS-K2A900A-X
1000	2000			CYHCS-K2A1000A-X

Supply Voltage	V_{cc}= ±12~15VDC
Current Consumption	I_c < 25mA
Galvanic isolation, 50/60Hz, 1min:	2.5kV
Load resistance:	10kΩ
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} <20mV
Magnetic Offset Voltage ($I_r \rightarrow 0$)	V_{om} <±25mV
Thermal Drift of Offset Voltage,	V_{ot} <±1mV/°C
Response Time at 90% of I_P (f=1k Hz)	t_r < 5µs
Frequency bandwidth (- 3 dB):	DC-50kHz

General Data

Ambient Operating Temperature,	T_A = -10°C ~ +70°C
Ambient Storage Temperature,	T_S = -40°C ~ +85°C

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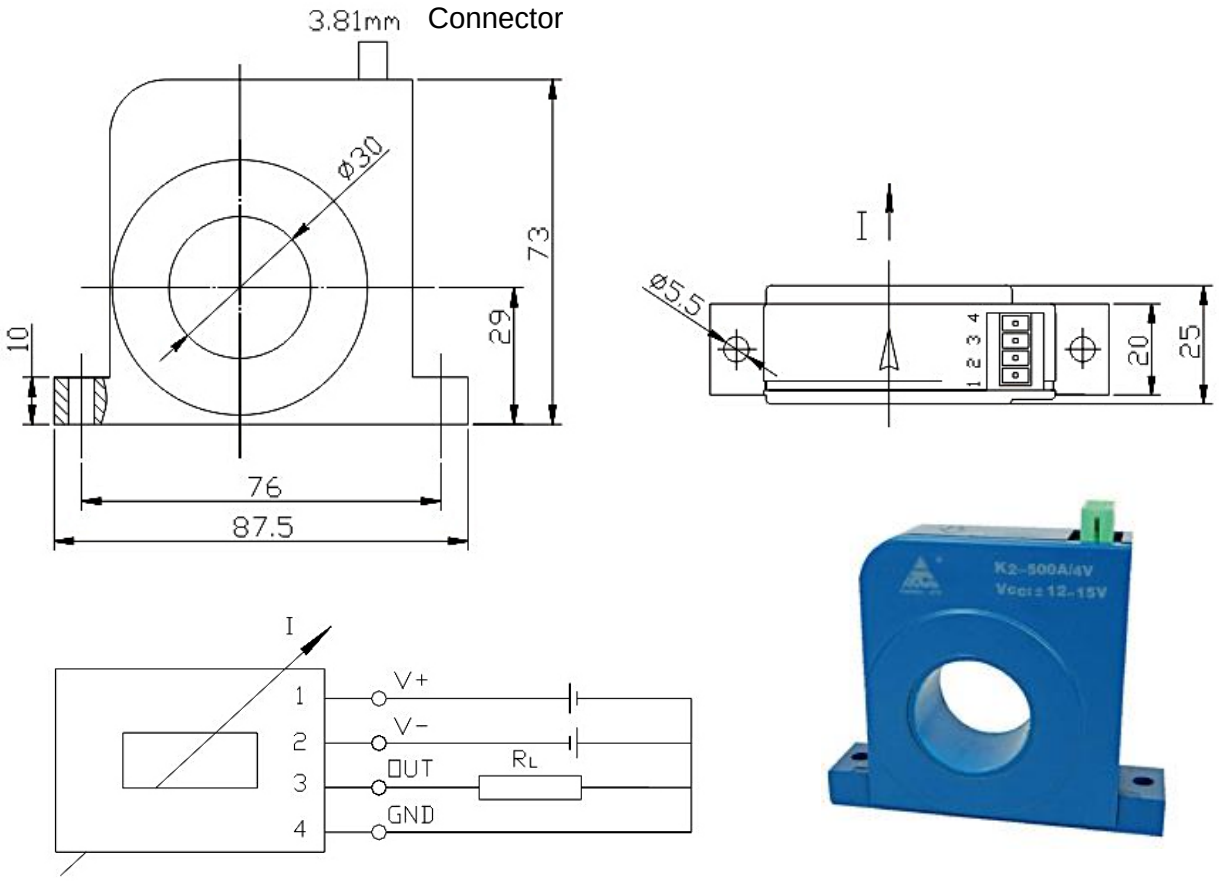
Dimensions



Terminal Arrangement:

1:	V+ (+12~15VDC)
2:	V- (-12~15VDC)
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

Hall Effect AC/DC Current Sensor CYHCS-K2B

This Hall Effect current sensor is based on open loop principle and designed with a high galvanic isolation between primary conductor and secondary circuits. 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 • 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 • Uninterruptible power supplies (UPS) • Electric welding machines • Transformer substation • Numerical controlled machine tools • Electric powered locomotive • Electric power network monitoring • Inverters etc.

Electrical Data

Primary Nominal Current I_r (A)	Measuring Range (A)	Output Signal (Voltage or current)	Aperture Diameter (mm)	Part number
1000	2000	X=1: ±4V ±1.0% X=3: 0-5VDC ±1.0% X=5: 4-20mADC ±1.0%	Ø50	CYHCS-K2B1000A-X
1200	2400			CYHCS-K2B1200A-X
1500	3000			CYHCS-K2B1500A-X
2000	4000			CYHCS-K2B2000A-X
2500	5000			CYHCS-K2B2500A-X
3000	6000			CYHCS-K2B3000A-X

Supply Voltage	V_{cc}= ±12~15VDC
Current Consumption	I_c < 25mA
Galvanic isolation, 50/60Hz, 1min:	2.5kV
Load resistance:	10kΩ
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} <20mV
Magnetic Offset Voltage ($I_r \rightarrow 0$)	V_{om} <±25mV
Thermal Drift of Offset Voltage,	V_{ot} <±1mV/°C
Response Time at 90% of I_P (f=1k Hz)	t_r < 5µs
Frequency bandwidth (- 3 dB):	DC-50kHz

General Data

Ambient Operating Temperature,	T_A = -10°C ~ +70°C
Ambient Storage Temperature,	T_S = -40°C ~ +85°C

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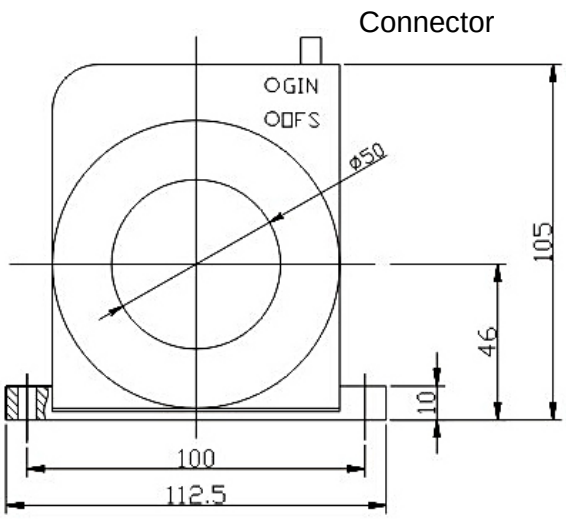
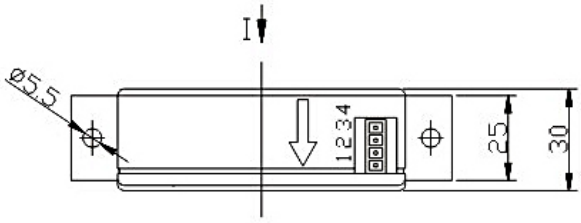
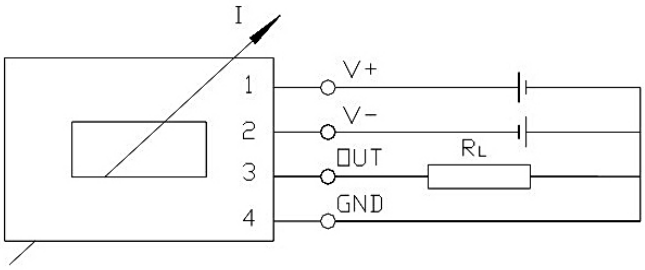
Dimensions







Terminal Arrangement:

1:	V+ (+12~15VDC)
2:	V- (-12~15VDC)
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

Hall Effect AC/DC Current Sensor CYHCS-K2

This Hall Effect current sensor is based on open loop principle and designed with a high galvanic isolation between primary conductor and secondary circuits. 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 • 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 • Uninterruptible power supplies (UPS) • Electric welding machines • Transformer substation • Numerical controlled machine tools • Electric powered locomotive • Electric power network monitoring • Inverters etc.

Electrical Data

Primary Nominal Current I_r (A)	Measuring Range (A)	Output Signal (Voltage or current)	Aperture Diameter (mm)	Part number
300	600	X=0: ±4V ±1.0% X=1: ±5V ±1.0%	Ø55	CYHCS-K2-300A-X
500	800			CYHCS-K2-500A-X
600	900			CYHCS-K2-600A-X
800	1100			CYHCS-K2-800A-X
1000	1300			CYHCS-K2-1000A-X
1200	1500			CYHCS-K2-1200A-X
1500	1800			CYHCS-K2-1200A-X

Supply Voltage	V_{cc}= ±12~15VDC
Current Consumption at ±15VDC	I_c < 20mA
Galvanic isolation, 50/60Hz, 1min:	2.5kV
Load resistance:	≥20kΩ
Isolation resistance @ 500 VDC	> 500 MΩ

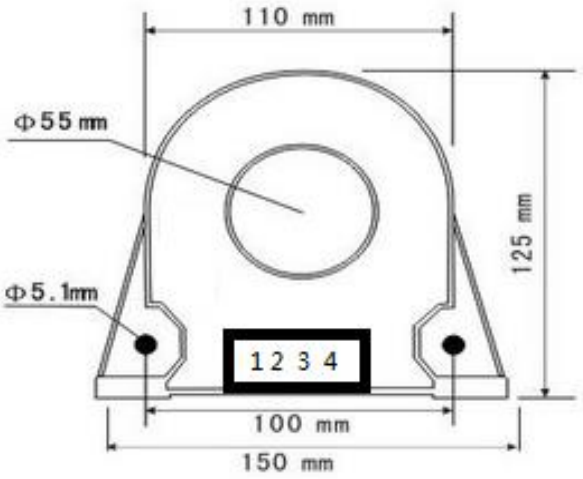
Accuracy and Dynamic performance data

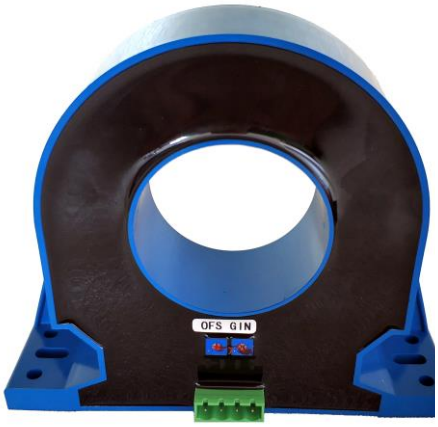
Accuracy at I_r, T_A=25°C (without offset),	X <1.0%
Linearity from 0 to I_r, T_A=25°C,	E_L <1.0% FS
Electric Offset Voltage, T_A=25°C,	V_{oe} <25mV
Magnetic Offset Voltage ($I_r \rightarrow 0$)	V_{om} <±20mV
Thermal Drift of Offset Voltage, Ta=-25°C~85°C	V_{ot} <±1mV/°C
Response Time at 90% of I_P (f=1k Hz)	t_r < 3μs
Frequency bandwidth (- 3 dB):	DC-20kHz

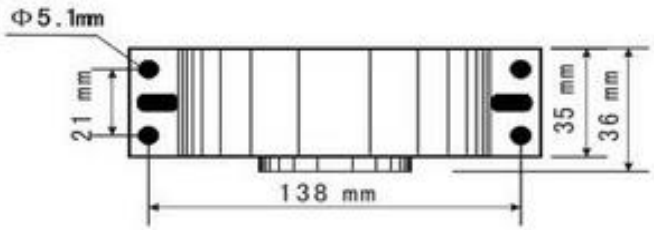
General Data

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

Dimensions





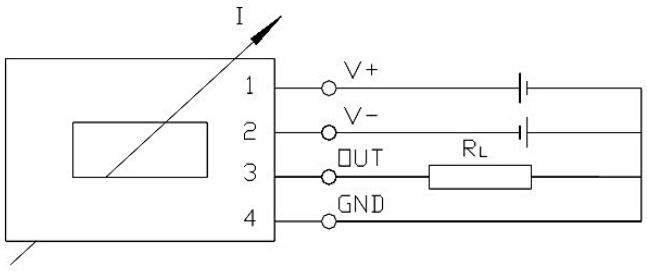


Terminal Arrangement:

1: V+ (+12~15VDC)
2: V- (-12~15VDC)
3: OUTPUT
4: GND

OFS: Offset adjustment
GIN: Gain adjustment

Connection



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/DC Current Sensor CYHCS-K2C

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 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 • 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 • Uninterruptible power supplies (UPS) • Electric welding machines • Transformer substation • Numerical controlled machine tools • Electric powered locomotive • Electric power network monitoring • Inverters etc.

Electrical Data

Primary Nominal Current I_r (A)	Measuring Range (A)	Output Signal (Voltage or current)	Aperture Diameter (mm)	Part number
1000	2000	X=1: ±4V ±1.0% X=3: 0-5VDC ±1.0% X=5: 4-20mADC ±1.0%	Ø85	CYHCS-K2C1000A-X
2000	4000			CYHCS-K2C2000A-X
2500	5000			CYHCS-K2C2500A-X
3000	6000			CYHCS-K2C3000A-X
3500	7000			CYHCS-K2C3500A-X
4000	8000			CYHCS-K2C4000A-X
4500	9000			CYHCS-K2C4500A-X
5000	10000			CYHCS-K2C5000A-X
6000	12000			CYHCS-K2C6000A-X

Supply Voltage	V_{cc}= ±12~15VDC
Current Consumption	I_c < 25mA
Galvanic isolation, 50/60Hz, 1min:	2.5kV
Load resistance:	10kΩ
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} <20mV
Magnetic Offset Voltage ($I_r \rightarrow 0$)	V_{om} <±25mV
Thermal Drift of Offset Voltage,	V_{ot} <±1mV/°C
Response Time at 90% of I_P (f=1k Hz)	t_r < 5µs
Frequency bandwidth (- 3 dB):	DC-50kHz

General Data

Ambient Operating Temperature,	T_A = -10°C ~ +70°C
Ambient Storage Temperature,	T_S = -40°C ~ +85°C

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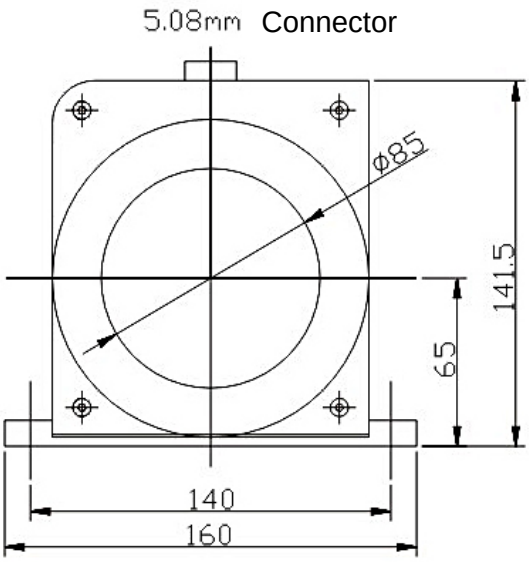
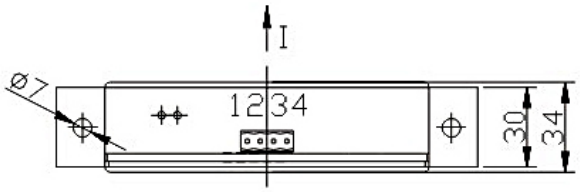
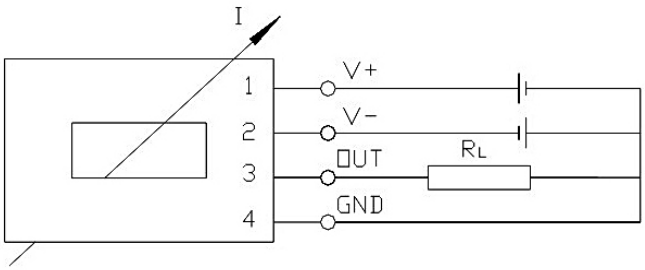
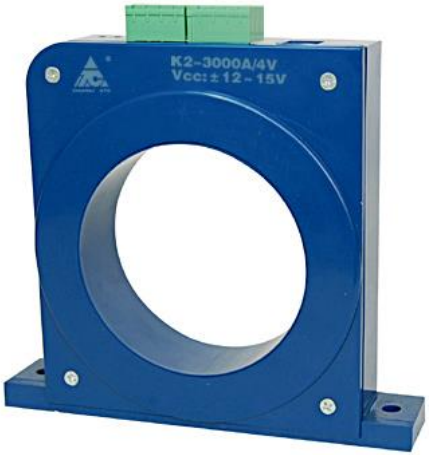
Dimensions









Terminal Arrangement:

1:	V+ (+12~15VDC)
2:	V- (-12~15VDC)
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.