



Catalogue

Closed Loop AC/DC Hall Effect Current Sensors Transducers with PCB Mounting

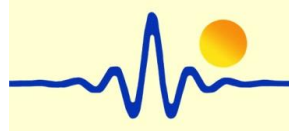
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Hall Effect AC/DC Current Sensor CYHCS-LAH

This Hall Effect current sensor is based on closed loop compensating principle and 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.

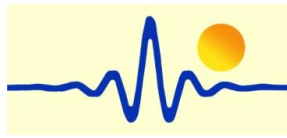
Product Characteristics	Applications
<ul style="list-style-type: none"> • Excellent accuracy • Very good linearity • Small size and encapsulated • Less power consumption • Current overload capability 	<ul style="list-style-type: none"> • Photovoltaic equipment • General Purpose Inverters • AC/DC Variable Speed Drivers • Battery Supplied Applications • Uninterruptible Power Supplies (UPS) • Switched Mode Power Supplies

ELECTRICAL DATA

Part number	CYHCS-LAH50A	CYHCS-LAH100A
Nominal input current (I_{PN})	50A	100A
Measuring range (I_P)	0-150A	0-280A
Turns ratio	1:2000	
Measuring resistance with $\pm 12VDC$	@ $I_{PN}(DC)$ Rmin=100 Ω , Rmax=360 Ω	@ $I_{PN}(DC)$ Rmin=50 Ω , Rmax=170 Ω
	@ $I_{PN}(RMS)$ Rmin=75 Ω , Rmax=250 Ω	@ $I_{PN}(RMS)$ Rmin=35 Ω , Rmax=120 Ω
Measuring resistance with $\pm 15VDC$	@ $I_{PN}(DC)$ Rmin=120, Rmax=480	@ $I_{PN}(DC)$ Rmin=60, Rmax=220
	@ $I_{PN}(RMS)$ Rmin=82, Rmax=350	@ $I_{PN}(RMS)$ Rmin=42, Rmax=160
Supply voltage	$\pm 12VDC \sim \pm 15VDC$	
Nominal output current	25mA	50mA
Current consumption	$\leq 20mA + \text{Output current}$	
Galvanic isolation	50Hz, 1min, 5kV	
Secondary internal resistance	Ta=70°C, 75 Ω	Ta=70°C, 50 Ω

ACCURACY DYNAMIC PERFORMANCE

Zero offset current Ta=25°C, $I_P \rightarrow 0$	< $\pm 0.2mA$
Magnetic Offset current $I_P \rightarrow 0$	< $\pm 0.2mA$
Thermal drift of offset current	$I_P=0$, Ta=-40°C ~ +85°C, $\pm 0.5mA$
Response time	(10% -90%) <1 μs
Accuracy at +25°C	$\pm 0.5\% FS$
Linearity	$\leq 0.1\% FS$
Bandwidth(-3dB)	DC...200kHz
di/dt	>200A/ μs



GENERAL DATA

Operating temperature	-40°C ~ +85°C
Storage temperature	-40°C ~ +125°C
Unit weight (net)	15g

STANDARDS

- UL94-V0.
- EN60947-1:2004
- IEC60950-1:2001 Test Voltage: 1000V
- EN50178:1998 Test Voltage: 1000V
- SJ 20790-2000

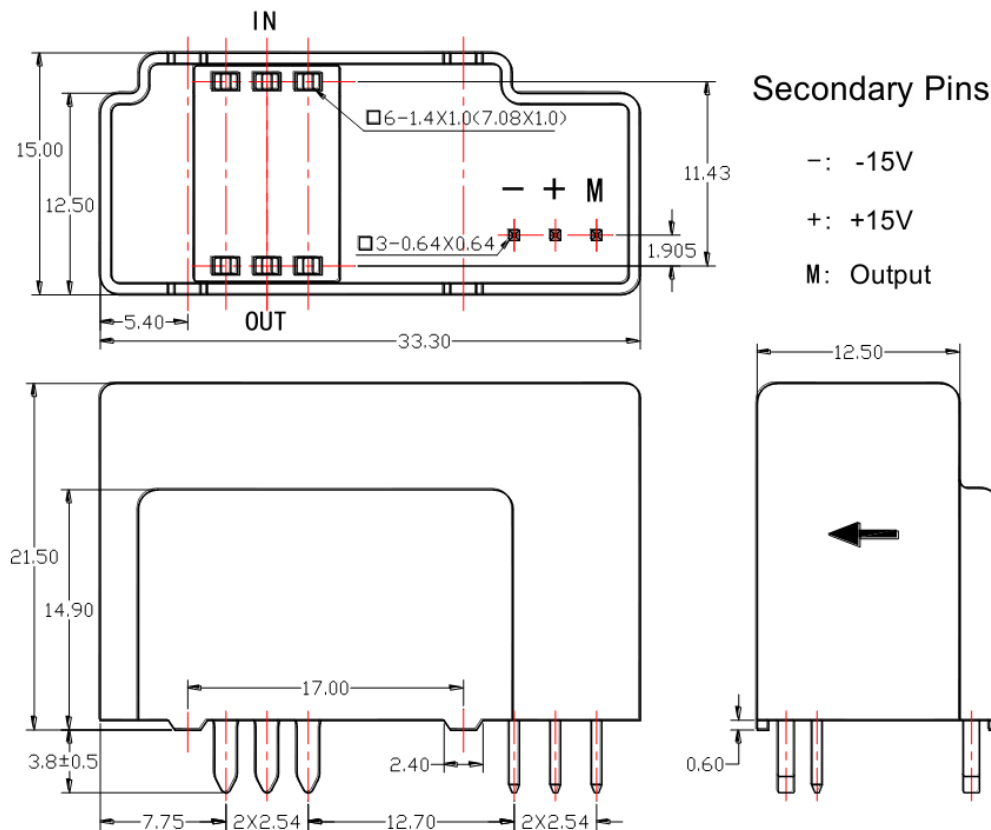
Terminal Arrangement

+: +12V ~ +15VDC

-: -12V ~ -15VDC

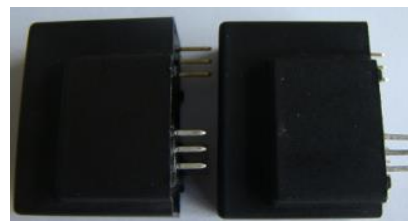
M: Output

DIMENSIONS (mm)



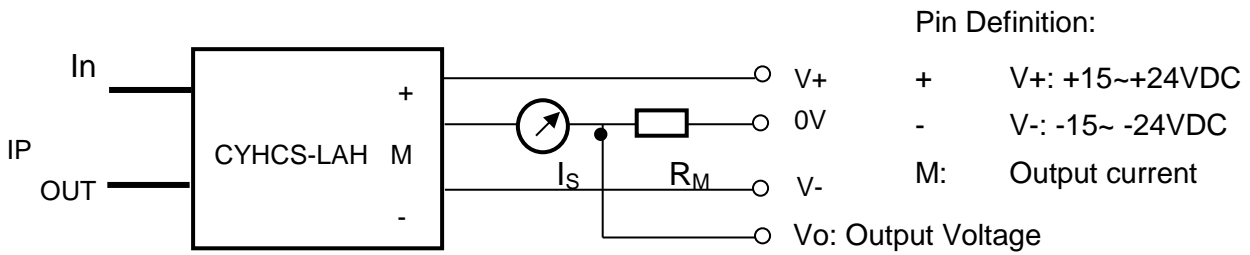
Remarks:

1. All dimensions are in mm.
2. General tolerance ±1mm





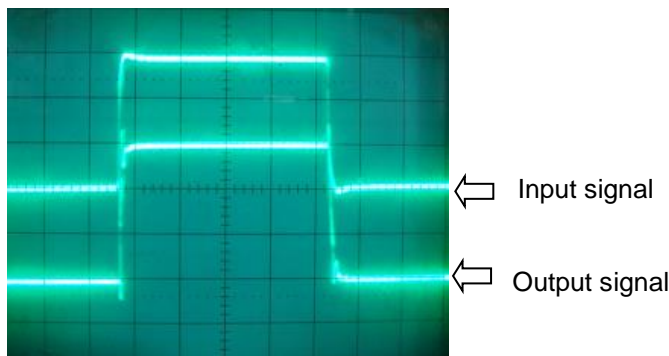
SENSOR CONNECTION



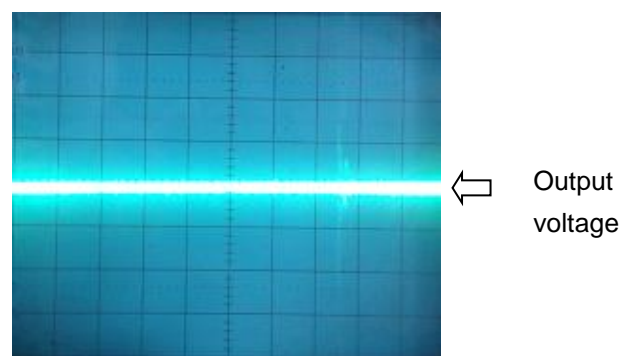
Pin connections

Turns	Rated input current (A)	Measure range (A)	Rated output current (mA)	Secondary turns	Primary resistance (mΩ)	Primary inductance (uH)
1	50(100)	150(280)	25(50)	2000	0.08	0.007

Pulse current signal response characteristic



Effects of impulse noise



OPERATION INSTRUCTIONS

1. Connect the terminals of power source, output respectively and correctly, never make wrong connection for DC current.
2. Temperature of the primary conductor should not exceed 100 °C.
3. Dynamic performances (di/dt and the response time) are the best with a single bar completely filling the primary hole.
4. In order to achieve the best magnetic coupling, the primary windings have to be wound over the top edge of the device.



Hall Effect AC/DC Current Sensor CYHCS-LAS

This Hall Effect current sensor is based on closed loop compensating principle and 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
<ul style="list-style-type: none"> • Excellent accuracy • Very good linearity • Small size and encapsulated • Less power consumption • Current overload capability 	<ul style="list-style-type: none"> • Photovoltaic equipment • General Purpose Inverters • AC/DC Variable Speed Drivers • Battery Supplied Applications • Uninterruptible Power Supplies (UPS) • Switched Mode Power Supplies

ELECTRICAL DATA

Part number	CYHCS-LAS50A	CYHCS-LAS100A
Nominal input current (I_{PN})	50A	100A
Measuring range (I_p)	0~ ±160A	0~±300A
Secondary coil resistance	$T_a=70^{\circ}\text{C}$, 28Ω	$T_a=70^{\circ}\text{C}$, 15Ω
Internal sampling resistor	3.75Ω±0.1% 10ppm/°C	1.875Ω±0.1% 10PPM/°C
Turns ratio 1:N	1:1200	1:1200
Nominal output voltage	2.5VDC±0.625±0.5%	2.5VDC±0.625±0.5%
Supply voltage	+5VDC ± 5%	
Current consumption	≤20mA + I_p/N	
Reference voltage VR	+2.5VDC±0.4%	
Galvanic isolation	50Hz, 1min, 5kV	

ACCURACY DYNAMIC PERFORMANCE

Zero offset voltage $T_a=25^{\circ}\text{C}$, $I_p \rightarrow 0$	+2.5VDC±0.4%
Thermal drift of offset voltage	$I_p=0$, $T_a=-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$, ±0.5mV/°C
Response time	(@100A/μs, 10% -90%) <0.5μs
Accuracy at +25°C	± 0.5% FS
Linearity	≤0.1% FS
Bandwidth(-3dB)	DC...100kHz
di/dt	>100A/μs

GENERAL DATA

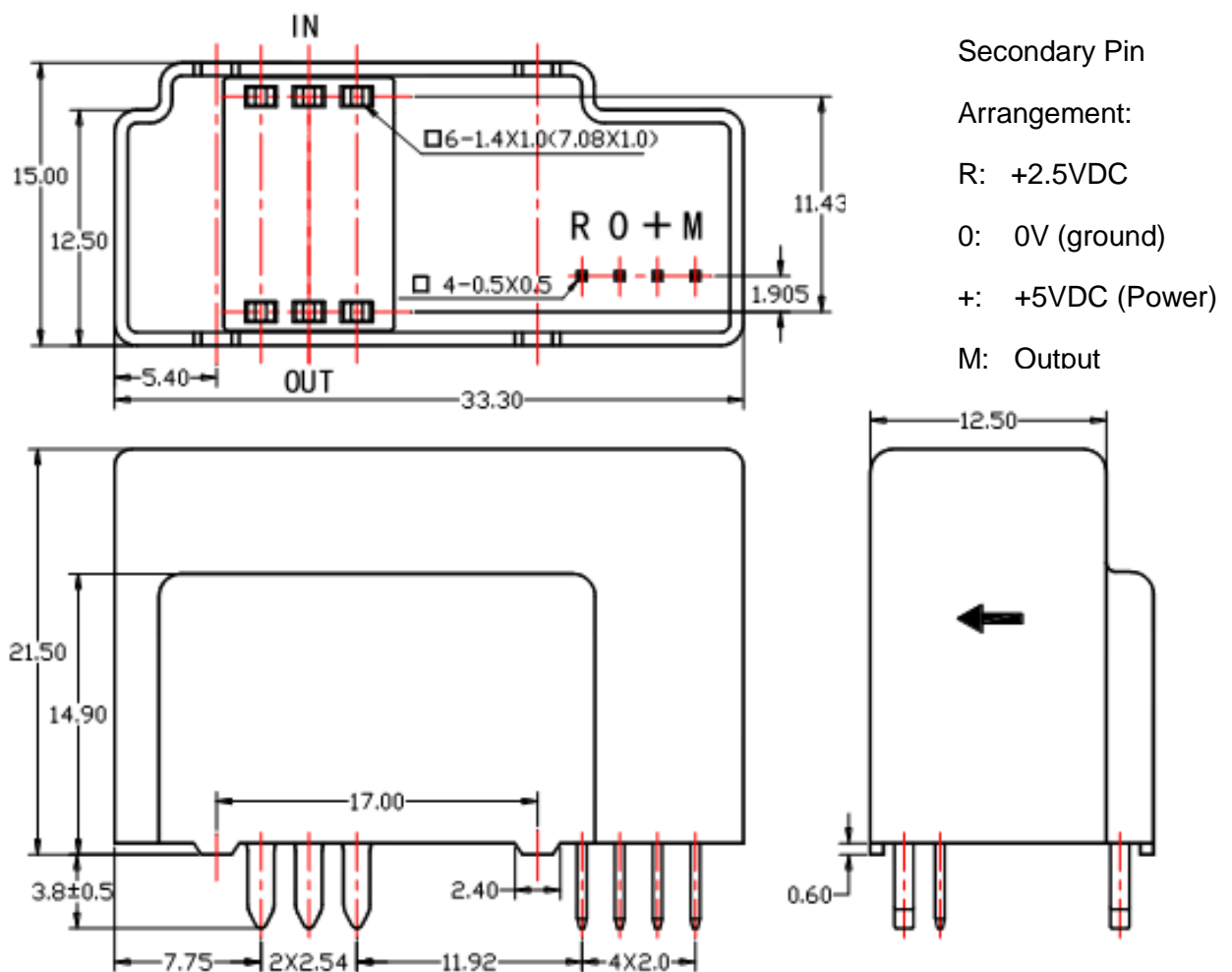
Operating temperature	-40°C ~ +85°C
Storage temperature	-40°C ~ +125°C
Unit weight (net)	15g



STANDARDS

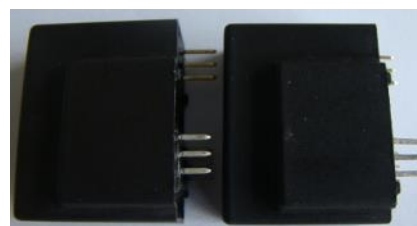
- UL94-V0.
- EN60947-1:2004
- IEC60950-1:2001 Test Voltage: 1000V
- EN50178:1998 Test Voltage: 1000V
- SJ 20790-2000

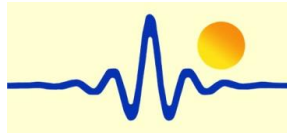
DIMENSIONS (mm)



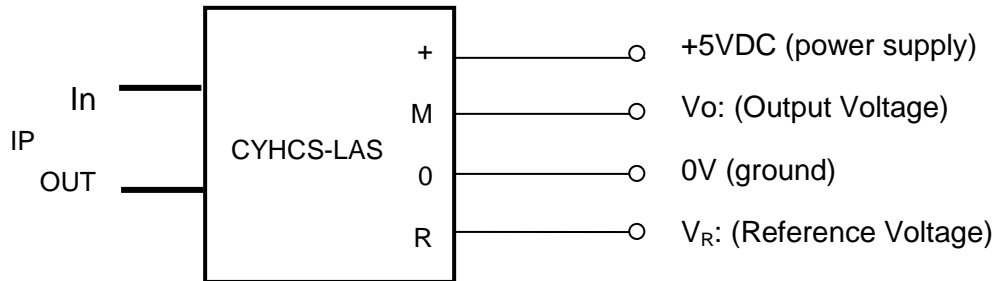
Remarks:

1. All dimensions are in mm.
2. General tolerance ±1mm





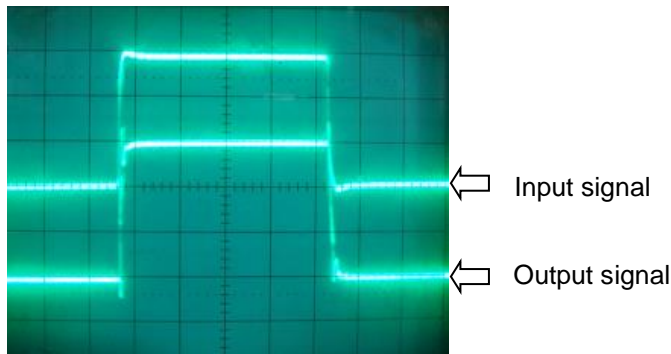
ENOSOR CONNECTION



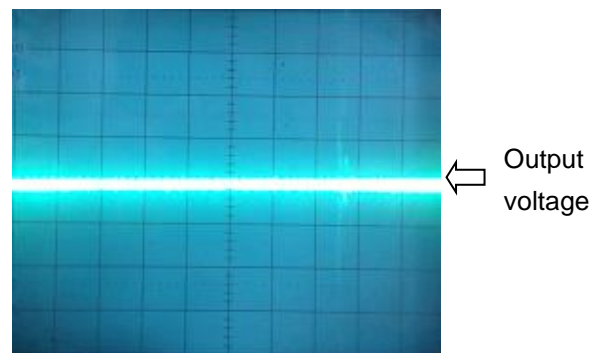
Pin connections

Turns	Rated input current (A)	Measure range (A)	Rated output voltage (V)	Secondary turns	Primary resistance (mΩ)	Primary inductance (uH)
1	50(100)	160(300)	0.625	1200	0.08	0.007

Pulse current signal response characteristic



Effects of impulse noise



OPERATION INSTRUCTIONS

1. Connect the terminals of power source, output respectively and correctly, never make wrong connection for DC current.
2. Temperature of the primary conductor should not exceed 100 °C.
3. Dynamic performances (di/dt and the response time) are the best with a single bar completely filling the primary hole.
4. In order to achieve the best magnetic coupling, the primary windings have to be wound over the top edge of the device.



Hall Effect AC/DC Current Sensor CYHCS-B1-25A

This Hall Effect current sensor is based on closed loop compensating principle and 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
<ul style="list-style-type: none"> • Excellent accuracy • Very good linearity • Small size and encapsulated • Less power consumption • Current overload capability 	<ul style="list-style-type: none"> • Photovoltaic equipment • General Purpose Inverters • AC/DC Variable Speed Drivers • Battery Supplied Applications • Uninterruptible Power Supplies (UPS) • Switched Mode Power Supplies • Motors etc.

ELECTRICAL CHARACTERISTIC

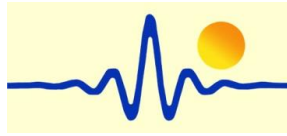
Nominal current	25	A
Measuring range	0 ~ ±55	A
Measuring resistance (at rated current)	54~360 (±15V)	Ω
Nominal analogue output current Is	25±0.5%	mA
Supply voltage	±15 ±5%	V
Turns ratio	1-2-3-4:1000	
Galvanic isolation	50(60)Hz, 1min, 5	kV
Secondary internal resistance(at+70°C)	40	Ω

ACCURACY DYNAMIC PERFORMANCE

Zero offset current at +25°C	±0.15	mA
Thermal drift of offset current	≤±0.5 (-40°C~ +85°C)	mA
Linearity	≤0.1	%FS
di/dt accuracy followed	>50	A/μs
Response time	<1	μs
Bandwidth (-3db)	DC ~ 200	kHz

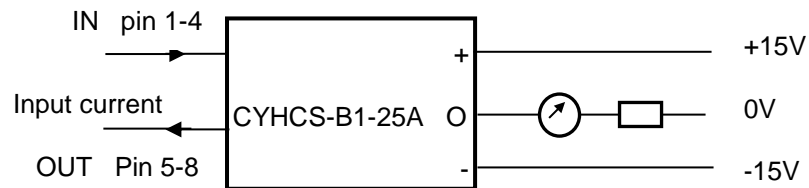
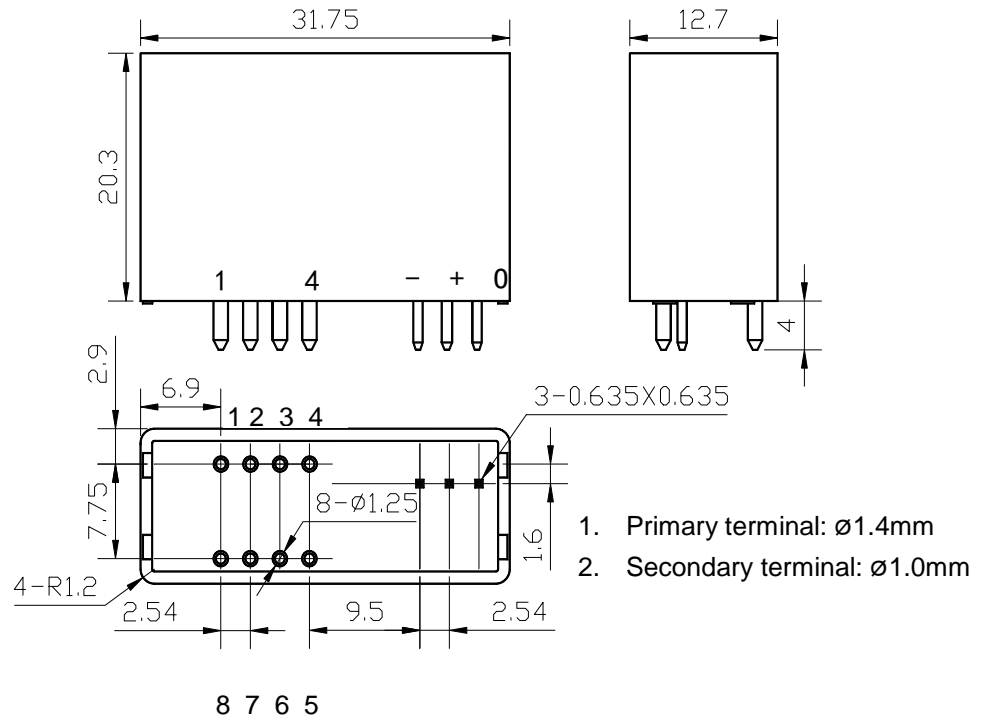
GENERAL CHARACTERISTIC

Operating temperature	-25 ~ +85	°C
Storage temperature	-40 ~ +100	°C
Current consumption	10 + Is	mA



Dimensions (mm)

+ +15V
- -15V
O: Output



Wiring diagram

Primary Terminal	Nominal current (A)	Measuring range (A)	Output current (mA)	Pin connection
1	25	55	25	
2	12	27	24	
3	8	18	24	
4	6	13	24	



Hall Effect AC/DC Current Sensor CYHCS-B1-50A

This Hall Effect current sensor is based on closed loop compensating principle and 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
<ul style="list-style-type: none"> • Excellent accuracy • Very good linearity • Small size and encapsulated • Less power consumption • Current overload capability 	<ul style="list-style-type: none"> • Photovoltaic equipment • General Purpose Inverters • AC/DC Variable Speed Drivers • Battery Supplied Applications • Uninterruptible Power Supplies (UPS) • Switched Mode Power Supplies • Motors etc.

ELECTRICAL CHARACTERISTIC

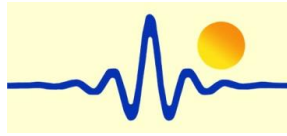
Nominal current	50	A
Measuring range	0 ~ ±100	A
Measuring resistance (at rated current)	68~180 (±15V)	Ω
Nominal analogue output current Is	50±0.5%	mA
Supply voltage	±15 ±5%	V
Turns ratio	1-2-3-4:1000	
Galvanic isolation	50(60)Hz, 1min, 5	kV
Secondary internal resistance(at+70°C)	30	Ω

ACCURACY DYNAMIC PERFORMANCE

Zero offset current at +25°C	±0.15	mA
Thermal drift of offset current	≤±0.5 (-40°C~ +85°C)	mA
Linearity	≤0.1	%FS
di/dt accuracy followed	>50	A/μs
Response time	<1	μs
Bandwidth (-3db)	DC ~ 200	kHz

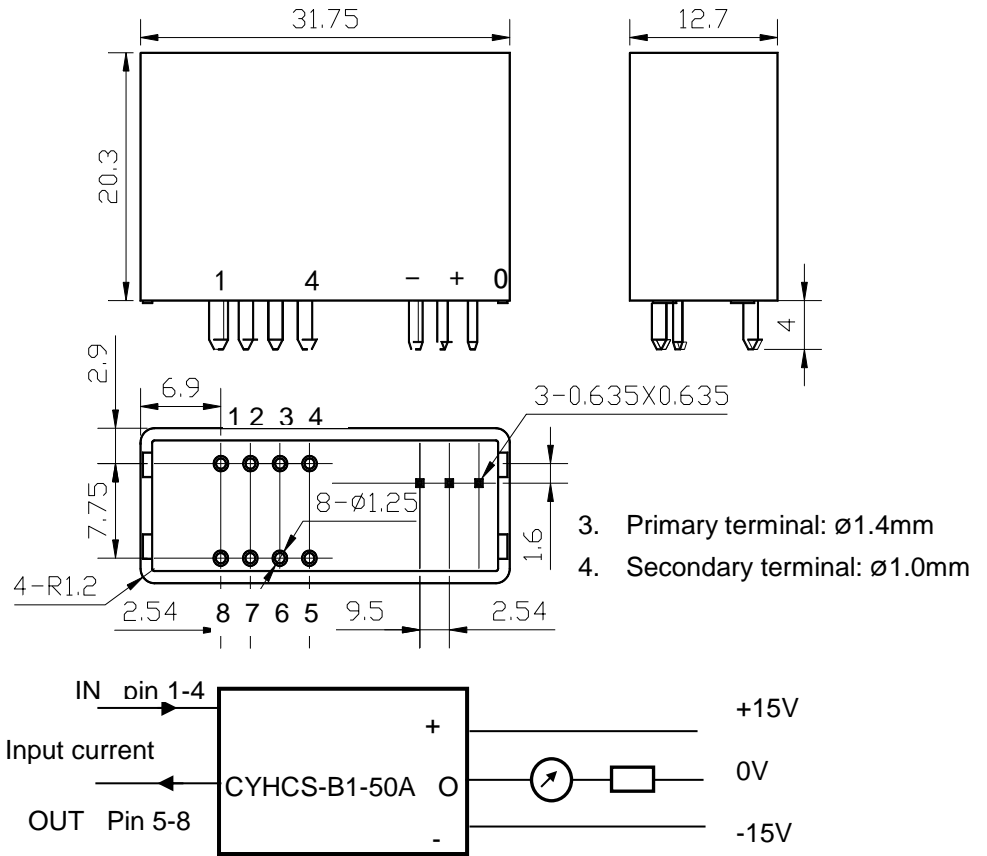
GENERAL CHARACTERISTIC

Operating temperature	-40 ~ +85	°C
Storage temperature	-40 ~ +100	°C
Current consumption	10 + Is	mA



Dimensions (mm)

+ +15V
- -15V
O: Output



Wiring diagram

Primary Terminal	Nominal current (A)	Measuring range (A)	Output current (mA)	Pin connection
1	50	100	50	
2	25	50	50	
3	16	33	48	
4	12	25	48	



Hall Effect AC/DC Current Sensor CYHCS-B2

This Hall Effect current sensor is based on closed loop compensating principle and 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
<ul style="list-style-type: none"> • Excellent accuracy • Very good linearity • Small size and encapsulated • Less power consumption • Current overload capability 	<ul style="list-style-type: none"> • Photovoltaic equipment • General Purpose Inverters • AC/DC Variable Speed Drivers • Battery Supplied Applications • Uninterruptible Power Supplies (UPS) • Switched Mode Power Supplies • Motors etc.

ELECTRICAL CHARACTERISTIC

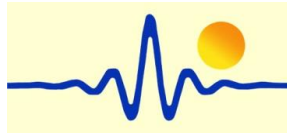
Nominal current	25	A
Measuring range	0 ~ ±50	A
Primary internal turn resistance	1.25	Ω
Nominal analogue output current Is	25±0.5%	mA
Supply voltage	±15 (±5%)	V
Turns ratio	1-2-3-4-5:1000	
Galvanic isolation	50(60)Hz, 1min, 2500	V
Secondary internal resistance	110	Ω
Current consumption	10 + Is	mA

ACCURACY DYNAMIC PERFORMANCE

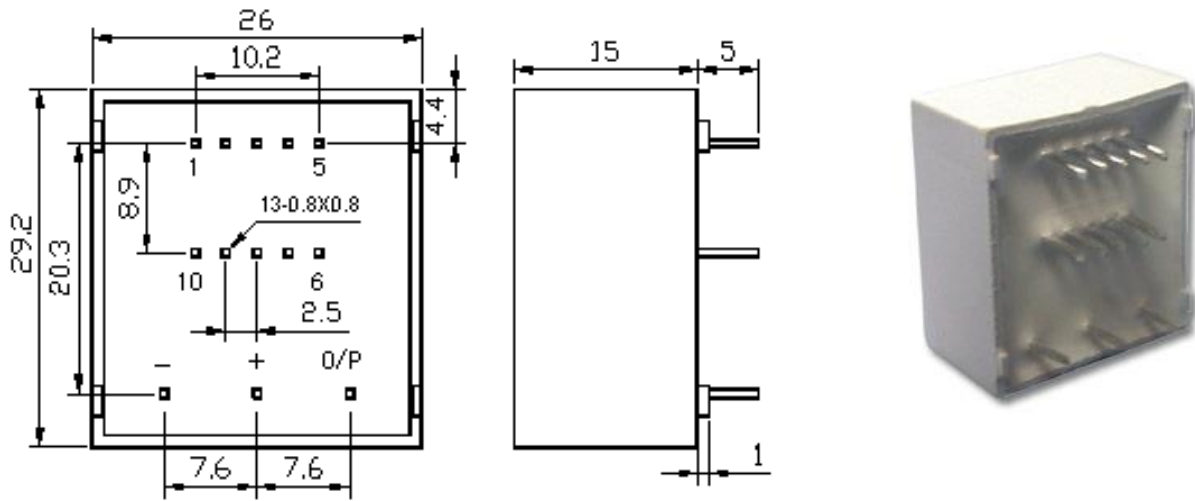
Zero offset current at +25°C	±0.10	mA
Magnetic zero offset current (IP=0)	±0.15	mA
Thermal drift of offset current	±0.5 (-40°C~ +85°C)	mA
Accuracy (TA =25°C, VC=±15V)	±0.5	%
Linearity	≤ 0.2	%FS
di/dt accuracy followed	>50	A/μs
Response time	<1	μs
Bandwidth (-3db)	DC ~ 150	kHz

GENERAL CHARACTERISTIC

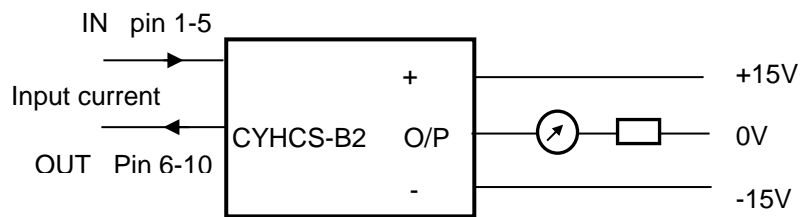
Operating temperature	-40 ~ +85	°C
Storage temperature	-40 ~ +100	°C



Dimensions (mm)

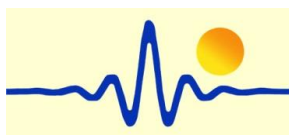


+ +15V
- -15V
O/P: Output



Wiring diagram

Primary Terminal	Nominal current (A)	Measuring range (A)	Output current (mA)	Pin connection
1	25	50	25	
2	12	24	24	
3	8	16	24	
4	6	12	24	
5	5	10	25	



Primary Terminal	Nominal current (A)	Measuring range (A)	Output current (mA)	Turns ratio	Primary resistance (m Ω)	Primary leakage inductance (μ H)
1	25	50	25	1/1000	0.3	0.023
2	12	24	24	2/1000	1.1	0.09
3	8	16	24	3/1000	2.5	0.21
4	6	12	24	4/1000	4.4	0.37
5	5	10	25	5/1000	6.3	0.58



Hall Effect AC/DC Current Sensor CYHCS-B7

This Hall Effect current sensor is based on the closed loop compensating 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
<ul style="list-style-type: none"> • Excellent accuracy • Very good linearity • Small size and encapsulated • Less power consumption • Current overload capability 	<ul style="list-style-type: none"> • Photovoltaic equipment • General Purpose Inverters • AC/DC Variable Speed Drivers • Battery Supplied Applications • Uninterruptible Power Supplies • Switched Mode Power Supplies

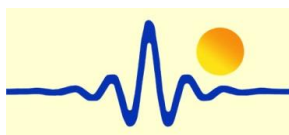
Electrical Data/Input

Part number	Primary Rated Current I_r (A)	Measuring Range I_p (A)	Primary Conductor (mm)	Turns ratio	Internal measuring resistor (Ω)
CYHCS-B7-05A	5	± 15	$\varnothing 0.6$	4:2000	400
CYHCS-B7-10A	10	± 30	$\varnothing 0.8$	3:3000	400
CYHCS-B7-15A	15	± 45	$\varnothing 1.0$	2:3000	400
CYHCS-B7-20A	20	± 60	$\varnothing 1.0$	2:2500	250
CYHCS-B7-25A	25	± 75	$\varnothing 1.4$	1:2500	400
CYHCS-B7-30A	30	± 90	$\varnothing 1.6$	1:3000	400
CYHCS-B7-50A	50	± 150	$\square 2.4 \times 1.6$	1:3125	250
CYHCS-B7-75A	75	± 200	$\square 2.4 \times 1.6$	1:3750	200

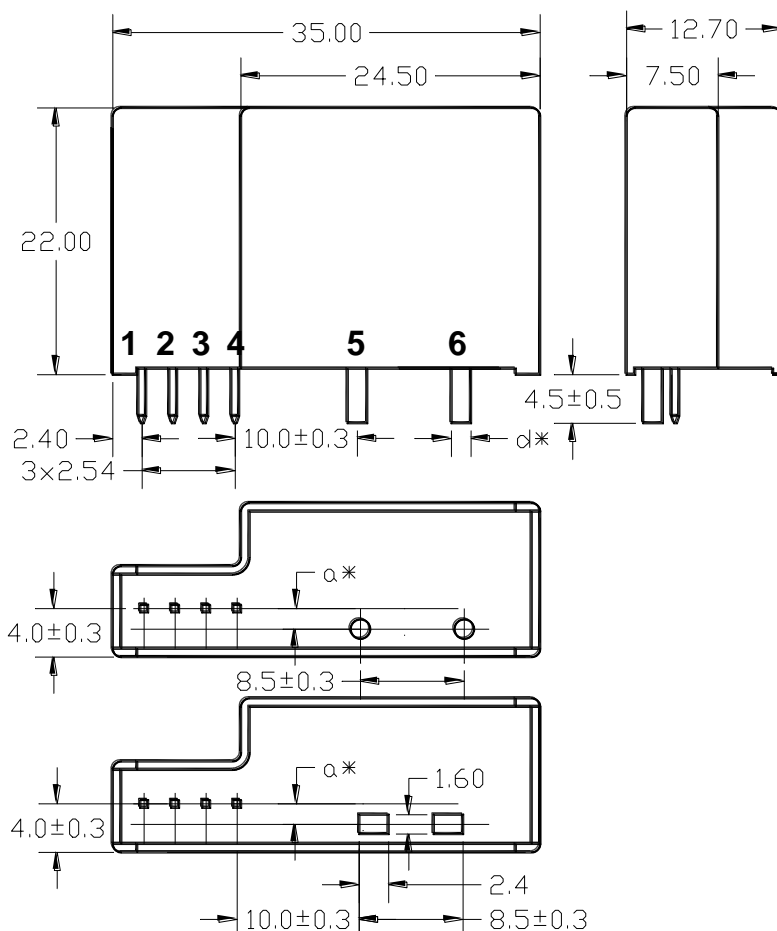
Rated Output Voltage:	$\pm 4V \pm 0.5\%$
Supply Voltage	$\pm 15V \pm 5\%$,
Current Consumption	20mA +10mA
Isolation voltage (50/60Hz, 1min)	2.5kV
Isolation resistance:	1000M Ω
Accuracy:	0.5%
Linearity:	<0.1% FS
Electric Offset Voltage	$\pm 40mV$
Thermal Drift of Offset Voltage	$\pm 0.5mV/^\circ C$
Thermal Drift of Output Voltage	0.02%/ $^\circ C$
Response Time:	< 1 μs
Frequency Bandwidth:	DC ~ 150 kHz

General Data

Ambient Operating Temperature:	-25 $^\circ C$ ~ +85 $^\circ C$
Ambient Storage Temperature:	-40 $^\circ C$ ~ +100 $^\circ C$



PIN Definition



1	+15V
2	-15V
3	Output
4	GND
5	Input +
6	Input -



Part number	a (mm)	d (mm)
CYHCS-B7-05A	1.3	Ø 0.6
CYHCS-B7-10A	1.4	Ø 0.8
CYHCS-B7-15A	1.6	Ø 1.0
CYHCS-B7-20A	1.6	Ø 1.0
CYHCS-B7-25A	1.6	Ø 1.4
CYHCS-B7-30A	1.7	Ø 1.6
CYHCS-B7-50A	1.7	□ 2.4x1.6
CYHCS-B7-75A	1.7	□ 2.4x1.6

Operating instructions

1. Connect the pins of power source, outputs respectively and correctly, never make wrong connection for DC current.
2. Temperature of the primary conductor should not exceed 100 °C.



Hall Effect AC/DC Current Sensor CYHCS-B8

This Hall Effect current sensor is based on the closed loop compensating 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
<ul style="list-style-type: none"> • Excellent accuracy • Very good linearity • Small size and encapsulated • Less power consumption • Current overload capability 	<ul style="list-style-type: none"> • Photovoltaic equipment • General Purpose Inverters • AC/DC Variable Speed Drivers • Battery Supplied Applications • Uninterruptible Power Supplies • Switched Mode Power Supplies

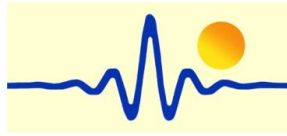
Electrical Data/Input

Part number	Primary Rated Current I_r (A)	Measuring Range I_p (A)	Primary Conductor (mm)	Turns ratio	Internal measuring resistor (Ω)
CYHCS-B8-05A	5	± 15	$\varnothing 0.6$	5:2500	400
CYHCS-B8-10A	10	± 30	$\varnothing 0.8$	3:3000	400
CYHCS-B8-15A	15	± 45	$\varnothing 1.0$	2:3000	400
CYHCS-B8-20A	20	± 60	$\varnothing 1.0$	2:2500	250
CYHCS-B8-25A	25	± 75	$\varnothing 1.4$	1:2500	400
CYHCS-B8-30A	30	± 90	$\varnothing 1.6$	1:3000	400
CYHCS-B8-50A	50	± 150	2x $\square 1.6 \times 1.5$	1:3125	250

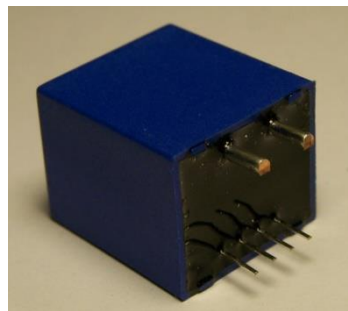
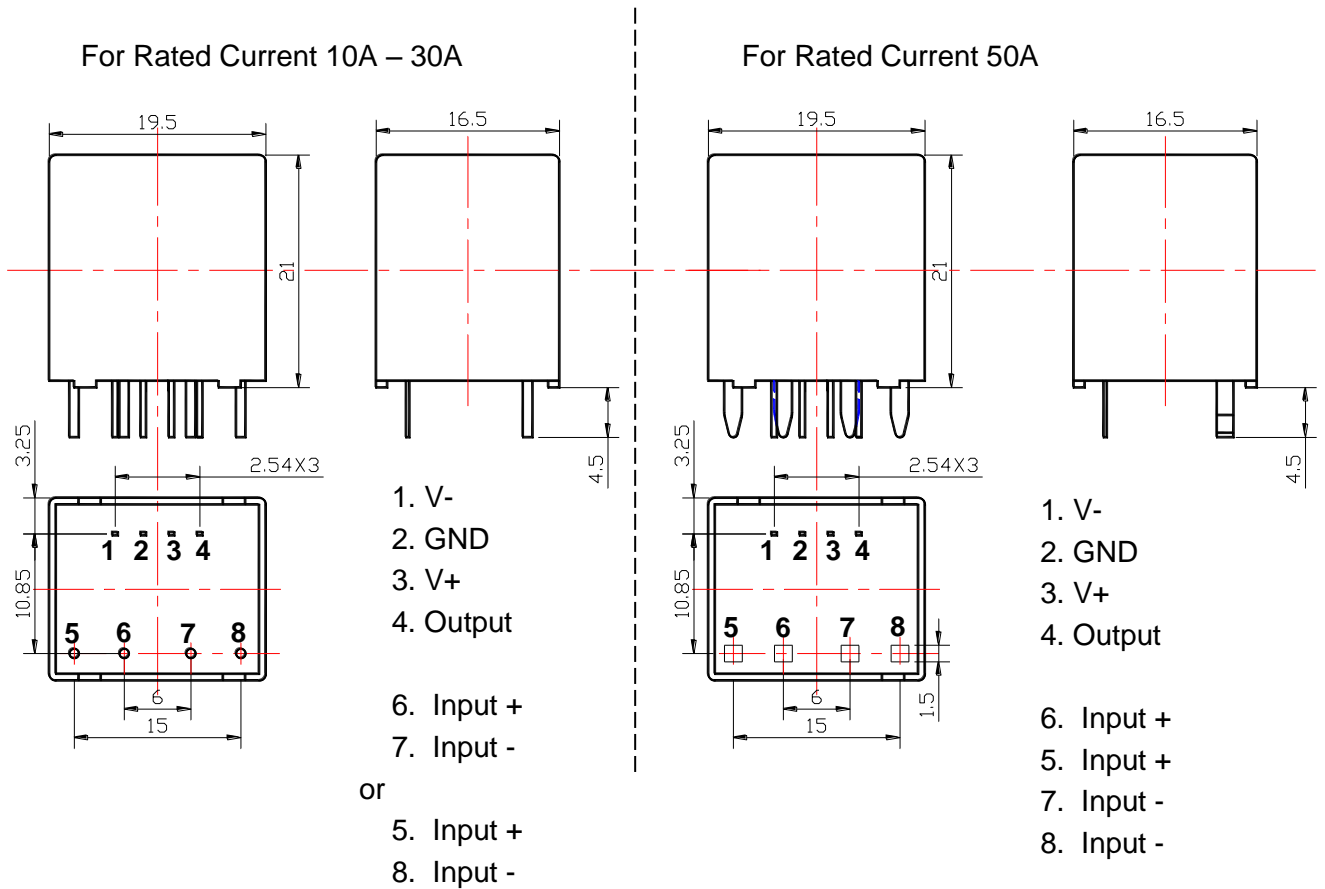
Rated Output Voltage:	$\pm 4V \pm 0.5\%$
Supply Voltage	$\pm 15V \pm 5\%$,
Current Consumption (at $V_{out}=0V$)	20mA+10mA
Isolation voltage (50/60Hz, 1min)	2.5kV
Accuracy:	0.5%
Linearity:	<0.1% FS
Electric Offset Voltage	$\pm 20mV$
Thermal Drift of Offset Voltage,	$\pm 0.5mV/^\circ C$
Response Time:	< 1 μs
Frequency Bandwidth:	DC ~ 150 kHz

General Data

Ambient Operating Temperature:	-25 $^\circ C$ ~ +85 $^\circ C$
Ambient Storage Temperature:	-40 $^\circ C$ ~ +100 $^\circ C$



PIN Definition



Operating instructions

1. Connect the pins of power source, outputs respectively and correctly, never make wrong connection for DC current.
2. Temperature of the primary conductor should not exceed 100 °C.

Custom Sensors with other input current and output voltage are available



Hall Effect AC/DC Current Sensor CYHCS-B8S

This Hall Effect current sensor is based on the closed loop compensating 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
<ul style="list-style-type: none"> • Excellent accuracy • Very good linearity • Small size and encapsulated • Less power consumption • Current overload capability 	<ul style="list-style-type: none"> • Photovoltaic equipment • General Purpose Inverters • AC/DC Variable Speed Drivers • Battery Supplied Applications • Uninterruptible Power Supplies • Switched Mode Power Supplies

Electrical Data/Input

Part number	Primary Rated Current I_r (A)	Measuring Range I_p (A)	Primary Conductor (mm)	Turns ratio	Internal measuring resistor (Ω)
CYHCS-B8S05A	5	± 16	$\varnothing 0.8$	2:1600	100 \pm 0.5%
CYHCS-B8S10A	10	± 32	$\varnothing 1.0$	1:1600	100 \pm 0.5%
CYHCS-B8S15A	15	± 48	$\varnothing 1.0$	1:1200	50 \pm 0.5%
CYHCS-B8S25A	25	± 80	$\varnothing 1.4$	1:1500	37.5 \pm 0.5%

Rated Output Voltage:	+2.5V \pm 0.625V \pm 0.5%
Supply Voltage	+5V \pm 5%,
Current Consumption	<30mA
Isolation voltage (50/60Hz, 1min)	2.5kV
Accuracy:	0.7%
Linearity:	<0.1% FS
Electric Offset Voltage	+2.5V \pm 0.5%
Thermal Drift of Offset Voltage,	\pm 0.5mV/ $^{\circ}$ C
Response Time:	< 0.5 μ s
Di/dt following accuracy:	50A/ μ s
Frequency Bandwidth (-1dB):	DC ~ 200kHz

General Data

Ambient Operating Temperature:	-25 $^{\circ}$ C ~ +85 $^{\circ}$ C
Ambient Storage Temperature:	-40 $^{\circ}$ C ~ +100 $^{\circ}$ C



Relation between Input Current and Output Voltage

Take the sensor CYHCS-B8S10A 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)	-30	-20	-10	-5	0	5	10	20	30
Output voltage (V)	0.625	1.25	1.875	2.188	2.5	2.813	3.125	3.75	4.375

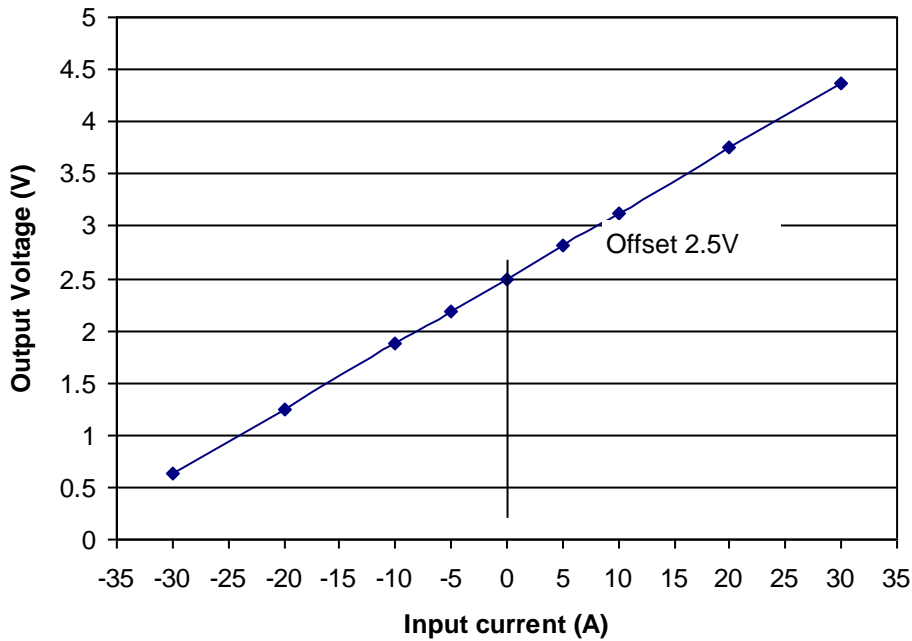


Fig. 1 Relation between the input current (DC) and output voltage (DC)

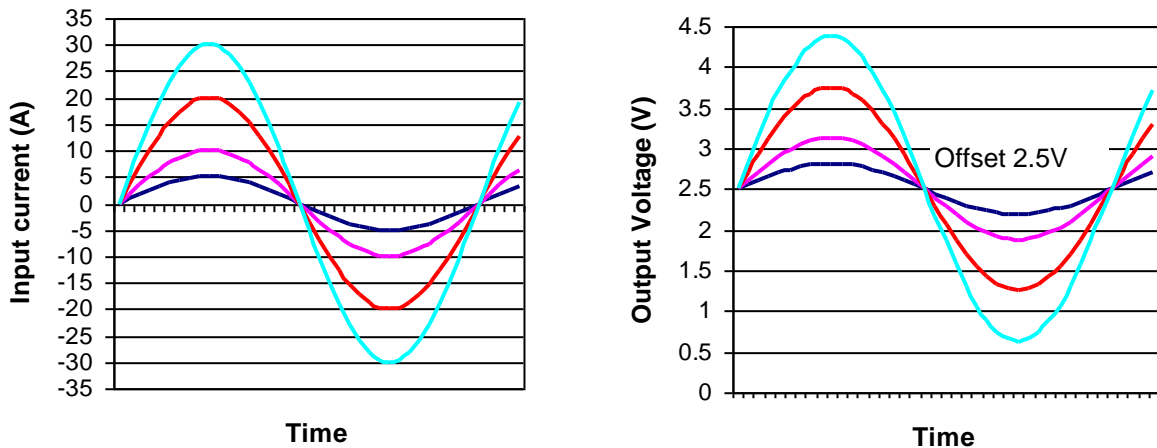
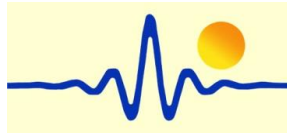


Fig. 2 Relation between the input current (AC) and output voltage (AC)



Dimensions (mm)

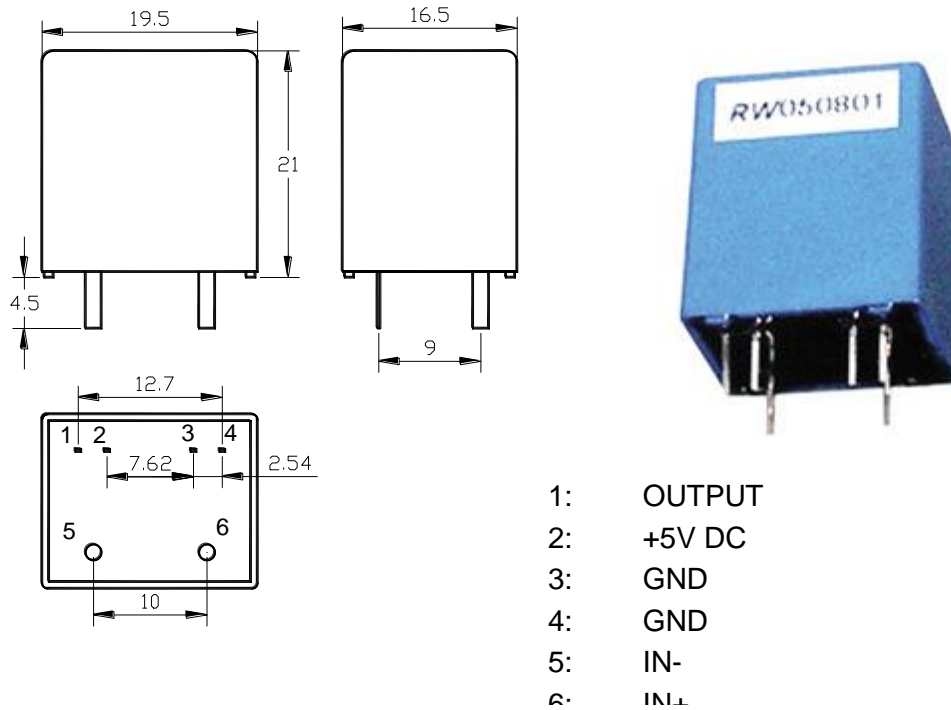


Fig. 3 Dimensions of sensor CYHCS-B8S

Connection

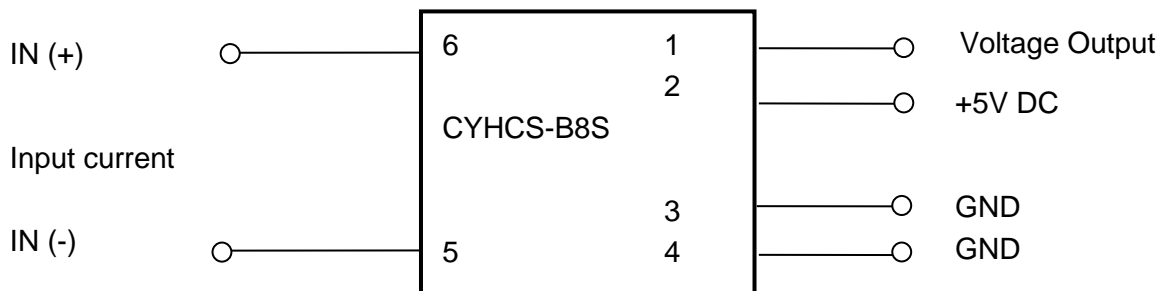


Fig. 4 Connection of CYHCS-B8S

Operating instructions

1. Connect the pins of power source, output respectively and correctly, never make wrong connection for DC current.
2. Temperature of the primary conductor should not exceed 100 °C.



Hall Effect AC/DC Current Sensor CYHCS-LXA

This Hall Effect current sensor is based on the closed loop compensating 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
<ul style="list-style-type: none"> • Excellent accuracy • Very good linearity • Small size and encapsulated • Less power consumption • Current overload capability 	<ul style="list-style-type: none"> • Photovoltaic equipment • General Purpose Inverters • AC/DC Variable Speed Drivers • Battery Supplied Applications • Uninterruptible Power Supplies • Switched Mode Power Supplies

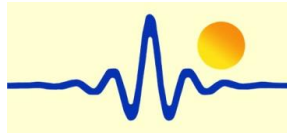
Electrical Data/Input

Part number	Primary Rated Current I_r (A)	Measuring Range I_p (A)	Primary Conductor (mm)	Turns ratio	Internal measuring resistor (Ω)
CYHCS-LXA03A	3	± 9	\varnothing 0.6	7:1050	200-400
CYHCS-LXA05A	5	± 15	\varnothing 0.8	4:1000	
CYHCS-LXA10A	10	± 30	\varnothing 0.8	3:1500	
CYHCS-LXA15A	15	± 45	\varnothing 1.0	2:1500	
CYHCS-LXA20A	20	± 60	\varnothing 1.4	1:1000	
CYHCS-LXA25A	25	± 75	\varnothing 1.4	1:1250	
CYHCS-LXA30A	30	± 90	\varnothing 1.6	1:1500	
CYHCS-LXA50A	50	± 150	\square 2.4x1.6	1:2500	

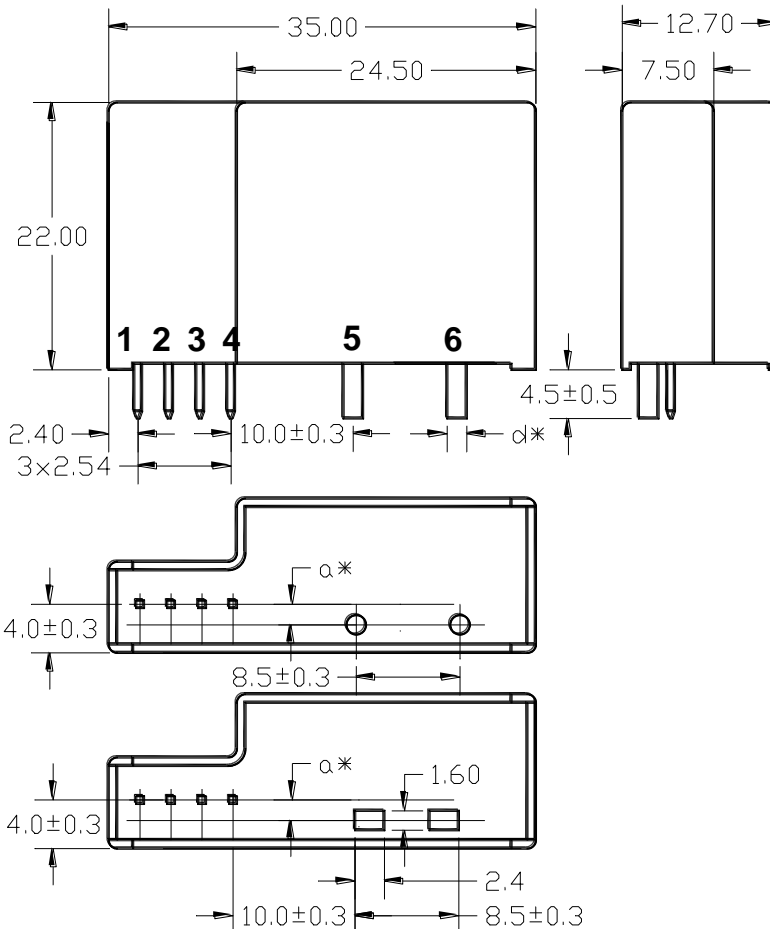
Rated Output Current:	$\pm 20\text{mA} \pm 0.5\%$
Supply Voltage	$\pm 15\text{V} \pm 5\%$,
Current Consumption	18mA $\pm 20\text{mA}$
Isolation voltage (50/60Hz, 1min)	2.5kV
Accuracy:	0.5%
Linearity:	<0.1% FS
Electric Offset Current	$\pm 0.2\text{mA}$
Thermal Drift of Offset Current	$\pm 0.005\text{mA}/^\circ\text{C}$
Response Time:	< 1 μs
Frequency Bandwidth:	DC ~ 150kHz

General Data

Ambient Operating Temperature:	-25°C ~ +85°C
Ambient Storage Temperature:	-40°C ~ +100°C



PIN Definition



1	+15V
2	-15V
3	Output
4	GND
5	Input +
6	Input -



Part number	a (mm)	d (mm)
CYHCS-LXA03A	1.3	Ø 0.6
CYHCS-LXA05A	1.4	Ø 0.8
CYHCS-LXA10A	1.4	Ø 0.8
CYHCS-LXA15A	1.6	Ø 1.0
CYHCS-LXA20A	1.6	Ø 1.0
CYHCS-LXA25A	1.6	Ø 1.4
CYHCS-LXA30A	1.7	Ø 1.6
CYHCS-LXA50A	1.7	2.4x1.6

Operating instructions

1. Connect the pins of power source, outputs respectively and correctly, never make wrong connection for DC current.
2. Temperature of the primary conductor should not exceed 100 °C.

Custom Sensors with other input current and output voltage are available



Hall Effect AC/DC Current Sensor CYHCS-SYA

This Hall Effect current sensor is based on the closed loop compensating 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
<ul style="list-style-type: none"> • Excellent accuracy • Very good linearity • Accuracy independent on the position of primary cable • Larger measuring range 	<ul style="list-style-type: none"> • Photovoltaic equipment • General Purpose Inverters • AC/DC Variable Speed Drivers • Battery Supplied Applications • Uninterruptible Power Supplies • Switched Mode Power Supplies

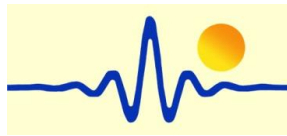
Electrical Data/Input

Part number	Primary Rated Current I_r (A)	Measuring Range I_p (A)	Primary Conductor (mm)	Turns ratio	measuring resistor range (Ω)
CYHCS-SYA03A	3	± 6	$\varnothing 0.6$	7:1050	200-400
CYHCS-SYA05A	5	± 10	$\varnothing 0.8$	4:1000	
CYHCS-SYA10A	10	± 20	$\varnothing 0.8$	3:1500	
CYHCS-SYA15A	15	± 30	$\varnothing 1.0$	2:1500	
CYHCS-SYA20A	20	± 40	$\varnothing 1.4$	1:1000	
CYHCS-SYA25A	25	± 50	$\varnothing 1.4$	1:1250	
CYHCS-SYA30A	30	± 60	$\varnothing 1.6$	1:1500	
CYHCS-SYA50A	50	± 100	2x $\square 1.6$ x1.5	1:2500	

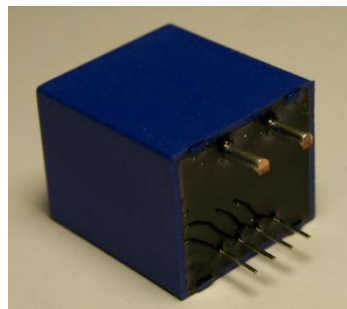
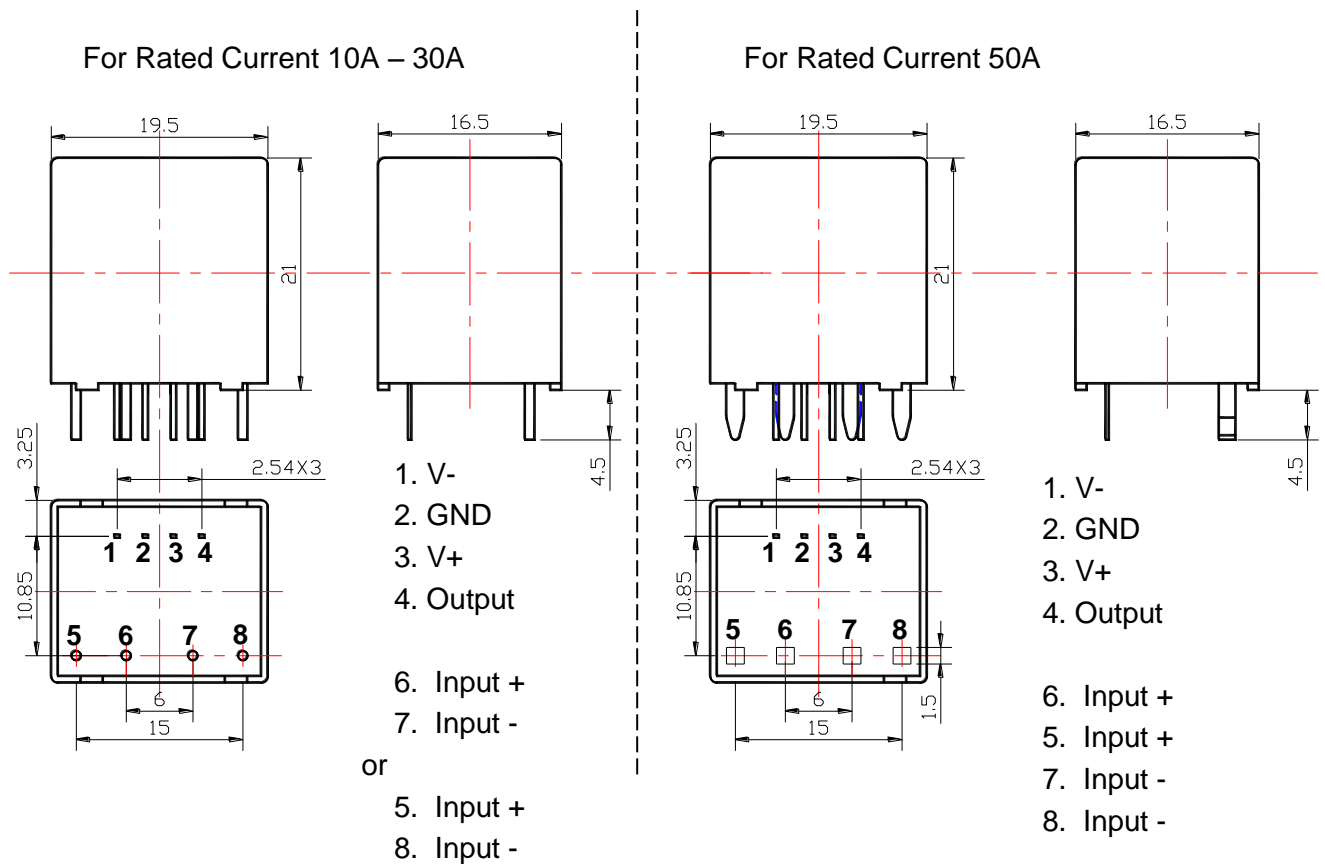
Rated Output current:	$\pm 20\text{mA} \pm 0.5\%$
Supply Voltage	$\pm 15\text{V} \pm 5\%$,
Current Consumption (at $I_{\text{out}}=0\text{V}$)	18mA+20mA
Isolation voltage (50/60Hz, 1min)	2.5kV
Accuracy:	0.5%
Linearity:	<0.1% FS
Electric Offset Current	$\pm 0.2\text{mA}$
Thermal Drift of Offset Voltage,	$\pm 0.005\text{mA}/^\circ\text{C}$
Response Time:	< 1 μs
Frequency Bandwidth:	DC ~ 150kHz

General Data

Ambient Operating Temperature:	-25 $^\circ\text{C}$ ~ +85 $^\circ\text{C}$
Ambient Storage Temperature:	-40 $^\circ\text{C}$ ~ +100 $^\circ\text{C}$



PIN Definition



Operating instructions

1. Connect the pins of power source, outputs respectively and correctly, never make wrong connection for DC current.
2. Temperature of the primary conductor should not exceed 100 °C.

Custom Sensors with other input current and output current are available



Hall Effect AC/DC Current Sensor CYHCS-P

This Hall Effect current sensor is based on the closed loop compensating 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
<ul style="list-style-type: none"> • Excellent accuracy • Very good linearity • Accuracy independent on the position of primary cable • Lager measuring range 	<ul style="list-style-type: none"> • Photovoltaic equipment • General Purpose Inverters • AC/DC Variable Speed Drivers • Battery Supplied Applications • Uninterruptible Power Supplies • Switched Mode Power Supplies

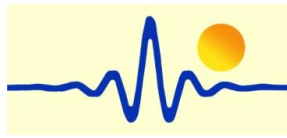
Electrical Data/Input

Part number	Primary Rated Current I_r (A)	Measuring Range I_p (A)	Primary Conductor (mm)	Turns ratio	Internal measuring resistor (Ω)
CYHCS-P03A	3	± 9	$\varnothing 0.6$	7:2100	400
CYHCS-P05A	5	± 15	$\varnothing 0.8$	4:2000	400
CYHCS-P10A	10	± 30	$\varnothing 0.8$	3:3000	400
CYHCS-P15A	15	± 45	$\varnothing 1.0$	2:3000	400
CYHCS-P20A	20	± 60	$\varnothing 1.4$	2:2000	400
CYHCS-P25A	25	± 75	$\varnothing 1.4$	1:2500	400
CYHCS-P30A	30	± 90	$\varnothing 1.6$	1:3000	400
CYHCS-P50A	50	± 150	$\varnothing 2.0$	1:3125	250

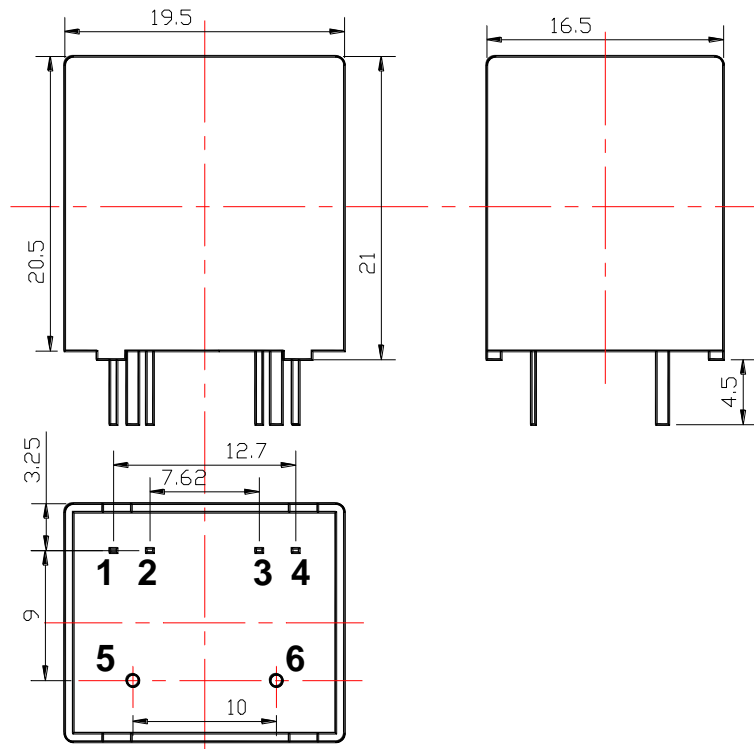
Rated Output Voltage:	$\pm 4V \pm 0.5\%$
Supply Voltage	$\pm 15V \pm 5\%$,
Current Consumption (at $V_{out}=0V$)	20mA
Isolation voltage (50/60Hz, 1min)	2.5kV
Accuracy:	0.5%
Linearity:	<0.1% FS
Electric Offset Voltage	$\pm 20mV$
Thermal Drift of Offset Voltage,	$\pm 0.5mV/^\circ C$
Response Time:	< 1 μs
Frequency Bandwidth:	DC ~ 150 kHz

General Data

Ambient Operating Temperature:	-25 $^\circ C$ ~ +85 $^\circ C$
Ambient Storage Temperature:	-40 $^\circ C$ ~ +100 $^\circ C$



PIN Definition



Terminal Pin Identification

- 1.....OUTPUT
- 2.....+15V
- 3.....-15V
- 4.....0V
- 5.....primary input current(--)
- 6.....primary input current(+)

Operating instructions

1. Connect the pins of power source, outputs respectively and correctly, never make wrong connection for DC current.
2. Temperature of the primary conductor should not exceed 100 °C.

Custom Sensors with other input current and output voltage are available