

Catalogue

Leakage Current Sensors

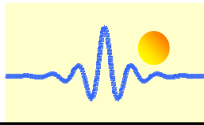
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Contact Address:

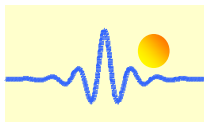
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DC Leakage Current Sensors/Transducers

DC Current Sensor CYCT04-xnMS20A

This current sensor is based on magnetic modulation and compensation principle, and can be used for measurement of small DC current and leakage current, current difference between two or more conductors.

Product Characteristics:

- Application of Computer Aided Ageing Technology
- 100% Ageing Processing and Thermal Drift Test under high operating temperature in order to guarantee the long term stability of the sensors
- Custom makeable according to individual requirements
- Various current and voltage outputs are selectable
- Power supply options: $\pm 12\text{VDC}$ and $\pm 15\text{VDC}$, single power supply is possible.
- Sensors with window for contactless measurements

Applications:

- Isolation Monitoring of DC power systems and cable selection systems,
- Measurements of small DC currents and leakage currents etc.

Electrical Data

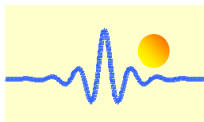
Measuring range M	10mA ~ 500mA DC
Linearity range	1.2 x M (measuring range)
Nominal output signals	0-5V, -5V~+5V
Supply voltage	$\pm 12\text{VDC}$, $\pm 15\text{VDC}$
Current consumption	6mA + output current
Galvanic isolation	2KV RMS/50Hz/min
Measuring resistance for current output	$\leq 250\Omega$

Accuracy and Dynamic Performances

Thermal drift of offset current	Typ. 100; max. 250	ppm/°C
Response time	≤ 120	ms
Accuracy	± 1.0	%
Linearity	≤ 1.0	%FS

General Data

Operating temperature	-10 ~ +70	°C
Storage temperature	-40 ~ +70	°C
Window size	$\Phi 20$	mm
Case dimensions H x L x W	59.5 x 60 x 25	mm



Definition of Part number:

CYCT04	-	x	n	MS20A	-	1.0	-	M
(1)		(2)	(3)	(4)		(5)		(6)

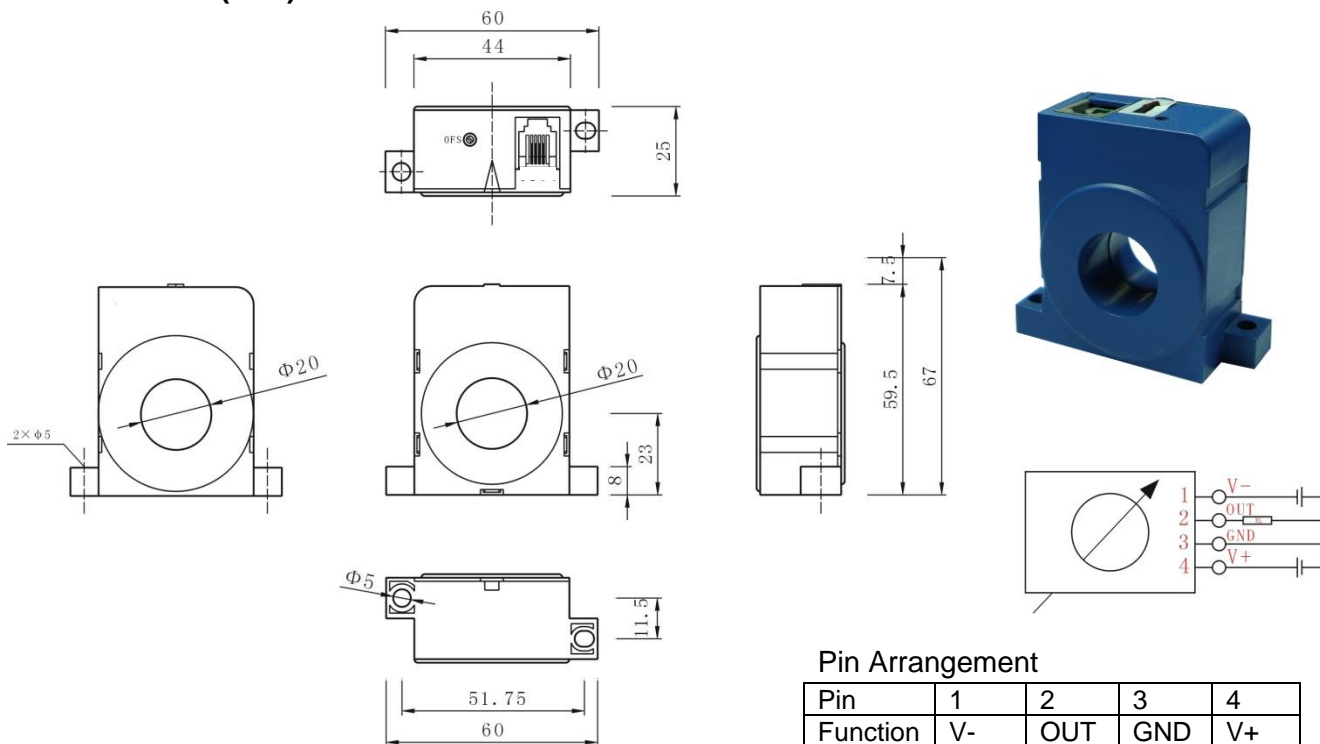
(1)	(2)	(3)	(4)	(5)	(6)
Series name	Output signal	Power supply	Case style	Accuracy	Rated Input current (M=U/B + m)
CYCT04	x=1: tracing $\pm 5VDC$ x=3: 0-5V DC	n=5: $\pm 12V DC$ n=6: $\pm 15V DC$	MS20A With aperture $\varnothing 20mm$	1.0%	m = 10mA, 20mA, 50mA, 100mA, 500mA

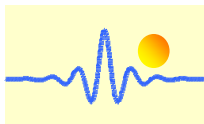
U: unidirectional input current; **B:** bidirectional input current

Example 1: CYCT04-36MS20A-1.0-U10mA, DC Current sensor with
Output signal: 0-5V DC
Power supply: $\pm 15V DC$
Rated input current: 0-10mA DC (unidirectional)

Example 2: CYCT04-15MS20A-1.0-B10mA, DC Current sensor with
Output signal: $\pm 5V DC$
Power supply: $\pm 12V DC$
Rated input current: -10mA ~ +10mADC (bidirectional)

DIMENSIONS (mm)

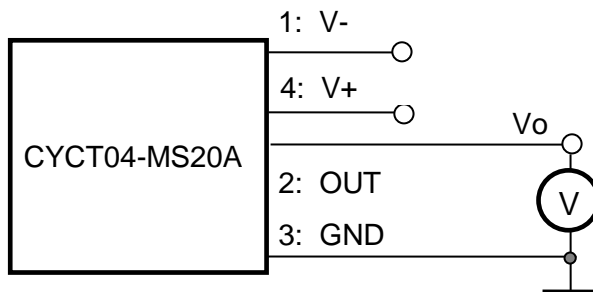




CONNECTION

Voltage Output

- 1: V- Power Supply
- 2: Output
- 3: Ground
- 4: V+ Power Supply

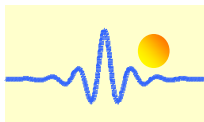


Relation between Input and Output:

Sensor CYCT04-36MS20A-1.0-U10mA		Sensor CYCT04-15MS20A-1.0-B10mA	
Input current (mA)	Output voltage (V)	Input current (mA)	Output voltage (V)
0	0	-10	-5
2.5	1.25	-5	-2.5
5	2.5	0	0
7.5	3.75	5	2.5
10	5	10	5

Notes:

1. Connect the terminals of power source, outputs respectively and correctly, never make wrong connection.
2. The potentiometer 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 current carrying conductor.
4. The in-phase output can be obtained when the direction of current of current carrying conductor is the same as the direction of arrow marked on the transducer case.



Split Core DC Leakage Current Sensor CYCT04-xnST

This current sensor is based on magnetic modulation and compensation principle, and can be used for measurement of small DC current and leakage current, current difference between two or more conductors.

Product Characteristics:

- Application of Computer Aided Ageing Technology
- 100% Ageing Processing and Thermal Drift Test under high operating temperature in order to guarantee the long term stability of the sensors
- Custom makeable according to individual requirements
- Various current and voltage outputs are selectable
- Power supply options: $\pm 12\text{VDC}$ and $\pm 15\text{VDC}$
- Sensors with window for contactless measurements

Applications:

- Isolation Monitoring of DC power systems and cable selection systems,
- Measurements of small DC currents and leakage currents etc.

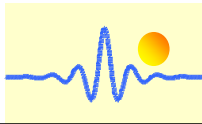
Electrical Data

Rated Input current	100mA ~ 1000mA DC
Measuring range M	0~ $\pm 100\text{mA}$ ~ 0~ $\pm 1000\text{mA}$ DC
Linearity range	1.2 x M (measuring range)
Nominal output signals	0-5V DC, -5V~+5VDC
Supply voltage	$\pm 12\text{VDC}$, $\pm 15\text{VDC}$
Current consumption	$\leq 20\text{mA}$
AC Interference current	< 200mA
Galvanic isolation	2.5KV RMS/50Hz/ 1min
Load resistance	$\geq 10\text{k}\Omega$

Thermal drift of offset voltage, $T_A = -10^\circ\text{C} \sim 60^\circ\text{C}$	$\leq \pm 4$	mV/ $^\circ\text{C}$
Response time	≤ 120	ms
Linearity $T_A = 25^\circ\text{C}$	≤ 1.0	%FS
Electric Offset Voltage, $T_A = 25^\circ\text{C}$	< ± 200	mV

General Data

Operating temperature	-10 ~ +60	$^\circ\text{C}$
Storage temperature	-20 ~ +70	$^\circ\text{C}$
Window size	$\Phi 19$	mm
Case dimensions H x L x W	64 x 63 x 22	mm



Definition of Part number:

CYCT04	-	x	n	ST	-	1.0	-	M
(1)		(2)	(3)	(4)		(5)		(6)

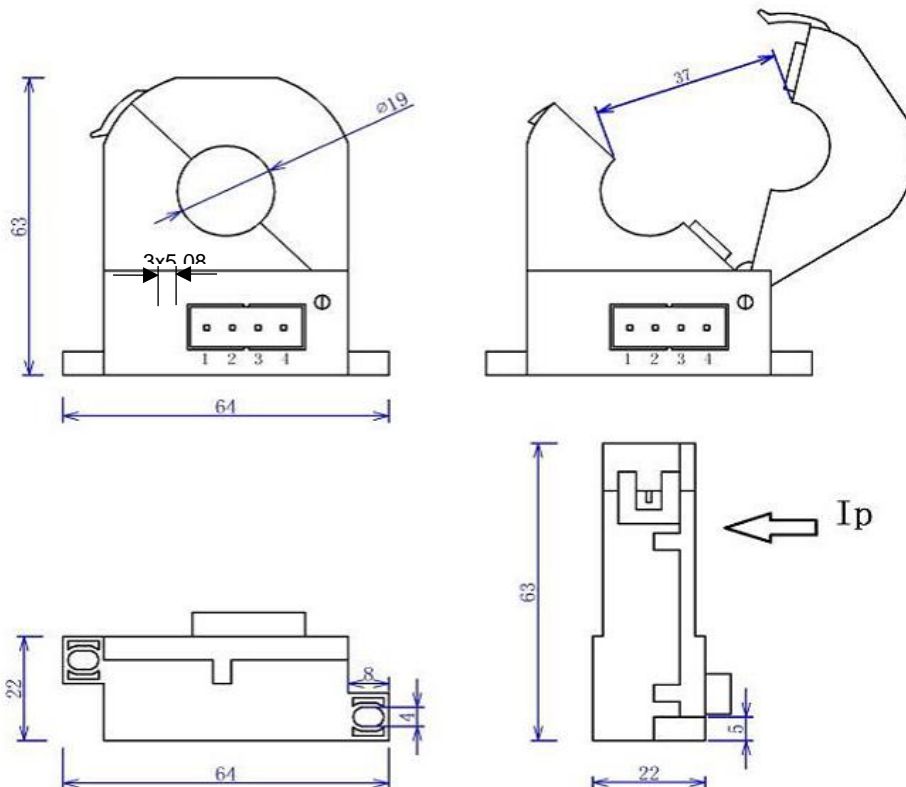
(1)	(2)	(3)	(4)	(5)	(6)
Series name	Output signal	Power supply	Case style	Basic Accuracy	Rated Input current (M=U/B + m)
CYCT04	x=1: tracing $\pm 5VDC$ x=3: 0-5V DC	n=5: $\pm 12V DC$ n=6: $\pm 15V DC$	ST with aperture $\varnothing 33mm$	1.0%	m = 100mA, 200mA, 300mA, 400mA, ..., 1A

U: unidirectional input current; **B:** bidirectional input current

Example 1: CYCT04-35ST-1.0-U500mA, DC Current sensor with
Output signal: 0~5V DC
Power supply: $\pm 12V DC$
Rated input current: 0-50mA DC (unidirectional)

Example 2: CYCT04-16ST-1.0-B500mA, DC Current sensor with
Output signal: -5V ~ +5VDC
Power supply: $\pm 15V DC$
Rated input current: -500mA ~ +500mADC (bidirectional)

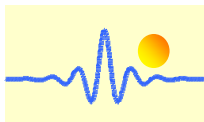
DIMENSIONS (mm)



Pin Arrangement

- Pin 1: +Vcc
- Pin 2: - Vcc
- Pin 3: M (Vout)
- Pin 4: G (GND)

OFS:
Offset adjustment

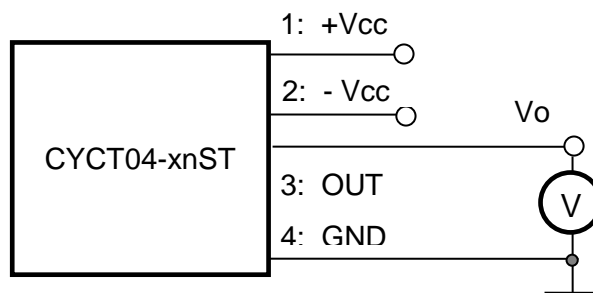


During the sensor is installed to a current conductor, the sensor half-core should be opened at first and then be closed again. It must be aware that the iron core interface on both sides is aligned and cannot be forcibly closed.

CONNECTION

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

- 1: +Vcc Power Supply
- 2: -Vcc Power Supply
- 3: Output
- 4: Ground

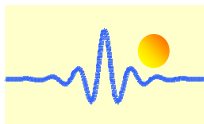


Relation between Input and Output:

Sensor CYCT04-36ST-1.0-U500mA		Sensor CYCT04-16ST-1.0-B500mA	
Input current (mA)	Output voltage (V)	Input current (mA)	Output voltage (V)
0	0	-500	-5
125	1.25	-250	-2.5
250	2.5	0	0
375	3.75	250	2.5
500	5	500	5

Notes:

1. Connect the terminals of power source, outputs respectively and correctly, never make wrong connection.
2. The potentiometer 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 current carrying conductor
4. The in-phase output can be obtained when the direction of current of current carrying conductor is the same as the direction of arrow marked on the transducer case.



Split Core DC Leakage Current Sensor CYCT04-xnSL

This current sensor is based on magnetic modulation and compensation principle, and can be used for measurement of small DC current and leakage current, current difference between two or more conductors.

Product Characteristics:

- Application of Computer Aided Ageing Technology
- 100% Ageing Processing and Thermal Drift Test under high operating temperature in order to guarantee the long term stability of the sensors
- Custom makeable according to individual requirements
- Various current and voltage outputs are selectable
- Power supply options: $\pm 12\text{VDC}$ and $\pm 15\text{VDC}$
- Sensors with window for contactless measurements

Applications:

- Isolation Monitoring of DC power systems and cable selection systems,
- Measurements of small DC currents and leakage currents etc.

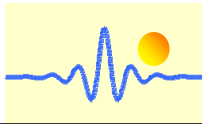
Electrical Data:

Measuring range M	50mA ~ 2A DC
Linearity range	1.2 x M (measuring range)
Nominal output signals	0-5V DC, -5V~+5VDC, 0-20mA DC, 4-20mA DC
Supply voltage	$\pm 12\text{VDC}$, $\pm 15\text{VDC}$
Current consumption	20mA
Galvanic isolation	2.5KV RMS/50Hz/ 1min
Load resistance	$\geq 10\text{k}\Omega$

Thermal drift of offset voltage, $T_A=15^\circ\text{C}\sim 50^\circ\text{C}$	≤ 500	ppm/ $^\circ\text{C}$
Response time	≤ 120	ms
Linearity $T_A=25^\circ\text{C}$	≤ 1.0	%FS
Electric Offset Voltage/Current, $T_A=25^\circ\text{C}$	< 2.0	%FS
Magnetic Offset Voltage/Current ($I_P=0$)	≤ 1.0	%FS

General Data:

Operating temperature	-10 ~ +60	$^\circ\text{C}$
Storage temperature	-20 ~ +70	$^\circ\text{C}$
Window size	$\Phi 33$	mm
Case dimensions H x L x W	78 x 82 x 26	mm



Definition of Part number:

CYCT04	-	x	n	SL	-	1.0	-	M
(1)		(2)	(3)	(4)		(5)		(6)

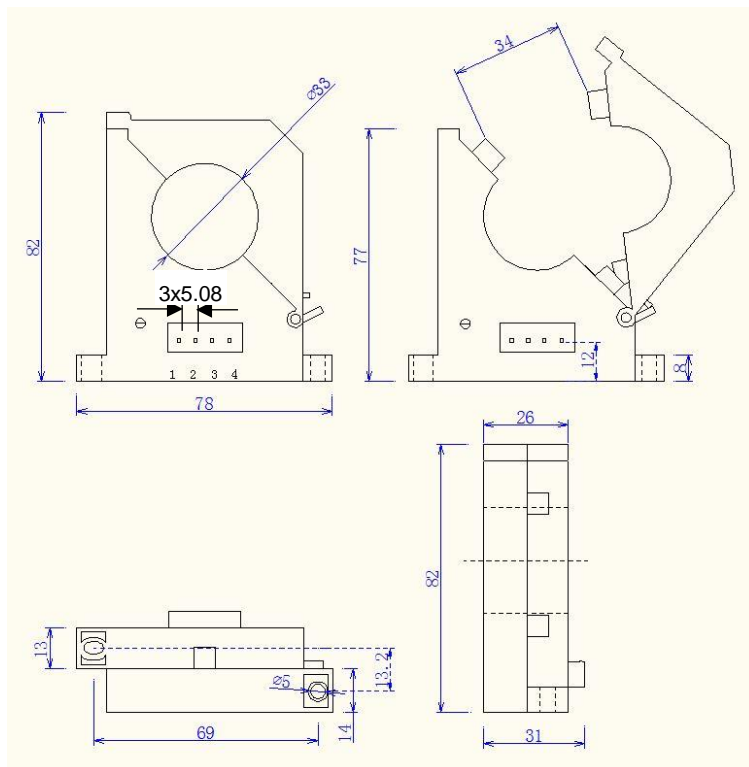
(1)	(2)	(3)	(4)	(5)	(6)
Series name	Output signal	Power supply	Case style	Basic Accuracy	Rated Input current (M=U/B + m)
CYCT04	x=1: tracing $\pm 5VDC$ x=3: 0-5V DC x=4: 0-20mA DC x=5: 4-20mA DC	n=5: $\pm 12V$ DC n=6: $\pm 15V$ DC	SL with aperture $\varnothing 33mm$	1.0%	m = 50mA, 100mA, 200mA, 500mA, 1A, 2A

U: unidirectional input current; **B:** bidirectional input current

Example 1: CYCT04-55SL-1.0-U50mA, DC Current sensor with
 Output signal: 4-20mA DC
 Power supply: $\pm 12V$ DC
 Rated input current: 0-50mA DC (unidirectional)

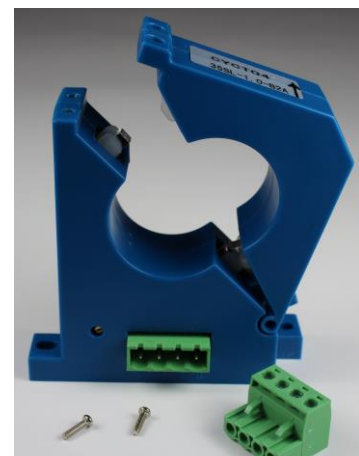
Example 2: CYCT04-16SL-1.0-B50mA, DC Current sensor with
 Output signal: -5V ~ +5VDC
 Power supply: $\pm 15V$ DC
 Rated input current: -50mA ~ +50mA DC (bidirectional)

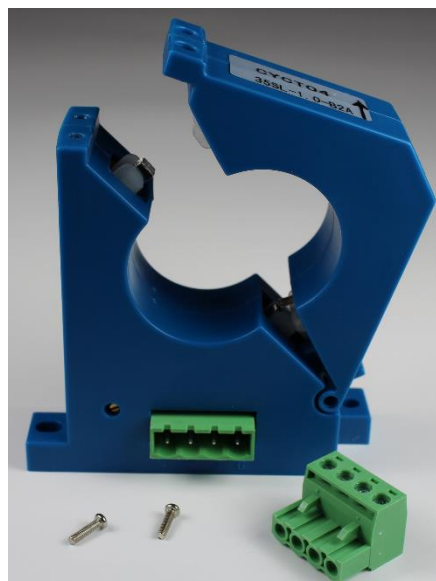
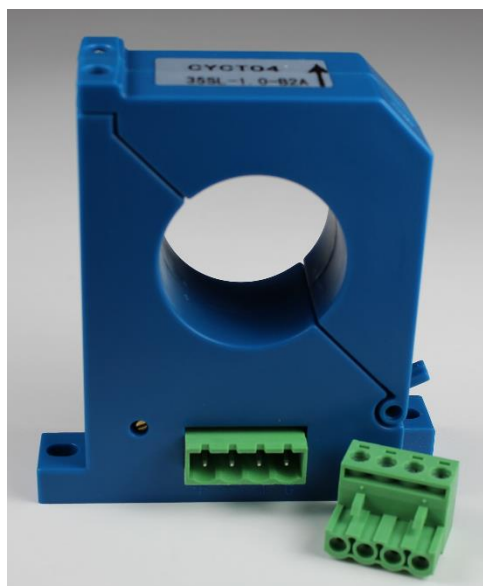
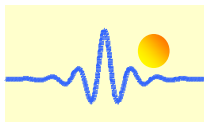
DIMENSIONS (mm)



Pin Arrangement

Pin	1	2	3	4
Function	V+	V-	OUT	GND





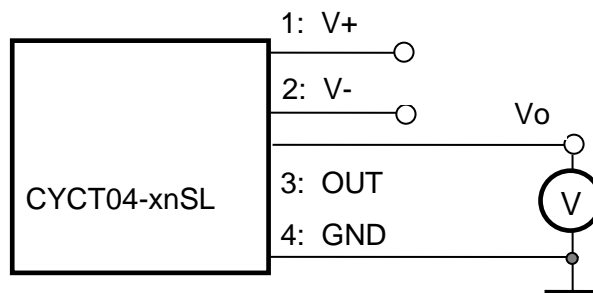
During the sensor is installed to a current conductor, the sensor core should be opened at first and then be closed again. It must be aware that the iron core interface on both sides is aligned and cannot be forcibly closed.

CONNECTIONS

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

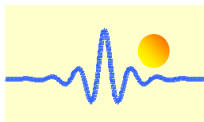
a) Voltage Output

- 1: V+ Power Supply
- 2: V- Power Supply
- 3: Output
- 4: Ground



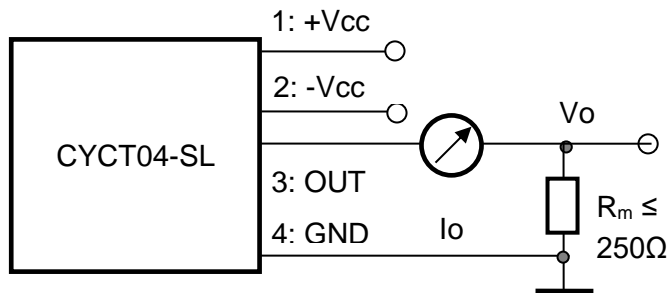
Relation between Input and Output:

Sensor CYCT04-36SL-1.0-U50mA		Sensor CYCT04-16SL-1.0-B50mA	
Input current (mA)	Output voltage (V)	Input current (mA)	Output voltage (V)
0	0	-50	-5
12.5	1.25	-25	-2.5
25	2.5	0	0
37.5	3.75	25	2.5
50	5	50	5



b) Current Output

- 1: +Vcc Power Supply
- 2: -Vcc Power Supply
- 3: Output
- 4: Ground



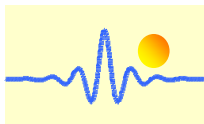
Relation between Input and Output (for $R_m=250 \Omega$):

Sensor CYCT04-55SL-1.0-U50mA			Sensor CYCT04-45SL-1.0-U50mA		
Input current (mA)	Output current I_o (mA)	Output voltage V_o (V)	Input current (mA)	Output current I_o (mA)	Output voltage V_o (V)
0	4	1	0	0	0
12.5	8	2	12.5	5	1.25
25	12	3	25	10	2.5
37.5	16	4	37.5	15	3.75
50	20	5	50	20	5

Sensor CYCT04-55SL-1.0-B50mA			Sensor CYCT04-45SL-1.0-B50mA		
Input current (mA)	Output current I_o (mA)	Output voltage V_o (V)	Input current (mA)	Output current I_o (mA)	Output voltage V_o (V)
-50	4	1	-50	0	0
-25	8	2	-25	5	1.25
0	12	3	0	10	2.5
25	16	4	25	15	3.75
50	20	5	50	20	5

Notes:

1. Connect the terminals of power source, outputs respectively and correctly, never make wrong connection.
2. The potentiometer 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 current carrying conductor
4. The in-phase output can be obtained when the direction of current of current carrying conductor is the same as the direction of arrow marked on the transducer case.



DC Leakage Current Sensor CYCT04-xnL20

This current sensor is based on magnetic modulation and compensation principle, and can be used for measurement of small DC current and leakage current, current difference between two or more conductors.

Product Characteristics:

- Application of Computer Aided Ageing Technology
- 100% Ageing Processing and Thermal Drift Test under high operating temperature in order to guarantee the long term stability of the sensors
- Custom makeable according to individual requirements
- Various current and voltage outputs are selectable
- Power supply options: +12VDC, +15VDC and 24VDC
- Sensors with window for contactless measurements

Applications:

- Isolation Monitoring of DC power systems and cable selection systems,
- Measurements of small DC currents and leakage currents etc.

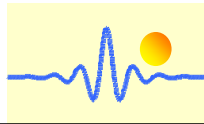
Electrical Data

Measuring range M	10mA ~ 1A DC
Linearity range	1.2 x M (measuring range)
Nominal output signals	0-5V, 0-10V, 4-20mA DC
Supply voltage	+12VDC, +15VDC, 24VDC
Current consumption	20mA + output current
Galvanic isolation	2.5KV RMS/50Hz/ 1min
Measuring resistance for current output	≤250Ω

Thermal drift of zero offset	-25°C~+70°C	300	-40°C~+80°C	400	ppm/°C
Response time	≤120				ms
Accuracy	±1.0				%
Linearity	≤0.5				%FS
Electric Offset Voltage, TA=25°C	25				mV
Magnetic Offset Voltage (I _P =0)	20				mV

General Data

Operating temperature	-40 ~ +85	°C
Storage temperature	-40 ~ +85	°C
Window size	Φ20	mm
Case dimensions H x L x W	68 x 57 x 24	mm



Definition of Part number:

CYCT04	-	x	n	L20	-	1.0	-	M
(1)		(2)	(3)	(4)		(5)		(6)

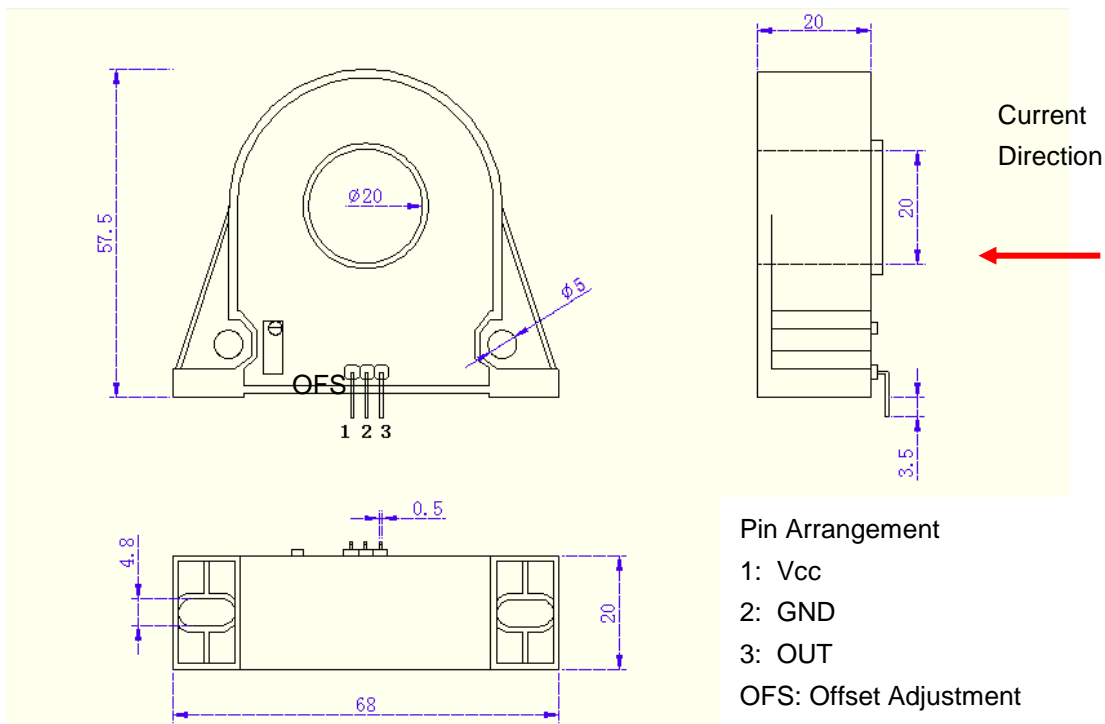
(1)	(2)	(3)	(4)	(5)	(6)
Series name	Output signal	Power supply	Case style	Accuracy	Rated Input current (M=U/B + m)
CYCT04	x=3: 0-5V DC x=8: 0-10V DC x=5: 4-20mA DC	n=2: +12V DC n=3: +15V DC n=4: +24V DC	M20A With aperture Ø20mm	1.0%	m = 10mA, 20mA, 50mA, 100mA, 200mA, 500mA, 1A

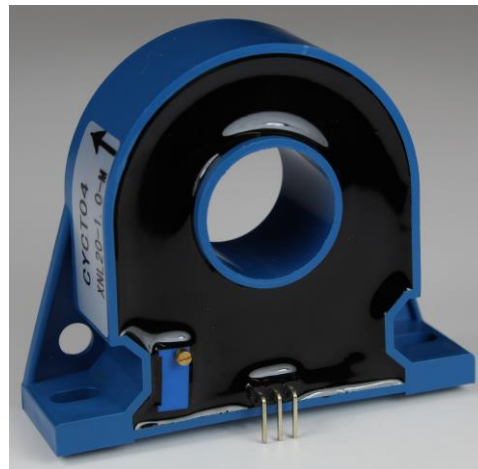
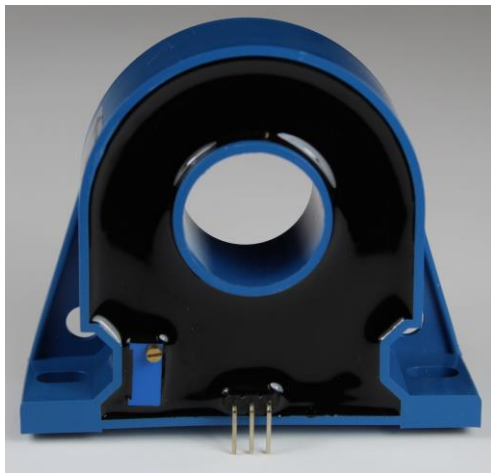
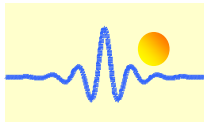
U: unidirectional input current; **B:** bidirectional input current

Example 1: CYCT04-34L20-1.0-U1A, DC Current sensor with
Output signal: 0-5V DC
Power supply: +24V DC
Rated input current: 0-1A DC (unidirectional)

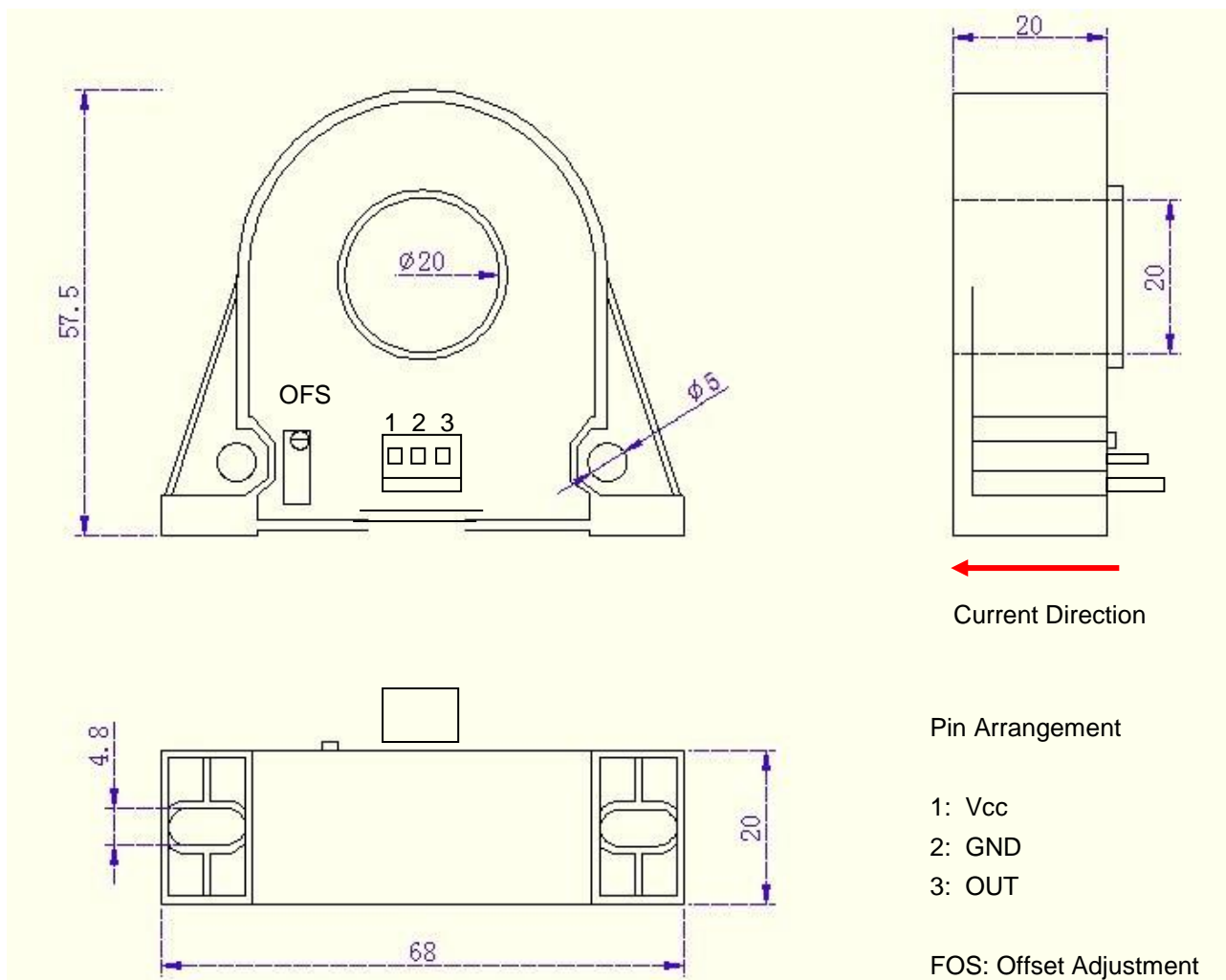
Example 2: CYCT04-34L20-1.0-B1A, DC Current sensor with
Output signal: 0-5V DC
Power supply: +24V DC
Rated input current: -1A ~ +1ADC (bidirectional)

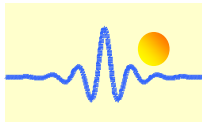
DIMENSIONS (mm) (PCB Mounting)



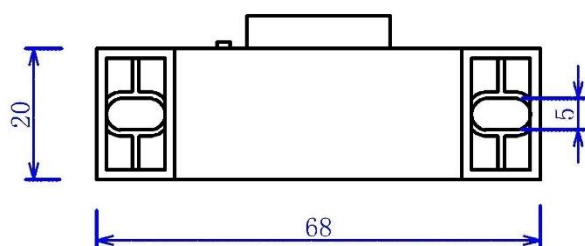
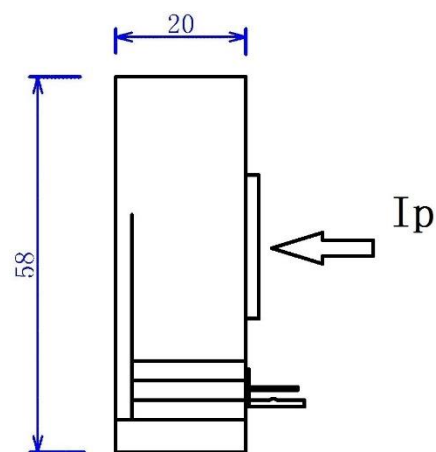
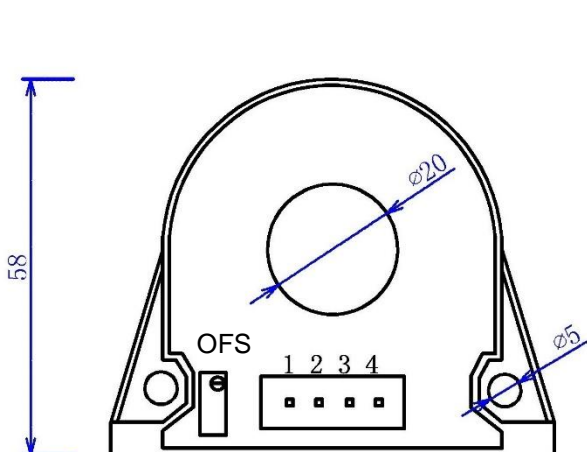
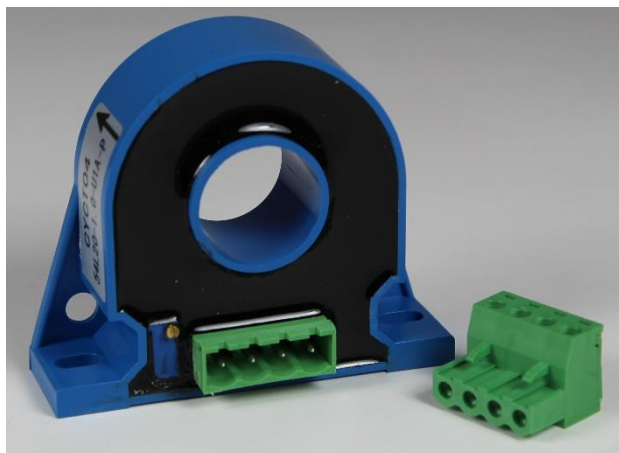


By Using 3 Pins MOLEX Connector





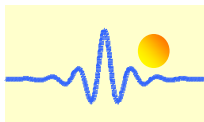
By Using Phoenix Connector



Pin Arrangement:

- 1 --- +Vcc
- 2 --- NC
- 3 --- OUT
- 4 --- GND

GND is for both power supply and output signal
OFS: Offset Adjustment

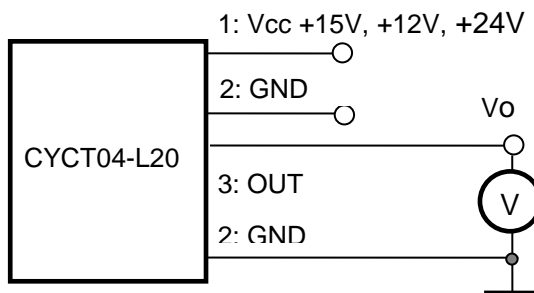


CONNECTIONS for Molex Connector

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

a) Voltage Output

- 1: Vcc +15V, +12V, +24V
- 2: GND
- 3: OUT

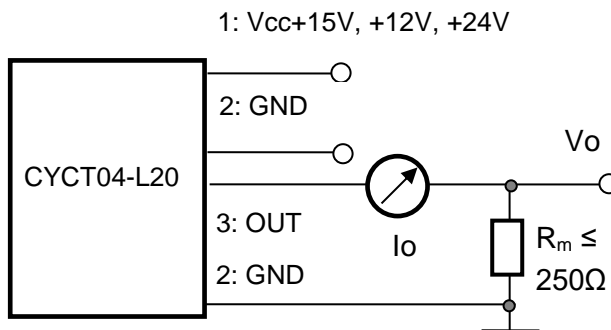


Relation between Input and Output:

Sensor CYCT04-34L20-1.0-U1A		Sensor CYCT04-34L20-1.0-B1A	
Input current (A)	Output voltage (V)	Input current (A)	Output voltage (V)
0	0	-1	0
0.25	1.25	-0.5	1.25
0.5	2.5	0	2.5
0.75	3.75	0.5	3.75
1	5	1	5

b) Current Output

- 1: Vcc +15V, +12V, +24V
- 2: GND
- 3: OUT

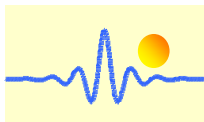


Relation between Input and Output (for $R_m=250 \Omega$):

Sensor CYCT04-54L20-1.0-U1A			Sensor CYCT04-54L20-1.0-B1A		
Input current (A)	Output current I_o (mA)	Output voltage V_o (V)	Input current (A)	Output current I_o (mA)	Output voltage V_o (V)
0	4	1	-1	4	1
0.25	8	2	-0.5	8	2
0.5	12	3	0	12	3
0.75	16	4	0.5	16	4
1	20	5	1	20	5

CONNECTIONS for Phoenix Connector

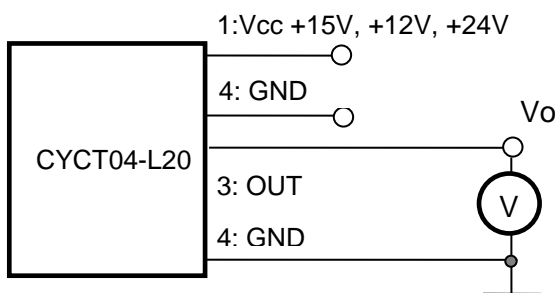
The current carrying cable must pass through the window. The phase of output is the same as that of



the current passing the window in the direction of the arrow indicated on the case.

c) Voltage Output

- 1: Vcc +15V, +12V, +24V
- 2: NC
- 3: OUT
- 4: GND

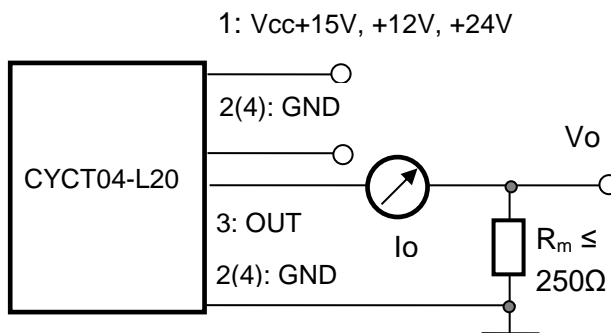


Relation between Input and Output:

Sensor CYCT04-34L20-1.0-U1A		Sensor CYCT04-34L20-1.0-B1A	
Input current (A)	Output voltage (V)	Input current (A)	Output voltage (V)
0	0	-1	0
0.25	1.25	-0.5	1.25
0.5	2.5	0	2.5
0.75	3.75	0.5	3.75
1	5	1	5

d) Current Output

- 1: Vcc +15V, +12V, +24V
- 2: NC
- 3: OUT
- 4: GND

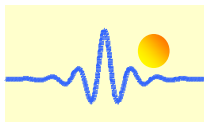


Relation between Input and Output (for $R_m=250 \Omega$):

Sensor CYCT04-54L20-1.0-U1A			Sensor CYCT04-54L20-1.0-B1A		
Input current (A)	Output current Io(mA)	Output voltage Vo (V)	Input current (A)	Output current Io(mA)	Output voltage Vo (V)
0	4	1	-1	4	1
0.25	8	2	-0.5	8	2
0.5	12	3	0	12	3
0.75	16	4	0.5	16	4
1	20	5	1	20	5

Notes:

1. Connect the terminals of power source, outputs 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 current carrying conductor.
4. The in-phase output can be obtained when the direction of current of current carrying conductor is the same as the direction of arrow marked on the transducer case.



DC Current Sensor CYCT04-xnE4

This current sensor is based on magnetic modulation principle and can be used for measurement of DC currents.

Product Characteristics:

- Application of Ageing Technology
- 100% Ageing Processing and Thermal Drift Test under high operating temperature in order to guarantee the long term stability of the sensors
- Custom makeable according to individual requirements
- Various current and voltage outputs are selectable
- Power supply options: +12V, +15V, +24V, ± 12 VDC and ± 15 VDC etc.
- Sensors with window for contactless measurement

Applications:

- Isolation Monitoring of DC power systems and cable selection systems,
- Measurement of small DC currents and leakage currents etc.

Electrical Data

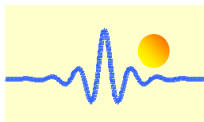
Measuring range M	10mA ~ 10A DC
Linearity range	1.2 x M (measuring range)
Overload capacity	20 x M (measuring range)
Nominal output signals	0-4V, 0-5V, 0-10V, ± 5 V, 0-20mA, 4-20mA, ± 20 mA
Supply voltage	+12VDC, +15VDC, +24VDC, ± 12 VDC, ± 15 VDC
Current consumption	25mA ~ 50mA + output current
Galvanic isolation	3KV RMS/50Hz/min
Measuring resistance for current output	$\leq 250\Omega$

Accuracy and Dynamic Performances

Zero offset voltage	± 20	mV
Hysteresis error	± 10	mV
Thermal drift of offset current	≤ 250	ppm/ $^{\circ}$ C
Response time	≤ 120	ms
Accuracy	± 1.0	%
Linearity	≤ 1.0	%FS

General Data

Operating temperature	-10 ~ +80	$^{\circ}$ C
Storage temperature	-25 ~ +85	$^{\circ}$ C



Definition of Part number:

CYCT04	-	x	n	E4	-	1.0	-	M
(1)	(2)	(3)	(4)	(5)	(6)			

(1)	(2)	(3)	(4)	(5)	(6)
Series name	Output signal	Power supply	Case style	Accuracy	Rated Input current (M=U/B + m)
CYCT04	x=0: 0-4V DC x=3: 0-5V DC x=4: 0-20mA DC x=5: 4-20mA DC x=8: 0-10V DC	n=2: +12V DC n=3: +15V DC n=4: +24V DC n=5: ±12V DC n=6: ±15V DC	E4 with aperture Ø21mm	1.0%	m = 10mA, 20mA, 50mA, 100mA, 200mA, 500mA, 1A, 2A, 5A, 10A

U: unidirectional input current; **B:** bidirectional input current

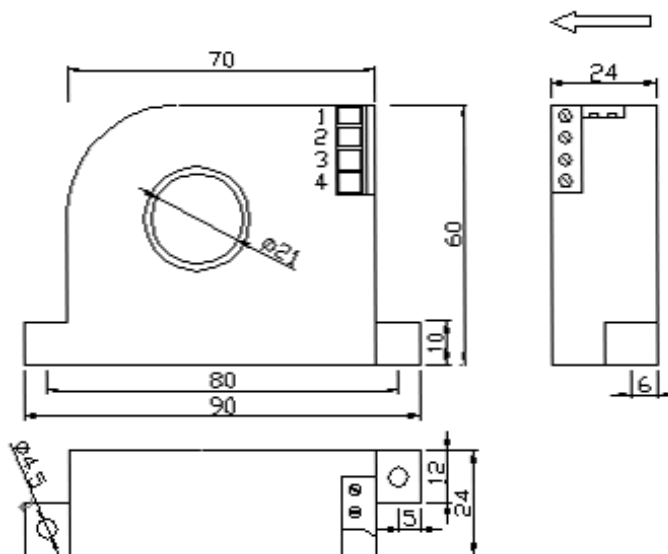
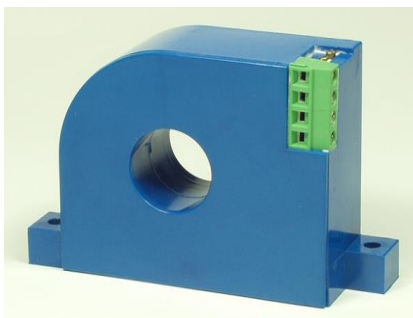
Output Signal of Custom Made Sensors:

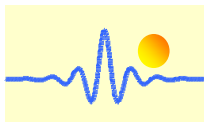
x=1: tracing voltage 5V, **x=2:** tracing current 20mA

Example 1: CYCT04-34E4-1.0-U1A , DC Current sensor with
 Output signal: 0-5V DC
 Power supply: +24V DC
 Rated input current: 0-1A DC (unidirectional)

Example 2: CYCT04-34E4-1.0-B1A , DC Current sensor with
 Output signal: 0-5V DC
 Power supply: +24V DC
 Rated input current: -1A ~ +1ADC (bidirectional)

DIMENSIONS (mm)





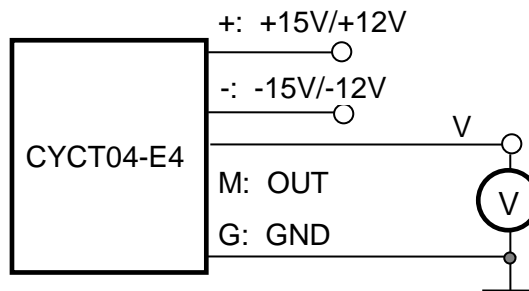
CONNECTION

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

a) Wiring of Sensors Using Double Power Supplies

Voltage Output

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

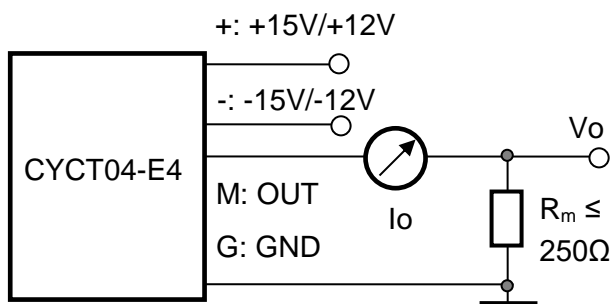


Relation between Input and Output:

Sensor CYCT04-35E4-1.0-U1A		Sensor CYCT04-35E4-1.0-B1A	
Input current (A)	Output voltage (V)	Input current (A)	Output voltage (V)
0	0	-1	0
0.25	1.25	-0.5	1.25
0.5	2.5	0	2.5
0.75	3.75	0.5	3.75
1	5	1	5

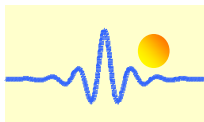
Current Output

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



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

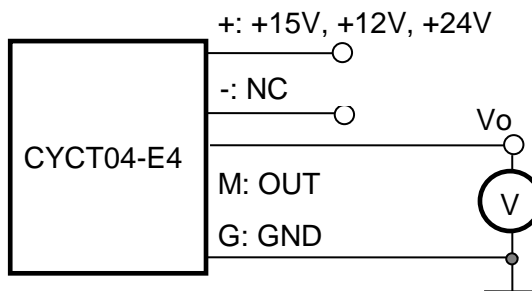
Sensor CYCT04-45E4-1.0-U1A			Sensor CYCT04-45E4-1.0-B1A		
Input current (A)	Output current I_o (mA)	Output voltage V_o (V)	Input current (A)	Output current I_o (mA)	Output voltage V_o (V)
0	0	0	-1	0	0
0.25	5	1.25	-0.5	5	1.25
0.5	10	2.5	0	10	2.5
0.75	15	3.75	0.5	15	3.75
1	20	5	1	20	5



B) Wiring of Sensors Using Single Power Supply

Voltage Output

1(+): +15V, +12V, +24V
2(-): NC
3(M): Output
4(G): Ground

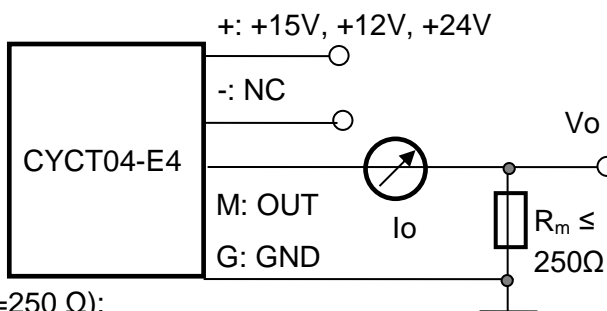


Relation between Input and Output:

Sensor CYCT04-34E4-1.0-U1A		Sensor CYCT04-34E4-1.0-B1A	
Input current (A)	Output voltage (V)	Input current (A)	Output voltage (V)
0	0	-1	0
0.25	1.25	-0.5	1.25
0.5	2.5	0	2.5
0.75	3.75	0.5	3.75
1	5	1	5

Current Output

1(+): +15V, +12V, +24V
2(-): NC
3(M): Output
4(G): Ground

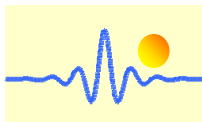


Relation between Input and Output (for $R_m=250 \Omega$):

Sensor CYCT04-54E4-1.0-U1A			Sensor CYCT04-54E4-1.0-B1A		
Input current (A)	Output current I_o (mA)	Output voltage V_o (V)	Input current (A)	Output current I_o (mA)	Output voltage V_o (V)
0	4	1	-1	4	1
0.25	8	2	-0.5	8	2
0.5	12	3	0	12	3
0.75	16	4	0.5	16	4
1	20	5	1	20	5

Notes:

1. Connect the terminals of power source, outputs 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 current carrying conductor.
4. The in-phase output can be obtained when the direction of current of current carrying conductor is the same as the direction of arrow marked on the transducer case.



DC Current Sensor CYCT04-xnE5

This current sensor is based on magnetic modulation principle and can be used for measurement of DC currents.

Product Characteristics:

- Application of Ageing Technology
- 100% Ageing Processing and Thermal Drift Test under high operating temperature in order to guarantee the long term stability of the sensors
- Custom makeable according to individual requirements
- Various current and voltage outputs are selectable
- Power supply options: +12V, +15V, +24V, ± 12 VDC and ± 15 VDC
- Sensors with window for contactless measurement

Applications:

- Isolation Monitoring of DC power systems and cable selection systems,
- Isolation measurement of small DC currents and leakage currents etc.

Electrical Data

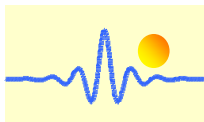
Measuring range M	10mA ~ 10A DC
Linearity range	1.2 x M (measuring range)
Overload capacity	20 x M (measuring range)
Nominal output signals	0-4V, 0-5V, 0-10V, ± 5 V, 0-20mA, 4-20mA, ± 20 mA
Supply voltage	+12VDC, +15VDC, +24VDC, ± 12 VDC, ± 15 VDC
Current consumption	25mA ~ 50mA + output current
Galvanic isolation	3KV RMS/50Hz/min
Measuring resistance for current output	$\leq 250\Omega$

Accuracy and Dynamic Performances

Zero offset voltage	± 20	mV
Hysteresis error	± 10	mV
Thermal drift of offset current	≤ 250	ppm/ $^{\circ}$ C
Response time	≤ 120	ms
Accuracy	± 1.0	%
Linearity	≤ 1.0	%FS

General Data

Operating temperature	-10 ~ +80	$^{\circ}$ C
Storage temperature	-25 ~ +85	$^{\circ}$ C



Definition of Part number:

CYCT04	-	x	n	E5	-	1.0	-	M
(1)		(2)	(3)	(4)		(5)		(6)

(1)	(2)	(3)	(4)	(5)	(6)
Series name	Output signal	Power supply	Case style	Accuracy	Rated Input current (M=U/B + m)
CYCT04	x=0: 0-4V DC x=3: 0-5V DC x=4: 0-20mA DC x=5: 4-20mA DC x=8: 0-10V DC	n=2: +12V DC n=3: +15V DC n=4: +24V DC n=5: ±12V DC n=6: ±15V DC	E5 with aperture Ø43mm	1.0%	m = 10mA, 20mA, 50mA, 100mA, 200mA, 500mA, 1A, 2A, 5A, 10A

U: unidirectional input current; **B:** bidirectional input current

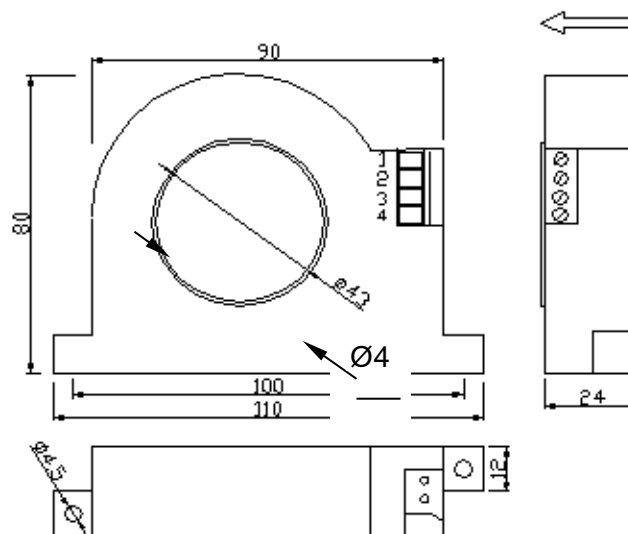
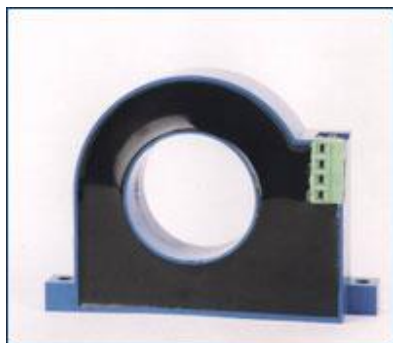
Output Signal of Custom Made Sensors:

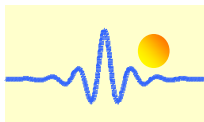
x=1: tracing voltage 5V, **x=2:** tracing current 20mA

Example 1: CYCT04-34E5-1.0-U1A , DC Current sensor with
 Output signal: 0-5V DC
 Power supply: +24V DC
 Rated input current: 0-1A DC (unidirectional)

Example 2: CYCT04-34E5-1.0-B1A , DC Current sensor with
 Output signal: 0-5V DC
 Power supply: +24V DC
 Rated input current: -1A ~ +1ADC (bidirectional)

DIMENSIONS (mm)





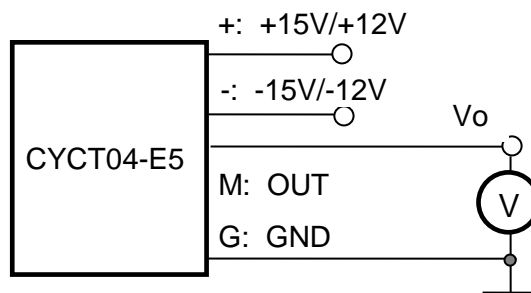
CONNECTION

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

a) Wiring of Sensors Using Double Power Supplies

Voltage Output

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

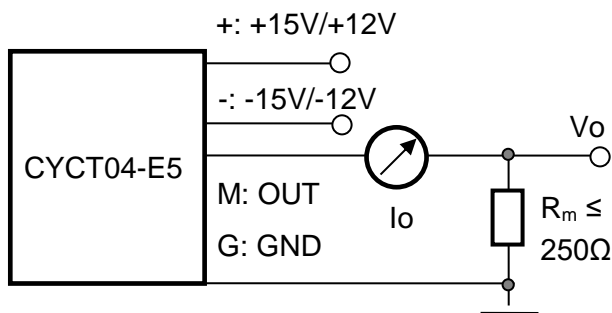


Relation between Input and Output:

Sensor CYCT04-35E5-1.0-U1A		Sensor CYCT04-35E5-1.0-B1A	
Input current (A)	Output voltage (V)	Input current (A)	Output voltage (V)
0	0	-1	0
0.25	1.25	-0.5	1.25
0.5	2.5	0	2.5
0.75	3.75	0.5	3.75
1	5	1	5

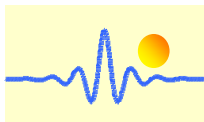
Current Output

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



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

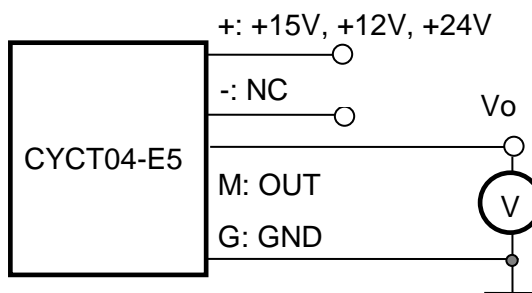
Sensor CYCT04-45E5-1.0-U1A			Sensor CYCT04-45E5-1.0-B1A		
Input current (A)	Output current I_o (mA)	Output voltage V_o (V)	Input current (A)	Output current I_o (mA)	Output voltage V_o (V)
0	0	0	-1	0	0
0.25	5	1.25	-0.5	5	1.25
0.5	10	2.5	0	10	2.5
0.75	15	3.75	0.5	15	3.75
1	20	5	1	20	5



B) Wiring of Sensors Using Single Power Supply

Voltage Output

1(+): +15V, +12V, +24V
2(-): NC
3(M): Output
4(G): Ground

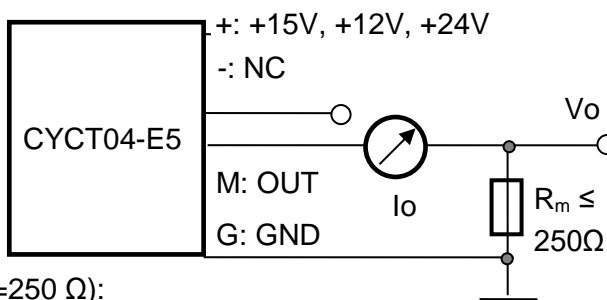


Relation between Input and Output:

Sensor CYCT04-34E5-1.0-U1A		Sensor CYCT04-34E5-1.0-B1A	
Input current (A)	Output voltage (V)	Input current (A)	Output voltage (V)
0	0	-1	0
0.25	1.25	-0.5	1.25
0.5	2.5	0	2.5
0.75	3.75	0.5	3.75
1	5	1	5

Current Output

1(+): +15V, +12V, +24V
2(-): NC
3(M): Output
4(G): Ground

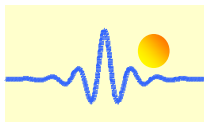


Relation between Input and Output (for $R_m=250\ \Omega$):

Sensor CYCT04-54E5-1.0-U1A			Sensor CYCT04-54E5-1.0-B1A		
Input current (A)	Output current I_o (mA)	Output voltage V_o (V)	Input current (A)	Output current I_o (mA)	Output voltage V_o (V)
0	4	1	-1	4	1
0.25	8	2	-0.5	8	2
0.5	12	3	0	12	3
0.75	16	4	0.5	16	4
1	20	5	1	20	5

Notes:

1. Connect the terminals of power source, outputs 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 current carrying conductor.
4. The in-phase output can be obtained when the direction of current of current carrying conductor is the same as the direction of arrow marked on the transducer case.



DC Leakage Current Sensor CYCT04-xnS20

This current sensor is based on magnetic modulation and compensation principle, and can be used for measurement of small DC current and leakage current, current difference between two or more conductors.

Product Characteristics:

- Application of Computer Aided Ageing Technology
- 100% Ageing Processing and Thermal Drift Test under high operating temperature in order to guarantee the long term stability of the sensors
- Custom makeable according to individual requirements
- Various current and voltage outputs are selectable
- Power supply options: $\pm 12\text{VDC}$ and $\pm 15\text{VDC}$, single power supply is possible.
- Sensors with window for contactless measurements

Applications:

- Isolation Monitoring of DC power systems and cable selection systems,
- Measurements of small DC currents and leakage currents etc.

Electrical Data

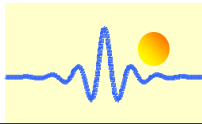
Measuring range M	10mA ~ 2A DC
Linearity range	1.2 x M (measuring range)
Nominal output signals	0-5V, $\pm 5\text{V}$, 4-20mA, 0-20mA, $\pm 20\text{mA}$
Supply voltage	$\pm 12\text{VDC}$, $\pm 15\text{VDC}$ ($\pm 5\%$)
Current consumption	20mA + output current
Galvanic isolation	2.5KV RMS/50Hz/min
Measuring resistance for current output	$\leq 250\Omega$
Load resistance for voltage output	$\geq 10\text{k}\Omega$

Accuracy and Dynamic Performances

Thermal drift of offset current	($T_a = -10^\circ\text{C} \sim 60^\circ\text{C}$) ≤ 400	ppm/ $^\circ\text{C}$
Response time	≤ 120	ms
Accuracy	± 1.0	%FS
Linearity	≤ 1.0	%FS

General Data

Operating temperature	-25 ~ +70	$^\circ\text{C}$
Storage temperature	-40 ~ +85	$^\circ\text{C}$
Window size	$\varnothing 20$	mm
Case dimensions H x L x W	69 x 52.9 x 16	mm



Definition of Part number:

CYCT04	-	x	n	S20	-	1.0	-	M
(1)		(2)	(3)	(4)		(5)		(6)

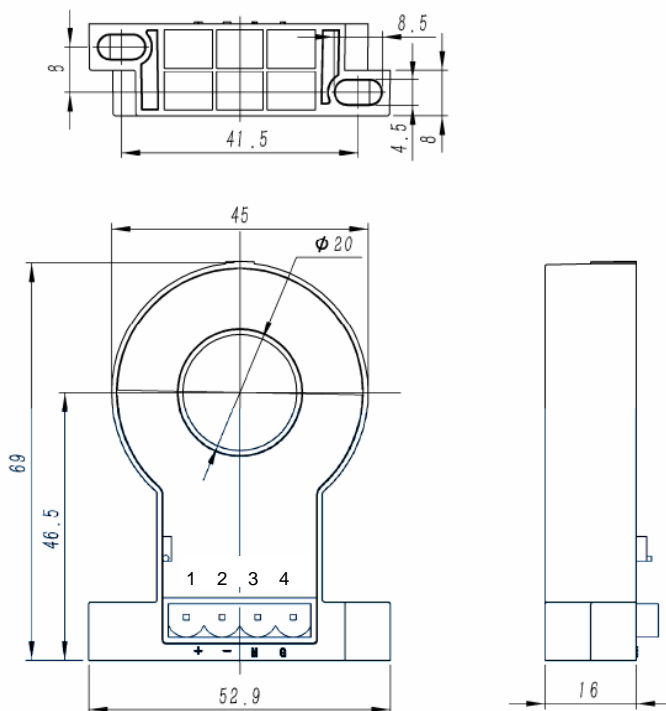
(1)	(2)	(3)	(4)	(5)	(6)
Series name	Output signal	Power supply	Case style	Accuracy	Rated Input current (M=U/B + m)
CYCT04	x=1: ±5VDC x=2: ±20mADC x=3: 0-5V DC x=4: 0-20mA DC x=5: 4-20mA DC	n=5: ±12V DC n=6: ±15V DC	S20 With aperture Ø20mm	1.0%	m = 10mA, 20mA, 50mA, 100mA, 200mA, 500mA, 1A, 2A

U: unidirectional input current; **B:** bidirectional input current

Example 1: CYCT04-56S20-1.0-U10mA, DC Current sensor with
 Output signal: 4-20mA DC
 Power supply: ±15V DC
 Rated input current: 0-10mA DC (unidirectional)

Example 2: CYCT04-15S20-1.0-B10mA, DC Current sensor with
 Output signal: ±5V DC
 Power supply: ±12V DC
 Rated input current: -10mA ~ +10mADC (bidirectional)

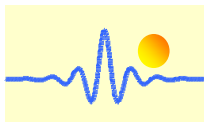
DIMENSIONS (mm)



Pin Arrangement

Pin	1	2	3	4
Function	+Vcc	-Vcc	OUT	GND



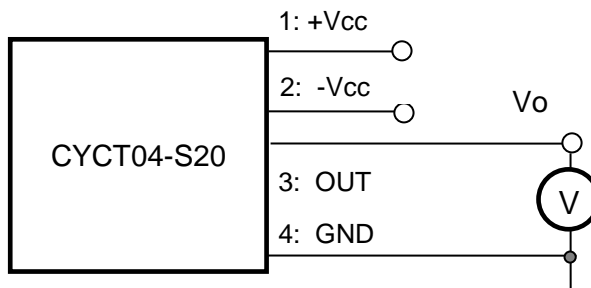


CONNECTION

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

a) Voltage Output

- 1: +Vcc Power Supply
- 2: -Vcc Power Supply
- 3: Output
- 4: Ground

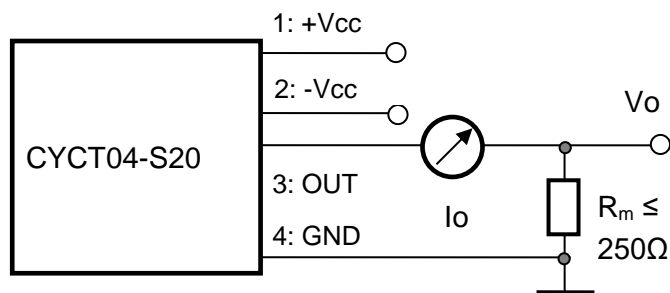


Relation between Input and Output:

Sensor CYCT04-35S20-1.0-U10mA		Sensor CYCT04-15S20-1.0-B10mA	
Input current (mA)	Output voltage (V)	Input current (mA)	Output voltage (V)
0	0	-10	-5
2.5	1.25	-5	-2.5
5	2.5	0	0
7.5	3.75	5	2.5
10	5	10	5

b) Current Output

- 1: +Vcc Power Supply
- 2: -Vcc Power Supply
- 3: Output
- 4: Ground

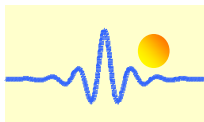


Relation between Input and Output (for $R_m=250\ \Omega$):

Sensor CYCT04-56S20-1.0-U10mA			Sensor CYCT04-45S20-1.0-B10mA		
Input current (mA)	Output current I_o (mA)	Output voltage V_o (V)	Input current (mA)	Output current I_o (mA)	Output voltage V_o (V)
0	4	1	-10	0	0
2.5	8	2	-5	5	1.25
5	12	3	0	10	2.5
7.5	16	4	5	15	3.75
10	20	5	10	20	5

Notes:

1. Connect the terminals of power source, output respectively and correctly, never make wrong connection.
2. The potentiometer 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 current carrying conductor
4. The in-phase output can be obtained when the direction of current of current carrying conductor is the same as the direction of arrow marked on the transducer case.



DC Leakage Current Sensor CYCT04-xnS40

This current sensor is based on magnetic modulation and compensation principle, and can be used for measurement of small DC current and leakage current, current difference between two or more conductors.

Product Characteristics:

- Application of Computer Aided Ageing Technology
- 100% Ageing Processing and Thermal Drift Test under high operating temperature in order to guarantee the long term stability of the sensors
- Custom makeable according to individual requirements
- Various current and voltage outputs are selectable
- Power supply options: $\pm 12\text{VDC}$ and $\pm 15\text{VDC}$, single power supply is possible.
- Sensors with window for contactless measurements

Applications:

- Isolation Monitoring of DC power systems and cable selection systems,
- Measurements of small DC currents and leakage currents etc.

Electrical Data

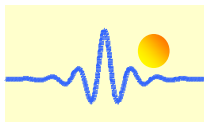
Measuring range M	10mA ~ 5A DC
Linearity range	1.2 x M (measuring range)
Nominal output signals	0-5V, $\pm 5\text{V}$, 4-20mA, 0-20mA, $\pm 20\text{mA}$
Supply voltage	$\pm 12\text{VDC}$, $\pm 15\text{VDC}$ ($\pm 5\%$)
Current consumption	20mA + output current
Galvanic isolation	2.5KV RMS/50Hz/min
Measuring resistance for current output	$\leq 250\Omega$
Load resistance for voltage output	$\geq 10\text{k}\Omega$

Accuracy and Dynamic Performances

Thermal drift of offset current	($T_a = -10^\circ\text{C} \sim 60^\circ\text{C}$) ≤ 400	ppm/ $^\circ\text{C}$
Response time	≤ 120	ms
Accuracy	± 1.0	%FS
Linearity	≤ 1.0	%FS

General Data

Operating temperature	-25 ~ +70	$^\circ\text{C}$
Storage temperature	-40 ~ +85	$^\circ\text{C}$
Window size	$\varnothing 40$	mm
Case dimensions H x L x W	105 x 99.5 x 28.5	mm



Definition of Part number:

CYCT04	-	x	n	S40	-	1.0	-	M
(1)		(2)	(3)	(4)		(5)		(6)

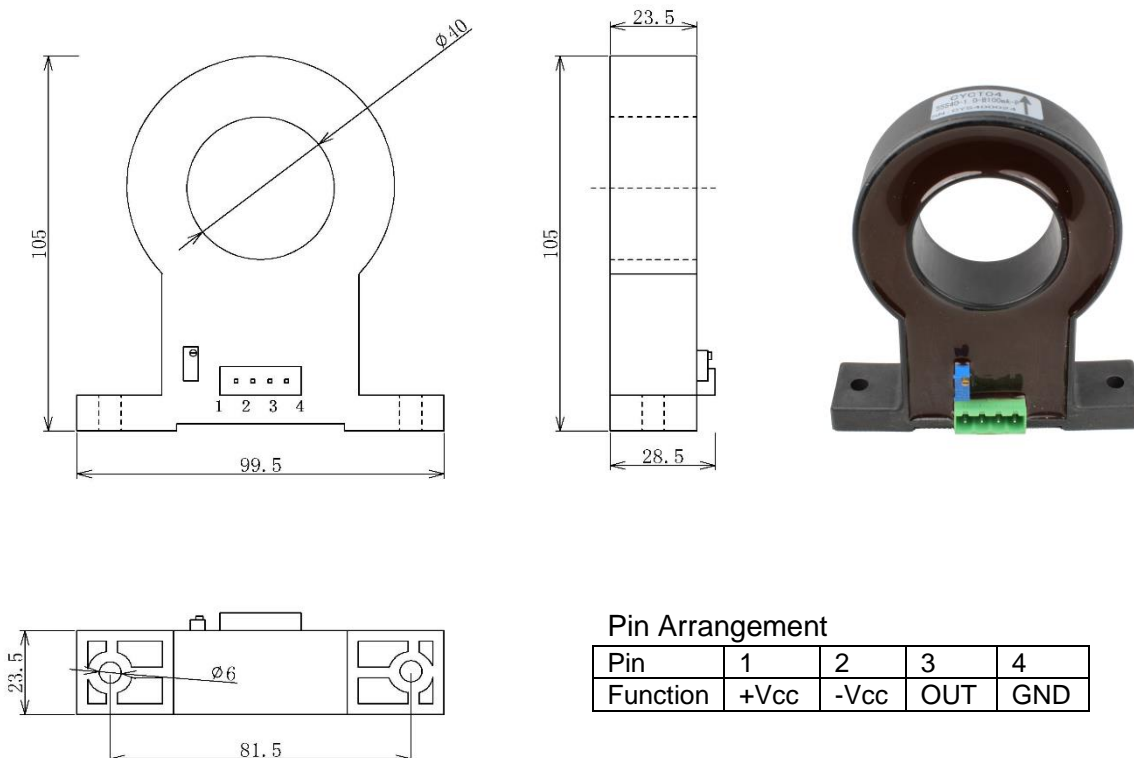
(1)	(2)	(3)	(4)	(5)	(6)
Series name	Output signal	Power supply	Case style	Accuracy	Rated Input current (M=U/B + m)
CYCT04	x=1: ±5VDC x=2: ±20mADC x=3: 0-5V DC x=4: 0-20mA DC x=5: 4-20mA DC	n=5: ±12V DC n=6: ±15V DC	S40 With aperture Ø40mm	1.0%	m = 10mA, 20mA, 50mA, 100mA, 200mA, 500mA, 1A, 2A, 3A, 4A, 5A

U: unidirectional input current; **B:** bidirectional input current

Example 1: CYCT04-56S40-1.0-U10mA, DC Current sensor with
 Output signal: 4-20mA DC
 Power supply: ±15V DC
 Rated input current: 0-10mA DC (unidirectional)

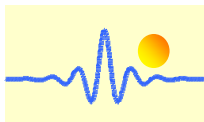
Example 2: CYCT04-15S40-1.0-B10mA, DC Current sensor with
 Output signal: ±5V DC
 Power supply: ±12V DC
 Rated input current: -10mA ~ +10mADC (bidirectional)

DIMENSIONS (mm)



Pin Arrangement

Pin	1	2	3	4
Function	+Vcc	-Vcc	OUT	GND

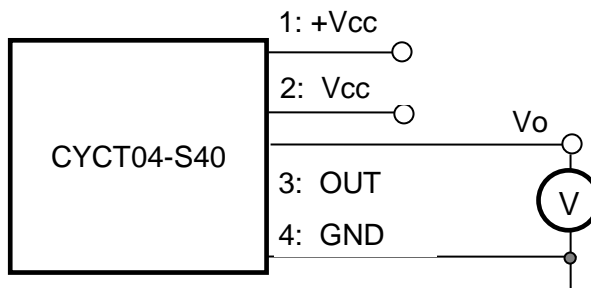


CONNECTION

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

a) Voltage Output

- 1: +Vcc Power Supply
- 2: -Vcc Power Supply
- 3: Output
- 4: Ground

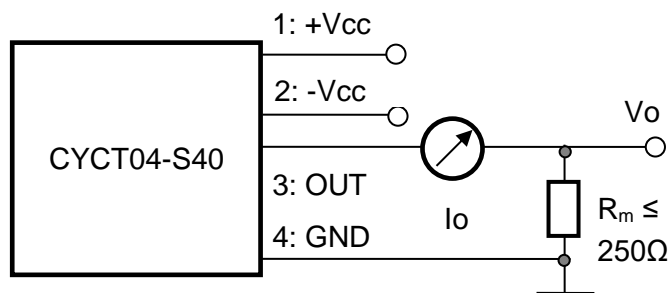


Relation between Input and Output:

Sensor CYCT04-35S40-1.0-U10mA		Sensor CYCT04-15S40-1.0-B10mA	
Input current (mA)	Output voltage (V)	Input current (mA)	Output voltage (V)
0	0	-10	-5
2.5	1.25	-5	-2.5
5	2.5	0	0
7.5	3.75	5	2.5
10	5	10	5

b) Current Output

- 1: +Vcc Power Supply
- 2: -Vcc Power Supply
- 3: Output
- 4: Ground

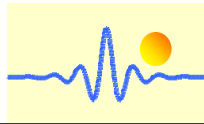


Relation between Input and Output (for $R_m=250\ \Omega$):

Sensor CYCT04-56S40-1.0-U10mA			Sensor CYCT04-45S40-1.0-B10mA		
Input current (mA)	Output current I_o (mA)	Output voltage V_o (V)	Input current (mA)	Output current I_o (mA)	Output voltage V_o (V)
0	4	1	-10	0	0
2.5	8	2	-5	5	1.25
5	12	3	0	10	2.5
7.5	16	4	5	15	3.75
10	20	5	10	20	5

Notes:

1. Connect the terminals of power source, output respectively and correctly, never make wrong connection.
2. The potentiometer 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 current carrying conductor
4. The in-phase output can be obtained when the direction of current of current carrying conductor is the same as the direction of arrow marked on the transducer case.



DC Leakage Current Sensor CYCT04-xnS60

This current sensor is based on magnetic modulation and compensation principle, and can be used for measurement of small DC current and leakage current, current difference between two or more conductors.

Product Characteristics:

- Application of Computer Aided Ageing Technology
- 100% Ageing Processing and Thermal Drift Test under high operating temperature in order to guarantee the long term stability of the sensors
- Custom makeable according to individual requirements
- Various current and voltage outputs are selectable
- Power supply options: $\pm 12\text{VDC}$ and $\pm 15\text{VDC}$, single power supply is possible.
- Sensors with window for contactless measurements

Applications:

- Isolation Monitoring of DC power systems and cable selection systems,
- Measurements of small DC currents and leakage currents etc.

Electrical Data

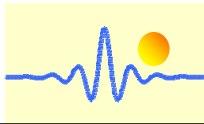
Measuring range M	10mA ~ 5A DC
Linearity range	1.2 x M (measuring range)
Nominal output signals	0-5V, $\pm 5\text{V}$, 4-20mA, 0-20mA, $\pm 20\text{mA}$
Supply voltage	$\pm 12\text{VDC}$, $\pm 15\text{VDC}$ ($\pm 5\%$)
Current consumption	20mA + output current
Galvanic isolation	2.5KV RMS/50Hz/min
Measuring resistance for current output	$\leq 250\Omega$
Load resistance for voltage output	$\geq 10\text{k}\Omega$

Accuracy and Dynamic Performances

Thermal drift of offset current	($T_a = -10^\circ\text{C} \sim 60^\circ\text{C}$) ≤ 400	ppm/ $^\circ\text{C}$
Response time	≤ 120	ms
Accuracy	± 1.0	%FS
Linearity	≤ 1.0	%FS

General Data

Operating temperature	-25 ~ +70	$^\circ\text{C}$
Storage temperature	-40 ~ +85	$^\circ\text{C}$
Window size	$\varnothing 60$	mm
Case dimensions H x L x W	113 x 119 x 37	mm



Definition of Part number:

CYCT04	-	x	n	S60	-	1.0	-	M
(1)		(2)	(3)	(4)		(5)		(6)

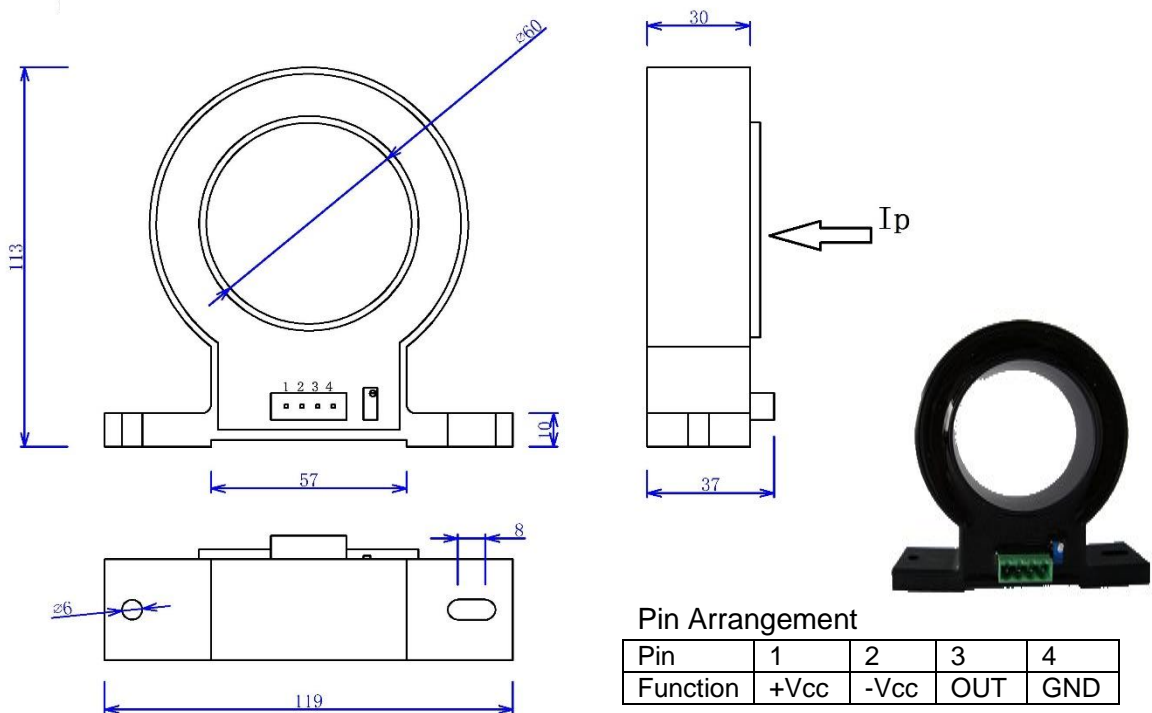
(1)	(2)	(3)	(4)	(5)	(6)
Series name	Output signal	Power supply	Case style	Accuracy	Rated Input current (M=U/B + m)
CYCT04	x=1: ±5VDC x=2: ±20mADC x=3: 0-5V DC x=4: 0-20mA DC x=5: 4-20mA DC	n=5: ±12V DC n=6: ±15V DC	S60 With aperture Ø60mm	1.0%	m = 10mA, 20mA, 50mA, 100mA, 200mA, 500mA, 1A, 2A, 3A, 4A, 5A

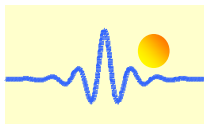
U: unidirectional input current; **B:** bidirectional input current

Example 1: CYCT04-56S60-1.0-U10mA, DC Current sensor with
 Output signal: 4-20mA DC
 Power supply: ±15V DC
 Rated input current: 0-10mA DC (unidirectional)

Example 2: CYCT04-15S60-1.0-B10mA, DC Current sensor with
 Output signal: ±5V DC
 Power supply: ±12V DC
 Rated input current: -10mA ~ +10mADC (bidirectional)

DIMENSIONS (mm)



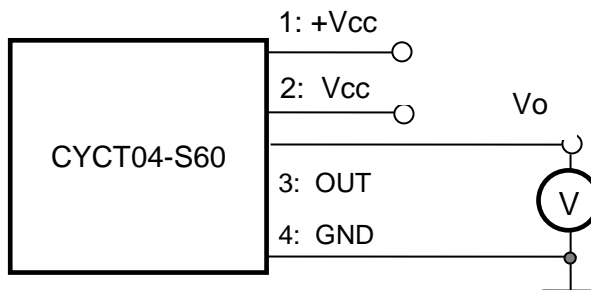


CONNECTION

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

a) Voltage Output

- 1: +Vcc Power Supply
- 2: -Vcc Power Supply
- 3: Output
- 4: Ground

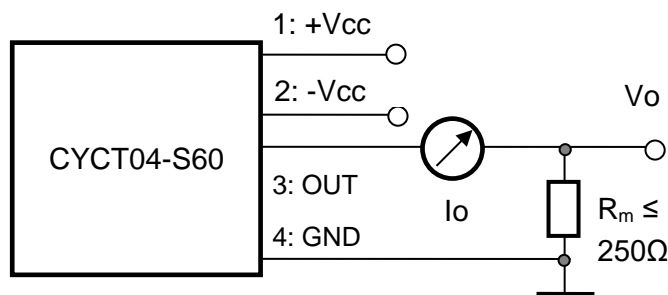


Relation between Input and Output:

Sensor CYCT04-35S60-1.0-U10mA		Sensor CYCT04-15S60-1.0-B10mA	
Input current (mA)	Output voltage (V)	Input current (mA)	Output voltage (V)
0	0	-10	-5
2.5	1.25	-5	-2.5
5	2.5	0	0
7.5	3.75	5	2.5
10	5	10	5

b) Current Output

- 1: +Vcc Power Supply
- 2: -Vcc Power Supply
- 3: Output
- 4: Ground

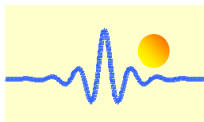


Relation between Input and Output (for $R_m=250\ \Omega$):

Sensor CYCT04-56S60-1.0-U10mA			Sensor CYCT04-45S60-1.0-B10mA		
Input current (mA)	Output current I_o (mA)	Output voltage V_o (V)	Input current (mA)	Output current I_o (mA)	Output voltage V_o (V)
0	4	1	-10	0	0
2.5	8	2	-5	5	1.25
5	12	3	0	10	2.5
7.5	16	4	5	15	3.75
10	20	5	10	20	5

Notes:

1. Connect the terminals of power source, output respectively and correctly, never make wrong connection.
2. The potentiometer 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 current carrying conductor
4. The in-phase output can be obtained when the direction of current of current carrying conductor is the same as the direction of arrow marked on the transducer case. Yang



Split Core DC Current Sensor CYCT04-xnS6

This current sensor is based on magnetic modulation and compensation principle, and can be used for measurement of small DC current and leakage current, current difference between two or more conductors.

Product Characteristics:

- Application of Computer Aided Ageing Technology
- 100% Ageing Processing and Thermal Drift Test under high operating temperature in order to guarantee the long term stability of the sensors
- Custom makeable according to individual requirements
- Various current and voltage outputs are selectable
- Power supply options: $\pm 12\text{VDC}$ and $\pm 15\text{VDC}$
- Sensors with window for contactless measurements

Applications:

- Isolation Monitoring of DC power systems and cable selection systems,
- Measurements of small DC currents and leakage currents etc.

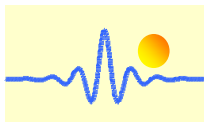
Electrical Data

Measuring range M	10mA ~ 2A DC
Linearity range	1.2 x M (measuring range)
Nominal output signals	0-5V DC, -5V~+5VDC, 4-20mA DC, 0-20mA DC
Supply voltage	$\pm 12\text{VDC}$, $\pm 15\text{VDC}$
Current consumption	20mA + Output current
Galvanic isolation	2.5KV RMS/50Hz/ 1min
Load resistance	$\geq 10\text{k}\Omega$

Thermal drift of offset voltage, $T_A = -10^\circ\text{C} \sim 60^\circ\text{C}$	≤ 800	ppm/ $^\circ\text{C}$
Response time	≤ 120	ms
Linearity $T_A = 25^\circ\text{C}$	≤ 1.0	%FS
Electric Offset Voltage, $T_A = 25^\circ\text{C}$	$< \pm 50$	mV
Magnetic Offset Voltage ($I_P = 0$)	$\leq \pm 50$	mV

General Data

Operating temperature	-25 ~ +70	$^\circ\text{C}$
Storage temperature	-40 ~ +85	$^\circ\text{C}$
Window size	$\Phi 60$	mm
Case dimensions H x L x W	113 x 113 x 26	mm



Definition of Part number:

CYCT04	-	x	n	S6	-	1.0	-	M
(1)		(2)	(3)	(4)		(5)		(6)

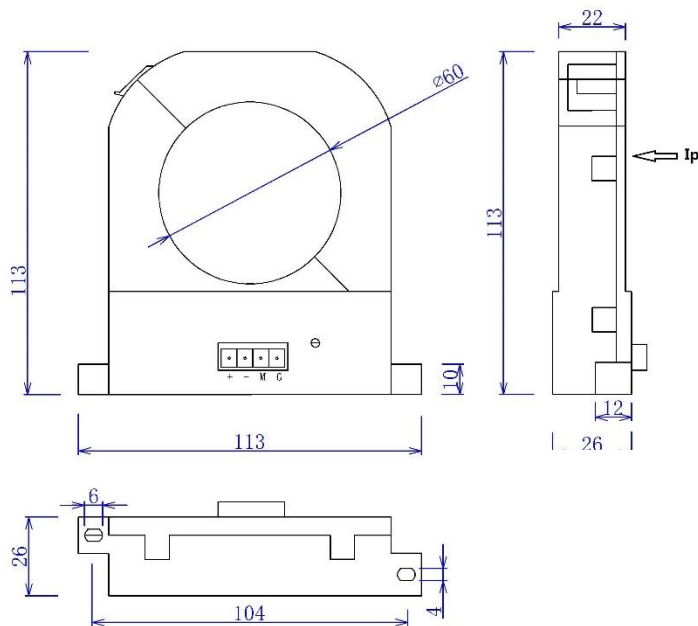
(1)	(2)	(3)	(4)	(5)	(6)
Series name	Output signal	Power supply	Case style	Basic Accuracy	Rated Input current (M=U/B + m)
CYCT04	x=1: tracing $\pm 5VDC$ x=3: 0-5V DC x=4: 0-20mA DC x=5: 4-20mA DC	n=5: $\pm 12V$ DC n=6: $\pm 15V$ DC	SL with aperture $\varnothing 94mm$	1.0%	m = 10mA, 20mA, 50mA, 100mA, 200mA, 500mA, 1A, 2A

U: unidirectional input current; **B:** bidirectional input current

Example 1: CYCT04-55S6-1.0-U50mA, DC Current sensor with
 Output signal: 4-20mA DC
 Power supply: $\pm 12V$ DC
 Rated input current: 0-50mA DC (unidirectional)

Example 2: CYCT04-16S6-1.0-B50mA, DC Current sensor with
 Output signal: -5V ~ +5VDC
 Power supply: $\pm 15V$ DC
 Rated input current: -50mA ~ +50mADC (bidirectional)

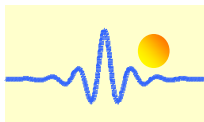
DIMENSIONS (mm)



Pin Arrangement

Pin	1	2	3	4
Symbol	+	-	M	G
Function	V+	V-	Output	ground





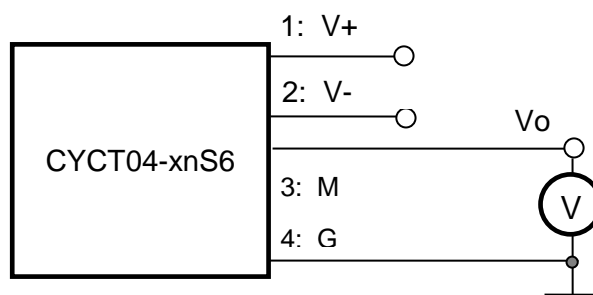
During the sensor is installed to a current conductor, the sensor core should be opened at first and then be closed again. It must be aware that the iron core interface on both sides is aligned and cannot be forcibly closed.

CONNECTIONS

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

a) Voltage Output

+: V+ Power Supply
-: V- Power Supply
M: Output
G: Ground

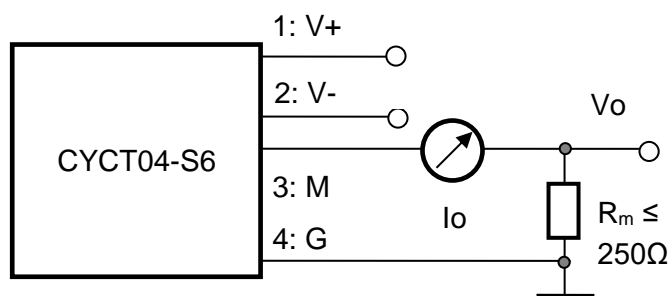


Relation between Input and Output:

Sensor CYCT04-36S6-1.0-U50mA		Sensor CYCT04-16S6-1.0-B50mA	
Input current (mA)	Output voltage (V)	Input current (mA)	Output voltage (V)
0	0	-50	-5
12.5	1.25	-25	-2.5
25	2.5	0	0
37.5	3.75	25	2.5
50	5	50	5

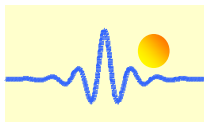
b) Current Output

+: +V Power Supply
-: -V Power Supply
M: Output
G: Ground



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

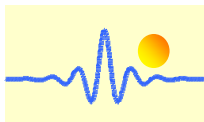
Sensor CYCT04-55S6-1.0-U50mA			Sensor CYCT04-45S6-1.0-U50mA		
Input current (mA)	Output current I_o (mA)	Output voltage V_o (V)	Input current (mA)	Output current I_o (mA)	Output voltage V_o (V)
0	4	1	0	0	0
12.5	8	2	12.5	5	1.25
25	12	3	25	10	2.5
37.5	16	4	37.5	15	3.75
50	20	5	50	20	5



Sensor CYCT04-55S6-1.0-B50mA			Sensor CYCT04-45S6-1.0-B50mA		
Input current (mA)	Output current I_o (mA)	Output voltage V_o (V)	Input current (mA)	Output current I_o (mA)	Output voltage V_o (V)
-50	4	1	-50	0	0
-25	8	2	-25	5	1.25
0	12	3	0	10	2.5
25	16	4	25	15	3.75
50	20	5	50	20	5

Notes:

5. Connect the terminals of power source, outputs respectively and correctly, never make wrong connection.
6. The potentiometer can be adjusted, only if necessary, by turning slowly to the required accuracy with a small screwdriver.
7. The best accuracy can be achieved when the window is fully filled with current carrying conductor
8. The in-phase output can be obtained when the direction of current of current carrying conductor is the same as the direction of arrow marked on the transducer case.



Split Core DC Leakage Current Sensor CYCT04-xnS9

This current sensor is based on magnetic modulation and compensation principle, and can be used for measurement of small DC current and leakage current, current difference between two or more conductors.

Product Characteristics:

- Application of Computer Aided Ageing Technology
- 100% Ageing Processing and Thermal Drift Test under high operating temperature in order to guarantee the long term stability of the sensors
- Custom makeable according to individual requirements
- Various current and voltage outputs are selectable
- Power supply options: $\pm 12\text{VDC}$ and $\pm 15\text{VDC}$
- Sensors with window for contactless measurements

Applications:

- Isolation Monitoring of DC power systems and cable selection systems,
- Measurements of small DC currents and leakage currents etc.

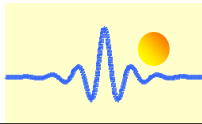
Electrical Data

Measuring range M	10mA ~ 5A DC
Linearity range	1.2 x M (measuring range)
Nominal output signals	0-5V DC, -5V~+5VDC, 4-20mA DC, 0-20mA DC
Supply voltage	$\pm 12\text{VDC}$, $\pm 15\text{VDC}$
Current consumption	20mA + Output current
Galvanic isolation	2.5KV RMS/50Hz/ 1min
Load resistance	$\geq 10\text{k}\Omega$

Thermal drift of offset voltage, $T_A = -10^\circ\text{C} \sim 60^\circ\text{C}$	≤ 800	ppm/ $^\circ\text{C}$
Response time	≤ 120	ms
Linearity $T_A = 25^\circ\text{C}$	≤ 1.0	%FS
Electric Offset Voltage, $T_A = 25^\circ\text{C}$	$< \pm 50$	mV
Magnetic Offset Voltage ($I_P = 0$)	$\leq \pm 50$	mV

General Data

Operating temperature	-25 ~ +70	$^\circ\text{C}$
Storage temperature	-40 ~ +85	$^\circ\text{C}$
Window size	$\Phi 94$	mm
Case dimensions H x L x W	165 x 161 x 32	mm



Definition of Part number:

CYCT04	-	x	n	S9	-	1.0	-	M
(1)		(2)	(3)	(4)		(5)		(6)

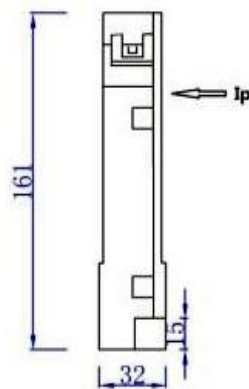
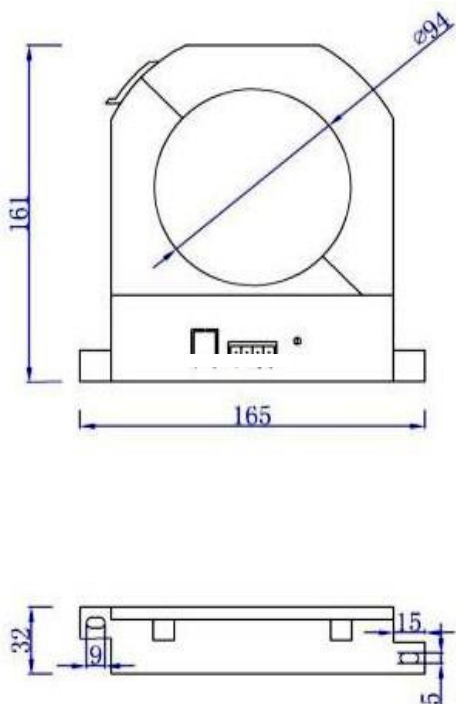
(1)	(2)	(3)	(4)	(5)	(6)
Series name	Output signal	Power supply	Case style	Basic Accuracy	Rated Input current (M=U/B + m)
CYCT04	x=1: tracing $\pm 5VDC$ x=3: 0-5V DC x=4: 0-20mA DC x=5: 4-20mA DC	n=5: $\pm 12V$ DC n=6: $\pm 15V$ DC	SL with aperture $\varnothing 94mm$	1.0%	m = 10mA, 20mA, 50mA, 100mA, 200mA, 500mA, 1A, 2A, 5A

U: unidirectional input current; **B:** bidirectional input current

Example 1: CYCT04-55S9-1.0-U50mA, DC Current sensor with
 Output signal: 4-20mA DC
 Power supply: $\pm 12V$ DC
 Rated input current: 0-50mA DC (unidirectional)

Example 2: CYCT04-16S9-1.0-B50mA, DC Current sensor with
 Output signal: -5V ~ +5VDC
 Power supply: $\pm 15V$ DC
 Rated input current: -50mA ~ +50mADC (bidirectional)

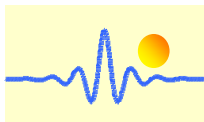
DIMENSIONS (mm)



Pin Arrangement

Pin	1	2	3	4
Symbol	+	-	M	G
Function	V+	V-	Output	ground





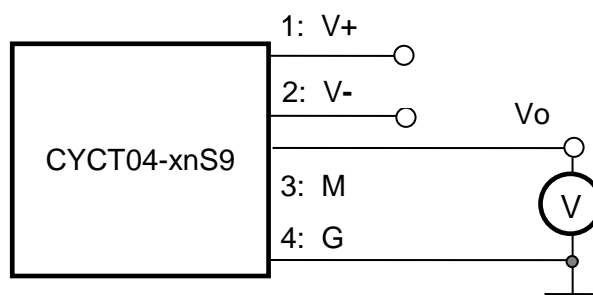
During the sensor is installed to a current conductor, the sensor core should be opened at first and then be closed again. It must be aware that the iron core interface on both sides is aligned and cannot be forcibly closed.

CONNECTIONS

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

a) Voltage Output

+: V+ Power Supply
-: V- Power Supply
M: Output
G: Ground

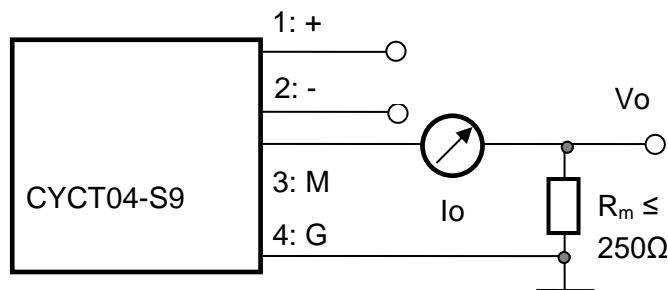


Relation between Input and Output:

Sensor CYCT04-36S9-1.0-U50mA		Sensor CYCT04-16S9-1.0-B50mA	
Input current (mA)	Output voltage (V)	Input current (mA)	Output voltage (V)
0	0	-50	-5
12.5	1.25	-25	-2.5
25	2.5	0	0
37.5	3.75	25	2.5
50	5	50	5

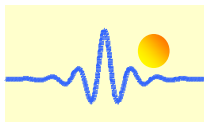
b) Current Output

+: +V Power Supply
-: -V Power Supply
M: Output
G: Ground



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

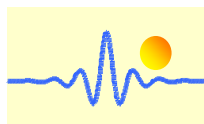
Sensor CYCT04-55S9-1.0-U50mA			Sensor CYCT04-45S9-1.0-U50mA		
Input current (mA)	Output current I_o (mA)	Output voltage V_o (V)	Input current (mA)	Output current I_o (mA)	Output voltage V_o (V)
0	4	1	0	0	0
12.5	8	2	12.5	5	1.25
25	12	3	25	10	2.5
37.5	16	4	37.5	15	3.75
50	20	5	50	20	5



Sensor CYCT04-55S9-1.0-B50mA			Sensor CYCT04-45S9-1.0-B50mA		
Input current (mA)	Output current I _o (mA)	Output voltage V _o (V)	Input current (mA)	Output current I _o (mA)	Output voltage V _o (V)
-50	4	1	-50	0	0
-25	8	2	-25	5	1.25
0	12	3	0	10	2.5
25	16	4	25	15	3.75
50	20	5	50	20	5

Notes:

9. Connect the terminals of power source, outputs respectively and correctly, never make wrong connection.
10. The potentiometer can be adjusted, only if necessary, by turning slowly to the required accuracy with a small screwdriver.
11. The best accuracy can be achieved when the window is fully filled with current carrying conductor
12. The in-phase output can be obtained when the direction of current of current carrying conductor is the same as the direction of arrow marked on the transducer case.



AC Leakage Current Sensors/Transducers

AC Leakage Current Sensor CYCS11-xnH3

The **CYCS11-xnH3** AC current Sensor/Transducer works according electro-magnetic isolation principle and is designed for applications to measurement and monitoring of AC leakage current. The output signal of this transducer is proportional to the rectified average value of input AC current. This sensor is suitable for measuring and monitoring the leakage current in single-phase or three-phase AC systems.

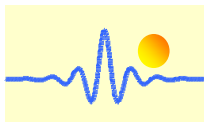
Specifications

Rated input current AC	0-10mA ~ 0-500mA AC
Linear measuring range	0 - 1.2 times of rated input current
Overload capacity	20 times of rated input current, 1s, time interval 300s, repeat 5 times
Input frequency	25Hz ~ 1kHz
Output signals	0-5VDC, 0-10VDC, 0-20mADC, 4-20mADC
Measuring accuracy	DC voltage output: 0.5%; DC current output: 1.0%
Load capacity	voltage output: 5mA; current output: 6V
Response time	300ms
Thermal drift	DC voltage output: 200ppm/°C, DC current output: 300-350ppm/°C
Power supply	+12VDC, +24VDC, +48VDC
Static current	Voltage output: 5mA; Current output: 3-7mA
Isolation	Isolation between input and output, power supply at the output
Isolation voltage	3 kV DC, 1min
Operating temperature	-10°C ~ +60°C
Storage temperature	-25°C ~ + 70°C
Relative humidity	10% ~ 90%
Protection of Case	IP20
Material of Case	ABS (According to UL94V-0)
Mounting	DIN Rail
Case Style	H3 with aperture Φ9mm
MTBF	50000h
Unit weight	120g

Definition of Part number:

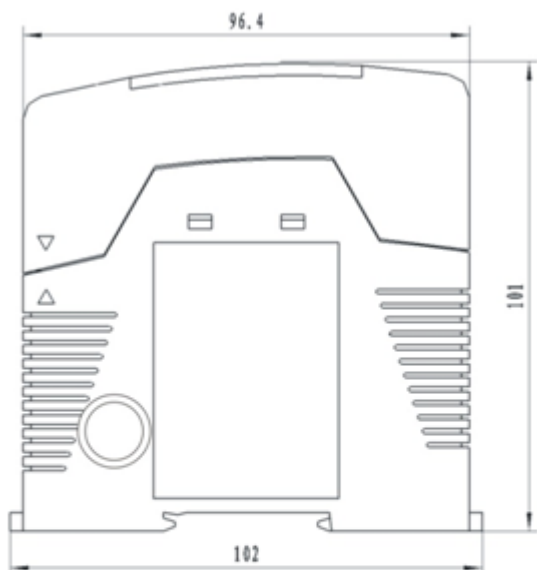
CYCS11	-	x	n	H3	-	0.5	-	m
(1)	(2)	(3)	(4)	(5)				

(1)	(2)	(3)	(4)	(5)	(6)
Series name	Output signal	Power supply	Case style	Accuracy class	Input current range (m)
CYCS11	x=3: 0-5V DC x=5: 4-20mA DC	n=2: +12V DC n=4: +24V DC n=7: +48VDC	H3	0.5% 1.0%	10mA, 20mA, 50mA, 100mA, 200mA, 300mA, 400mA 500mA AC
	x=8: 0-10V DC	n=4: +24V DC n=7: +48VDC			



- Example 1:** CYCS11-87H3-0.5-100mA, AC Current sensor with
Output voltage: 0-10V DC
Power supply: +48V DC
Rated input current: 0 -100mA AC
- Example 2:** CYCS11-32H3-0.5-100mA, AC Current sensor with
Output signal: 0-5V DC
Power supply: +12V DC
Rated input current: 0-100mA AC
- Example 3:** CYCS11-54H3-1.0-100mA, AC Current sensor with
Output signal: 4-20mA DC
Power supply: +24V DC
Rated input current: 0 -100mA AC

DIMENSIONS (mm)

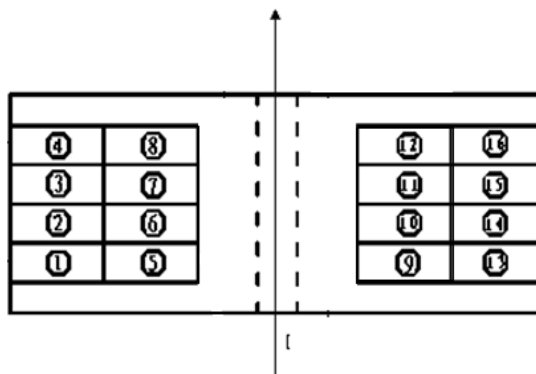


Dimensions: 101x 102 x 23.4mm,
Aperture: Ø9 mm

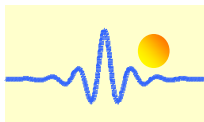


Terminal Arrangement

Terminal No	Symbol	Discription
9	IO+	Current output +
10	IO-	Current output -
11	VO+	Voltage output +
12	VO-	Voltage output -
13,14	+E	Power supply +
15,16	G	Power supply Ground
17	I	Input current
1-8	NC	Not defined

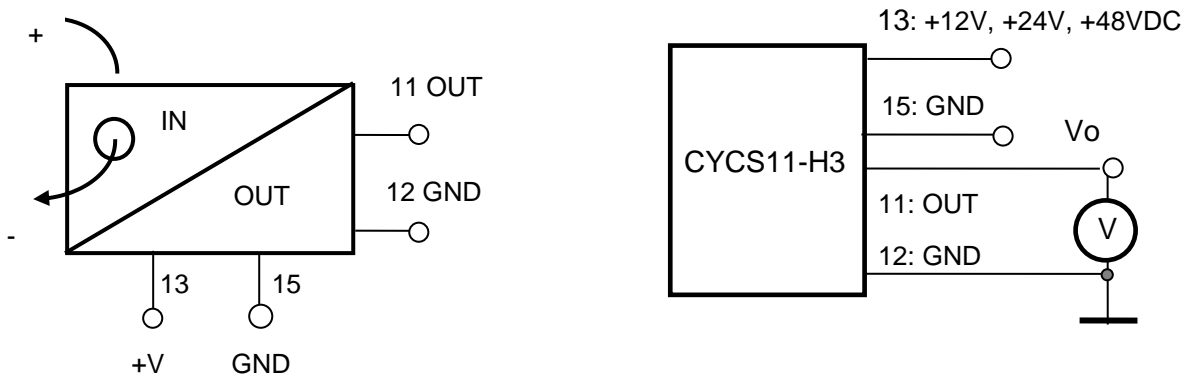


17: Input current direction



CONNECTIONS

Wiring of Terminals for DC voltage output:

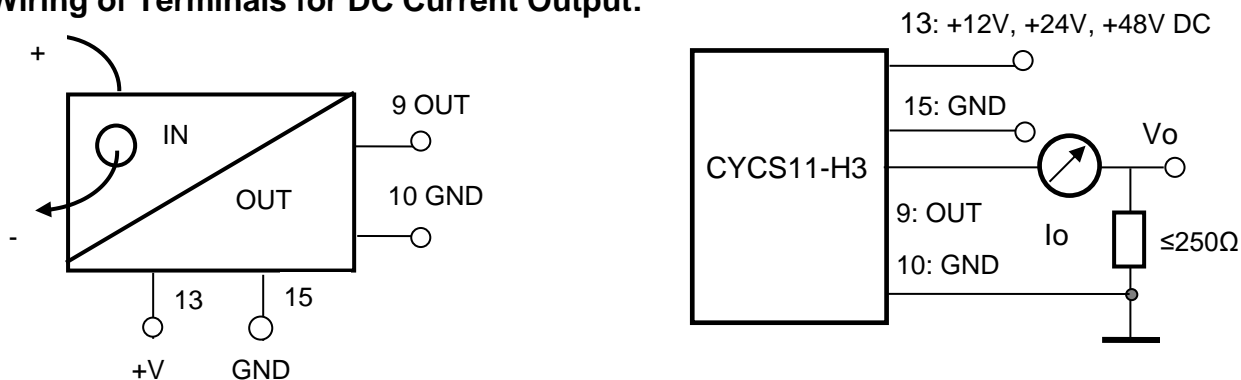


13: +12V, +24V, +48V Power Supply; 12,15: GND; 11: Voltage Output

Relation between Input and Output:

Sensor CYCS11-87H3-0.5-100mA	
Input current (mA)	Output voltage (V)
0	0
25	2.5
50	5
75	7.5
100	10

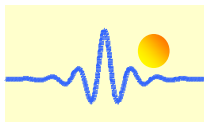
Wiring of Terminals for DC Current Output:



13: +12V, +24V, +48V Power Supply; 10,15: GND; 9: Current output

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

Sensor CYCS11-54H3-0.5-100mA		
Input current (mA)	Output current I_o (mA)	Output voltage V_o (V)
0	4	1
25	8	2
50	12	3
75	16	4
100	20	5



AC Leakage Current Sensor CYCS11-xnF2

The **CYCS11-xnF2** AC current Sensor/Transducer works according electro-magnetic isolation principle and is designed for applications to measurement and monitoring of AC leakage current. The output signal of this transducer is proportional to the rectified average value of input AC current. This sensor is suitable for measuring and monitoring the leakage current in single-phase or three-phase AC systems.

Specifications

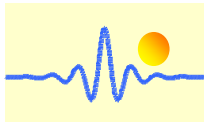
Rated input current AC	0-10mA ~ 0-500mA AC
Linear measuring range	0 - 1.2 times of rated input current
Overload capacity	20 times of rated input current, 1s, time interval 300s, repeat 5 times
Input frequency	25Hz ~ 1kHz
Output signals	0-5VDC, 0-10VDC, 0-20mADC, 4-20mADC
Measuring accuracy	DC voltage output: 0.5%; DC current output: 1.0%
Load capacity	voltage output: 5mA; current output: 6V
Response time	300ms
Thermal drift	DC voltage output: 200ppm/°C DC current output: 300-350ppm/°C
Power supply	+12VDC, +24VDC, +48VDC
Static current	Voltage output: 5mA; Current output: 3-7mA
Isolation	Isolation between input and output, power supply at the output
Isolation voltage	3 kV DC, 1min
Operating temperature	-10°C ~ +60°C
Storage temperature	-25°C ~ + 70°C
Relative humidity	10% ~ 90%
Protection of Case	IP20
Material of Case	ABS (According to UL94V-0)
Mounting	DIN Rail
Case Style	F2 with aperture Φ20mm
MTBF	50000h
Unit weight	90g

Definition of Part number:

CYCS11	-	x	n	F2	-	0.5	-	m
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(1) (2) (3) (4) (5)

(1)	(2)	(3)	(4)	(5)	(6)
Series name	Output signal	Power supply	Case style	Accuracy class	Input current range (m)
CYCS11	x=3: 0-5V DC x=5: 4-20mA DC	n=2: +12V DC n=4: +24V DC n=7: +48VDC	F2	0.5% 1.0%	10mA, 20mA, 50mA, 100mA, 200mA, 300mA, 400mA 500mA AC
	x=8: 0-10V DC	n=4: +24V DC n=7: +48VDC			

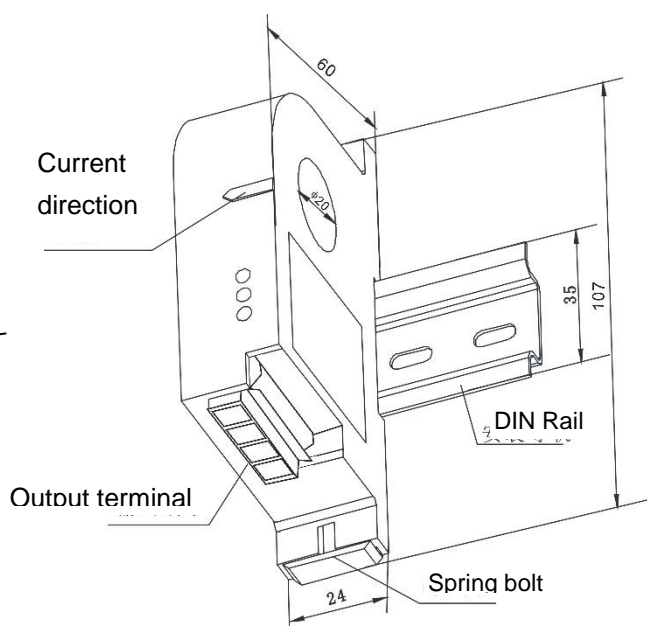
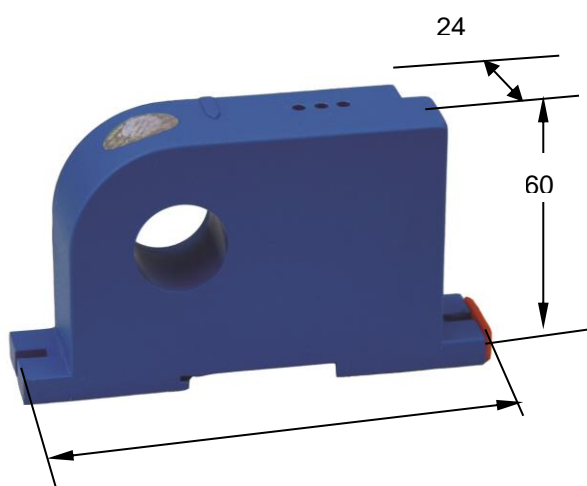


Example 1: CYCS11-87F2-0.5-100mA, AC Current sensor with
Output voltage: 0-10V DC
Power supply: +48V DC
Rated input current: 0 -100mA AC

Example 2: CYCS11-32F2-0.5-100mA, AC Current sensor with
Output signal: 0-5V DC
Power supply: +12V DC
Rated input current: 0-100mA AC

Example 3: CYCS11-54F2-1.0-100mA, AC Current sensor with
Output signal: 4-20mA DC
Power supply: +24V DC
Rated input current: 0 -100mA AC

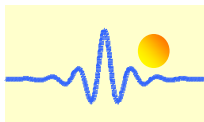
DIMENSIONS (mm)



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

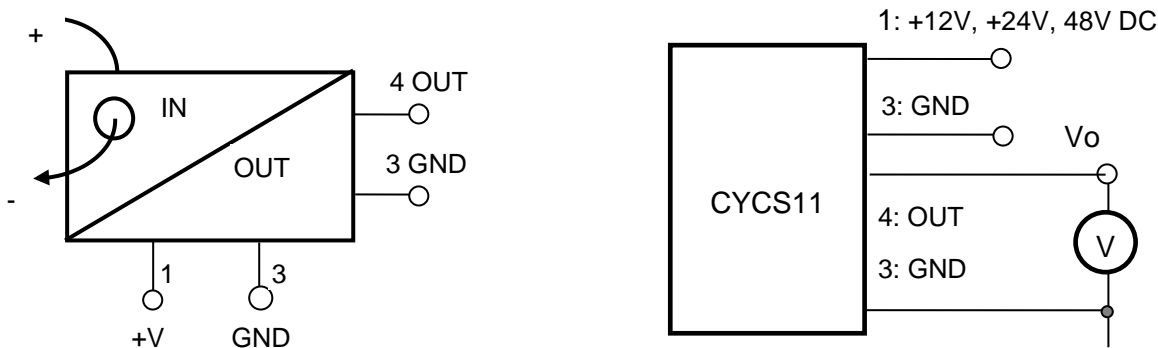
Pin Arrangement:

+: V+
-: NC)
GND: Ground of power supply and output
OUT: Output



CONNECTIONS

Wiring of Terminals for DC voltage output:

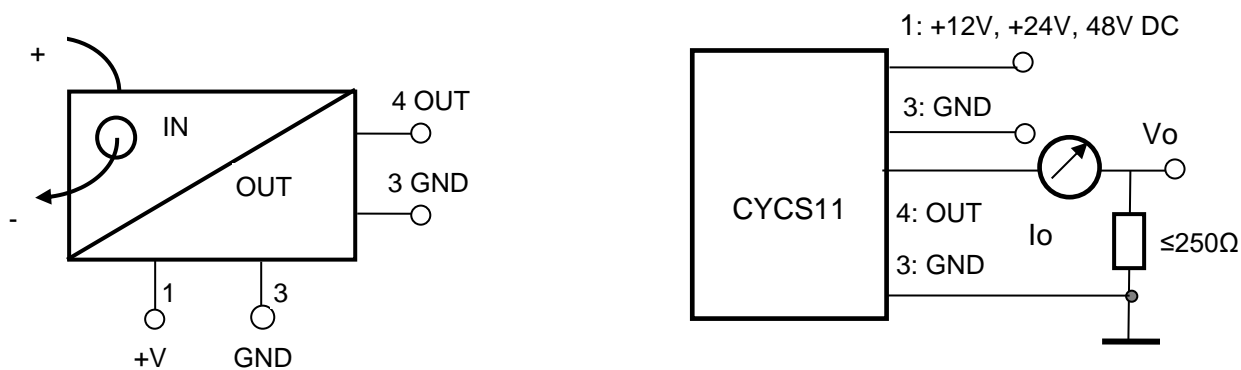


1: +12V, +24V Power Supply; 3: GND; 4: Voltage Output; 2: NC

Relation between Input and Output:

Sensor CYCS11-32F2-0.5-100mA	
Input current (mA)	Output voltage (V)
0	0
25	1.25
50	2.5
75	3.75
100	5

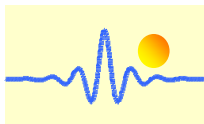
Wiring of Terminals for DC Current Output:



1: +12V, +24V Power Supply; 3: GND; 4: Current output; 2: NC

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

Sensor CYCS11-54F2-0.5-100mA		
Input current (mA)	Output current I_o (mA)	Output voltage V_o (V)
0	4	1
25	8	2
50	12	3
75	16	4
100	20	5



AC Leakage Current Sensor CYCS11-xnL20

This current sensor is based on magnetic modulation and compensation principle, and can be used for measurement of small AC current and leakage current, current difference between two or more conductors.

Product Characteristics:

- Application of Computer Aided Ageing Technology
- 100% Ageing Processing and Thermal Drift Test under high operating temperature in order to guarantee the long term stability of the sensors
- Custom makeable according to individual requirements
- Various current and voltage outputs are selectable
- Power supply options: +12VDC, +15VDC and 24VDC etc.
- Sensors with window for contactless measurements

Applications:

- Isolation Monitoring of AC power systems and cable selection systems,
- Measurements of small AC currents and leakage currents etc.

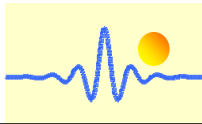
Electrical Data

Measuring range M	10mA ~ 1A AC
Linearity range	1.2 x M (measuring range)
Nominal output signals	0-5V, 0-10V, 4-20mA DC
Supply voltage	+12VDC, +15VDC, +24VDC
Current consumption	20mA + output current
Galvanic isolation	2.5KV RMS/50Hz/ 1min
Measuring resistance for current output	≤250Ω

Thermal drift of zero offset	-25°C~+70°C	300	-40°C~+80°C	400	ppm/°C
Response time	≤120				ms
Accuracy	±1.0				%
Linearity	≤0.5				%FS
Electric Offset Voltage, TA=25°C	25				mV
Magnetic Offset Voltage (I _P =0)	20				mV

General Data

Operating temperature	-40 ~ +85	°C
Storage temperature	-40 ~ +85	°C
Window size	Φ20	mm
Case dimensions H x L x W	68 x 57 x 24	mm



Definition of Part number:

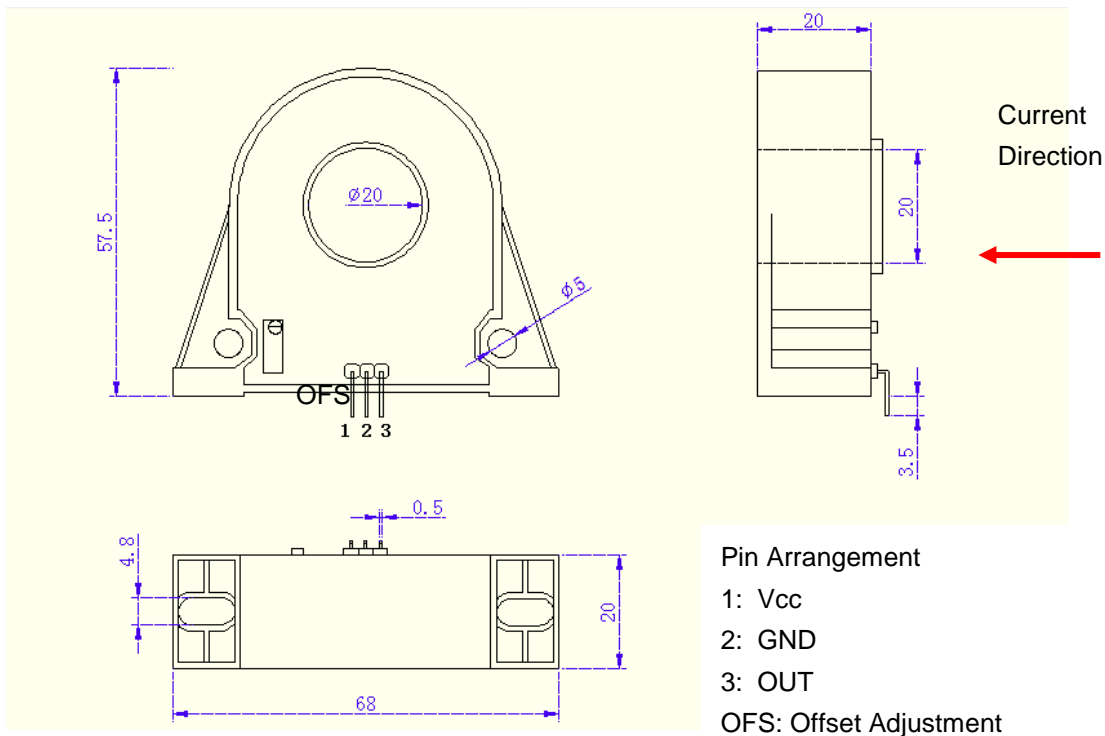
CYCS11	-	x	n	L20	-	1.0	-	M
(1)		(2)	(3)	(4)		(5)		(6)

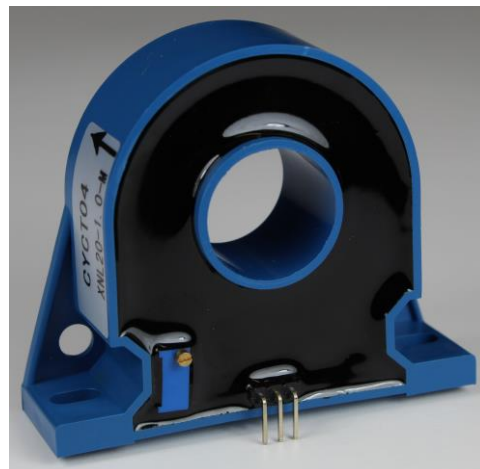
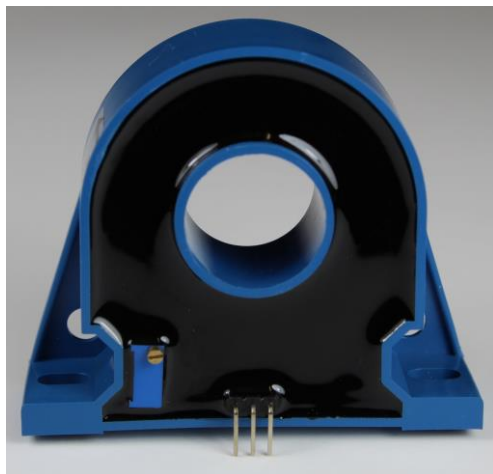
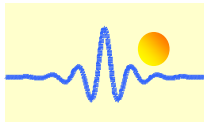
(1)	(2)	(3)	(4)	(5)	(6)
Series name	Output signal	Power supply	Case style	Accuracy	Rated Input current (m)
CYCS11	x=3: 0-5V DC x=8: 0-10V DC x=5: 4-20mA DC	n=2: +12V DC n=3: +15V DC n=4: +24V DC	M20A With aperture Ø20mm	1.0%	m = 10mA, 20mA, 50mA, 100mA, 200mA, 500mA, 1A

Example 1: CYCS11-34L20-1.0-1A, AC Current sensor with
Output signal: 0-5V DC
Power supply: +24V DC
Rated input current: 0-1AAC

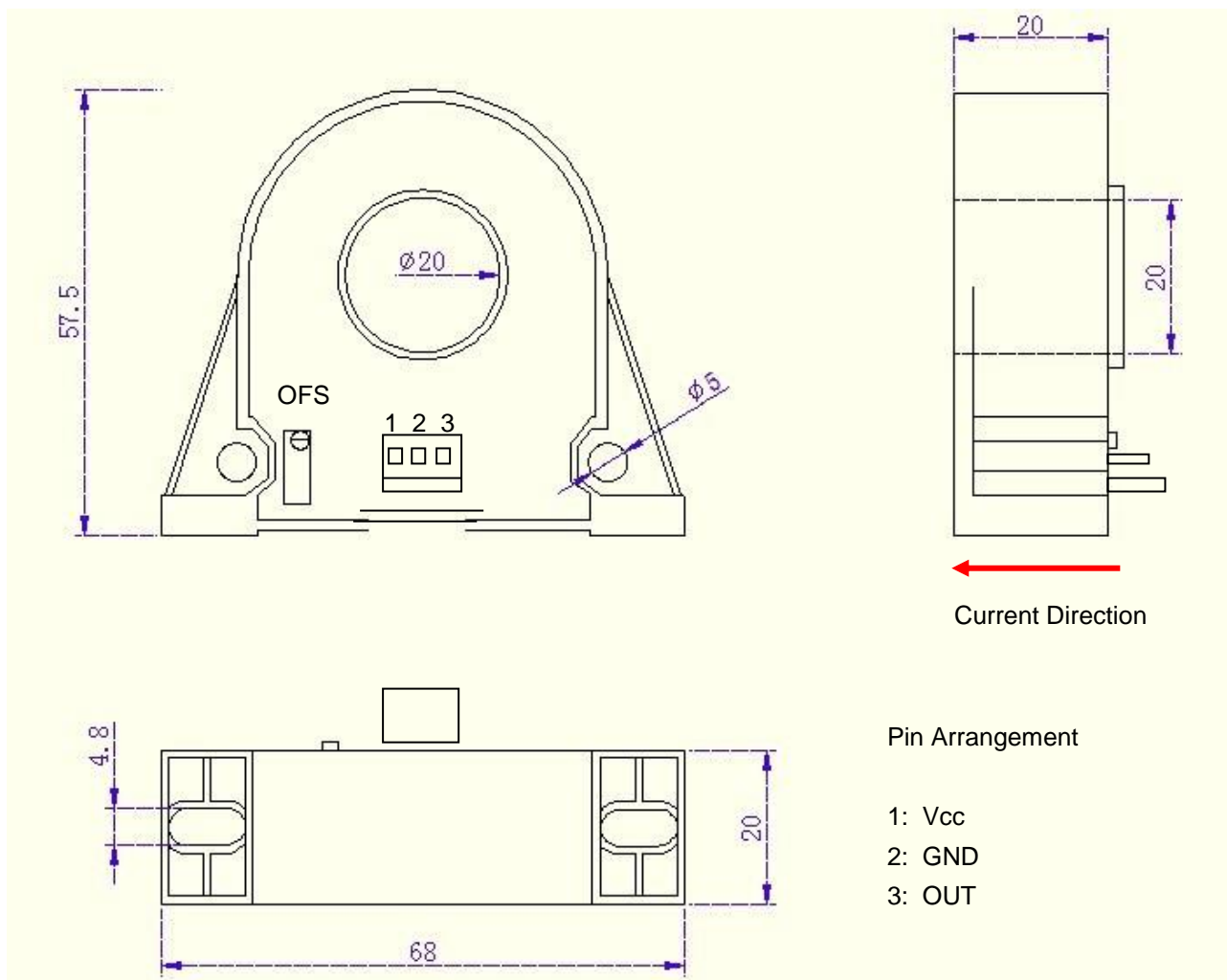
Example 2: CYCS11-54L20-1.0-1A, AC Current sensor with
Output signal: 4-20mA DC
Power supply: +24V DC
Rated input current: 0~ 1AAC

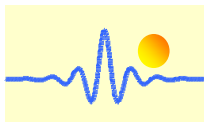
DIMENSIONS (mm) (PCB Mounting)





By Using 3 Pins MOLEX Connector



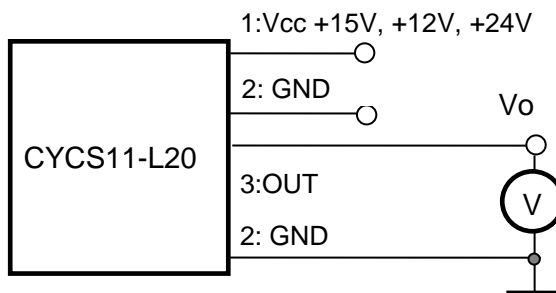


CONNECTIONS

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

Voltage Output

1: Vcc +15V, +12V, +24V
2: GND
3: OUT

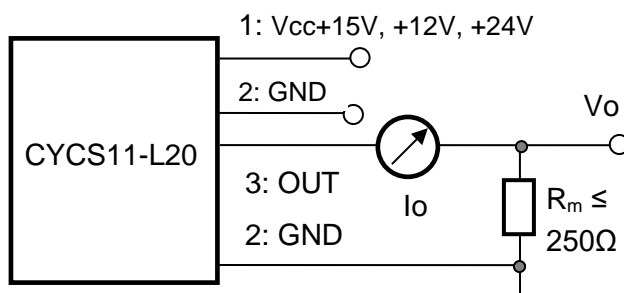


Relation between Input and Output:

Sensor CYCS11-34L20-1.0-U1A	
Input current (A)	Output voltage (V)
0	0
0.25	1.25
0.5	2.5
0.75	3.75
1	5

Current Output

1: Vcc +15V, +12V, +24V
2: GND
3: OUT

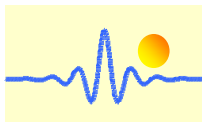


Relation between Input and Output (for $R_m=250\ \Omega$):

Sensor CYCS11-54L20-1.0-U1A		
Input current (A)	Output current I_o (mA)	Output voltage V_o (V)
0	4	1
0.25	8	2
0.5	12	3
0.75	16	4
1	20	5

Notes:

1. Connect the terminals of power source, output respectively and correctly, never make wrong connection.
2. Two potentiometers can be adjusted, only if necessary, by turning slowly to the required accuracy with a small screwdriver.
3. The best accuracy can be achieved when the window is fully filled with current carrying conductor.
4. The in-phase output can be obtained when the direction of current of current carrying conductor is the same as the direction of arrow marked on the transducer case.



AC Current Sensor CYCS11-xnE4

This current sensor is based on magnetic modulation principle and can be used for measurement of small AC currents.

Product Characteristics:

- Application of Ageing Technology
- 100% Ageing Processing and Thermal Drift Test under high operating temperature in order to guarantee the long term stability of the sensors
- Custom makeable according to individual requirements
- Various current and voltage outputs are selectable
- Power supply options: +12V, +15V, +24V, ± 12 VDC and ± 15 VDC etc.
- Sensors with window for contactless measurement

Applications:

- Isolation Monitoring of AC power systems,
- Measurements of small AC currents and leakage currents etc.

Electrical Data

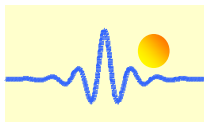
Measuring range M	10mA ~ 10A AC
Linearity range	1.2 x M (measuring range)
Overload capacity	20 x M (measuring range)
Nominal output signals	0-4V, 0-5V, 0-10V, 0-20mA, 4-20mA, -20mA~+20mA ,
Supply voltage	+12VDC, +15VDC, +24VDC, ± 12 VDC, ± 15 VDC
Current consumption	25mA ~ 50mA + output current
Galvanic isolation	3KV RMS/50Hz/min
Measuring resistance for current output	$\leq 250\Omega$

Accuracy and Dynamic Performances

Zero offset voltage	± 20	mV
Hysteresis error	± 10	mV
Thermal drift of offset current	≤ 250	ppm/ $^{\circ}$ C
Response time	≤ 120	ms
Accuracy	± 1.0	%
Linearity	≤ 1.0	%FS

General Data

Operating temperature	-10 ~ +80	$^{\circ}$ C
Storage temperature	-25 ~ +85	$^{\circ}$ C



Definition of Part number:

CYCS11	-	x	n	E4	-	1.0	-	m
(1)		(2)	(3)	(4)		(5)		(6)

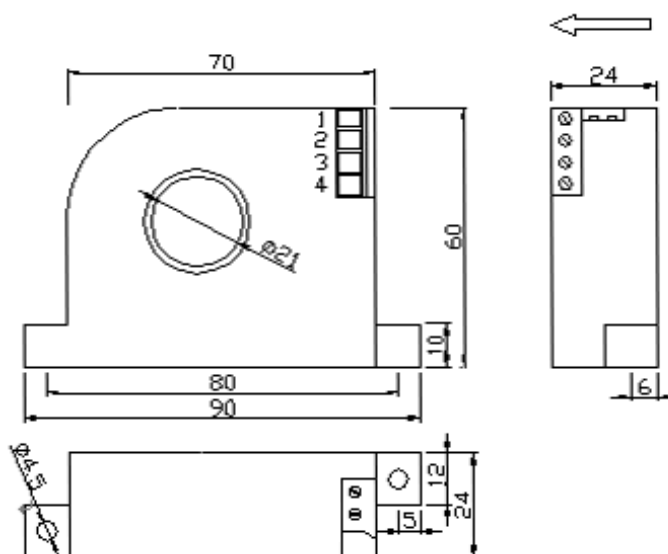
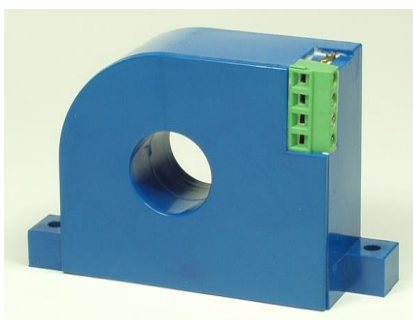
(1)	(2)	(3)	(4)	(5)	(6)
Series name	Output signal	Power supply	Case style	Accuracy	Rated Input current m
CYCS11	x=0: 0-4V DC x=3: 0-5V DC x=4: 0-20mA DC x=5: 4-20mA DC x=8: 0-10V DC	n=2: +12V DC n=3: +15V DC n=4: +24V DC n=5: ±12V DC n=6: ±15V DC	E4 with aperture Ø21mm	1.0%	m = 10mA, 20mA, 50mA, 100mA, 200mA, 500mA, 1A, 2A, 5A, 10A

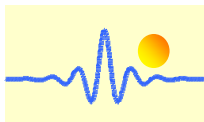
Output Signal of Custom Made Sensors:

x=1: tracing voltage 5V, **x=2:** tracing current 20mA

Example: CYCS11-34E4-1.0-1A , AC Current sensor with
 Output signal: 0-5V DC
 Power supply: +24V DC
 Rated input current: 0-1A AC

DIMENSIONS (mm)





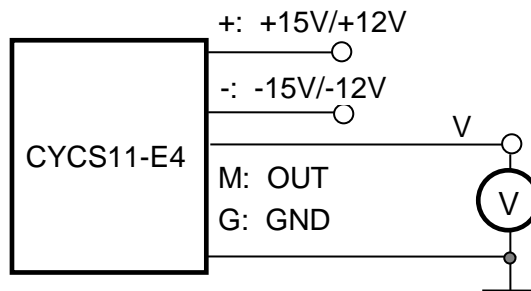
CONNECTION

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

a) Wiring of Sensors Using Double Power Supplies

Voltage Output

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

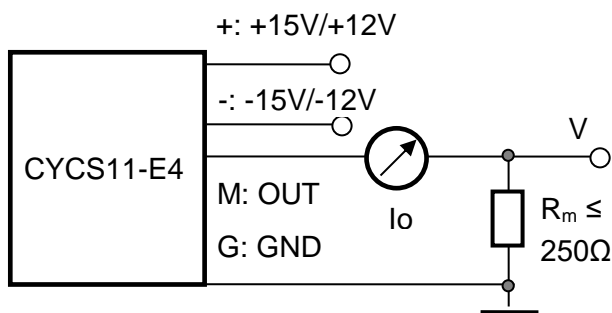


Relation between Input and Output:

Sensor CYCS11-35E4-1.0-1A	
Input current (A)	Output voltage (V)
0	0
0.25	1.25
0.5	2.5
0.75	3.75
1	5

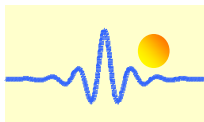
Current Output

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



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

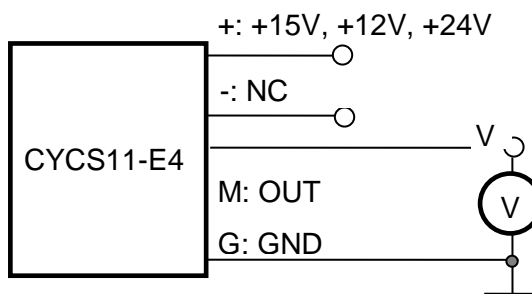
Sensor CYCS11-45E4-1.0-1A		
Input current (A)	Output current I_o (mA)	Output voltage V_o (V)
0	0	0
0.25	5	1.25
0.5	10	2.5
0.75	15	3.75
1	20	5



B) Wiring of Sensors Using Single Power Supply

Voltage Output

1(+): +15V, +12V, +24V
2(-): NC
3(M): Output
4(G): Ground

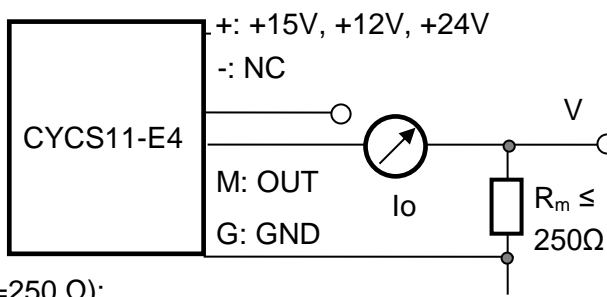


Relation between Input and Output:

Sensor CYCS11-34E4-1.0-1A	
Input current (A)	Output voltage (V)
0	0
0.25	1.25
0.5	2.5
0.75	3.75
1	5

Current Output

1(+): +15V, +12V, +24V
2(-): NC
3(M): Output
4(G): Ground

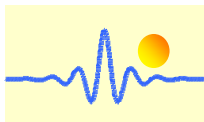


Relation between Input and Output (for $R_m=250\ \Omega$):

Sensor CYCS11-54E4-1.0-1A		
Input current (A)	Output current I_o (mA)	Output voltage V_o (V)
0	4	1
0.25	8	2
0.5	12	3
0.75	16	4
1	20	5

Notes:

1. Connect the terminals of power source, outputs 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 current carrying conductor.
4. The in-phase output can be obtained when the direction of current of current carrying conductor is the same as the direction of arrow marked on the transducer case.



AC Current Sensor CYCS11-xnE5

This current sensor is based on magnetic modulation principle and can be used for measurement of AC currents.

Product Characteristics:

- Application of Ageing Technology
- 100% Ageing Processing and Thermal Drift Test under high operating temperature in order to guarantee the long term stability of the sensors
- Custom makeable according to individual requirements
- Various current and voltage outputs are selectable
- Power supply options: +12V, +15V, +24V, ± 12 VDC and ± 15 VDC
- Sensors with window for contactless measurement

Applications:

- Isolation Monitoring of AC power systems,
- Measurement of small AC currents and leakage currents etc.

Electrical Data

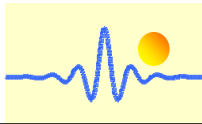
Measuring range M	10mA ~ 10A AC
Linearity range	1.2 x M (measuring range)
Overload capacity	20 x M (measuring range)
Nominal output signals	0-4V, 0-5V, 0-10V, 0-20mA, 4-20mA, -20mA~+20mA
Supply voltage	+12VDC, +15VDC, +24VDC, ± 12 VDC, ± 15 VDC
Current consumption	25mA ~ 50mA + output current
Galvanic isolation	3KV RMS/50Hz/min
Measuring resistance for current output	$\leq 250\Omega$

Accuracy and Dynamic Performances

Zero offset voltage	± 20	mV
Hysteresis error	± 10	mV
Thermal drift of offset current	≤ 250	ppm/ $^{\circ}$ C
Response time	≤ 120	ms
Accuracy	± 1.0	%
Linearity	≤ 1.0	%FS

General Data

Operating temperature	-10 ~ +80	$^{\circ}$ C
Storage temperature	-25 ~ +85	$^{\circ}$ C



Definition of Part number:

CYCS11	-	x	n	E5	-	1.0	-	m
(1)		(2)	(3)	(4)		(5)		(6)

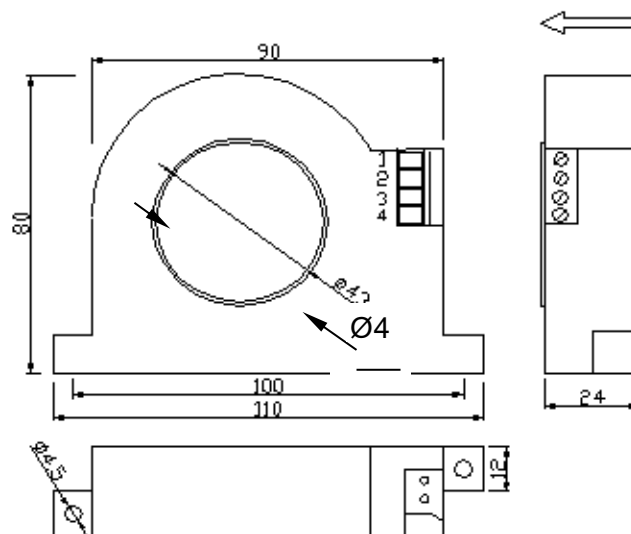
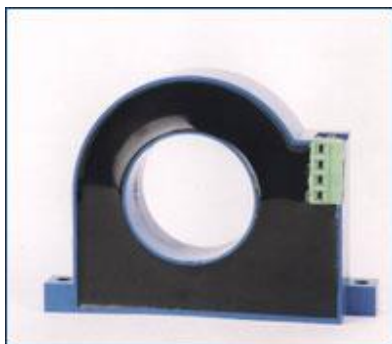
(1)	(2)	(3)	(4)	(5)	(6)
Series name	Output signal	Power supply	Case style	Accuracy	Rated Input current (m)
CYCS11	x=0: 0-4V DC x=3: 0-5V DC x=4: 0-20mA DC x=5: 4-20mA DC x=8: 0-10V DC	n=2: +12V DC n=3: +15V DC n=4: +24V DC n=5: ±12V DC n=6: ±15V DC	E5 with aperture Ø43mm	1.0%	m = 10mA, 20mA, 50mA, 100mA, 200mA, 500mA, 1A, 2A, 5A, 10A

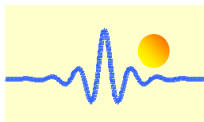
Output Signal of Custom Made Sensors:

x=1: tracing voltage 5V, **x=2:** tracing current 20mA

Example: CYCS11-34E5-1.0-1A , AC Current sensor with
 Output signal: 0-5V DC
 Power supply: +24V DC
 Rated input current: 0-1A AC

DIMENSIONS (mm)





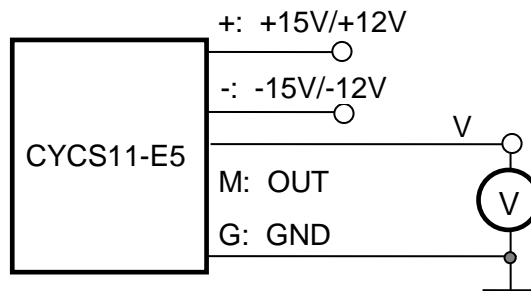
CONNECTION

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

a) Wiring of Sensors Using Double Power Supplies

Voltage Output

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

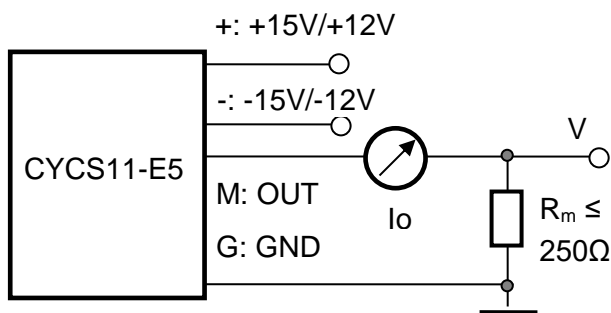


Relation between Input and Output:

Sensor CYCS11-35E5-1.0-1A	
Input current (A)	Output voltage (V)
0	0
0.25	1.25
0.5	2.5
0.75	3.75
1	5

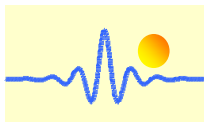
Current Output

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



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

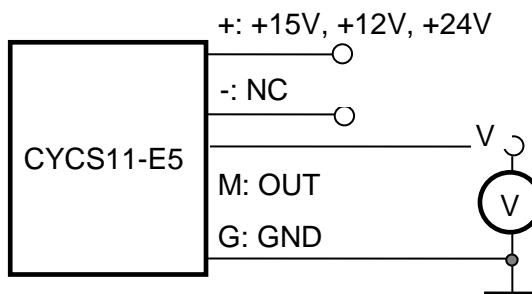
Sensor CYCS11-45E5-1.0-1A		
Input current (A)	Output current I_o (mA)	Output voltage V_o (V)
0	0	0
0.25	5	1.25
0.5	10	2.5
0.75	15	3.75
1	20	5



B) Wiring of Sensors Using Single Power Supply

Voltage Output

1(+): +15V, +12V, +24V
2(-): NC
3(M): Output
4(G): Ground

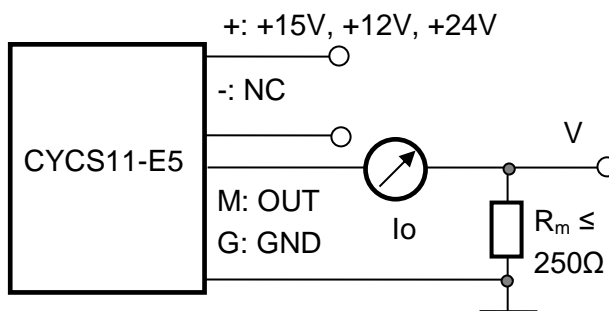


Relation between Input and Output:

Sensor CYCS11-34E5-1.0-1A	
Input current (A)	Output voltage (V)
0	0
0.25	1.25
0.5	2.5
0.75	3.75
1	5

Current Output

1(+): +15V, +12V, +24V
2(-): NC
3(M): Output
4(G): Ground

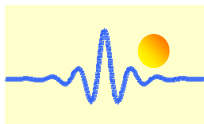


Relation between Input and Output (for $R_m=250\ \Omega$):

Sensor CYCS11-54E5-1.0-U1A		
Input current (A)	Output current I_o (mA)	Output voltage V_o (V)
0	4	1
0.25	8	2
0.5	12	3
0.75	16	4
1	20	5

Notes:

1. Connect the terminals of power source, outputs 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 current carrying conductor.
4. The in-phase output can be obtained when the direction of current of current carrying conductor is the same as the direction of arrow marked on the transducer case.



Small AC/DC Leakage Current Sensors/Transducers

AC/DC Leakage Current Sensor CYCS11-xnL20ADC

This current sensor is based on magnetic modulation and compensation principle, and can be used for measurement of small AC/DC current and leakage current, current difference between two or more conductors.

Product Characteristics:

- Application of Computer Aided Ageing Technology
- 100% Ageing Processing and Thermal Drift Test under high operating temperature in order to guarantee the long term stability of the sensors
- Custom makeable according to individual requirements
- Various current and voltage outputs are selectable
- Power supply options: $\pm 12\text{VDC}$ and $\pm 15\text{VDC}$
- Sensors with window for contactless measurements

Applications:

- Isolation Monitoring of AC/DC power systems and cable selection systems,
- Measurements of small AC/DC currents and leakage currents etc.

Electrical Data

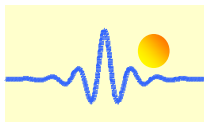
Measuring range M	10mA ~ 2A DC, 10mA ~500mA AC
Linearity range	1.2 x M (measuring range)
Nominal output signals	0-5VDC
Supply voltage	$\pm 12\text{VDC}$ and $\pm 15\text{VDC}$
Current consumption	20mA
Galvanic isolation	2.5KV RMS/50Hz/ 1min

Accuracy and dynamic properties

Thermal drift of offset voltage	$T_a=10^\circ\text{C}\sim 60^\circ\text{C}$, $<\pm 2$	mV/ $^\circ\text{C}$
Response time	≤ 120	ms
Frequency range	DC + AC: 30 ~ 1k	Hz
Accuracy	± 1.0	%
Linearity	≤ 1.0	%FS
Electric Offset Voltage, $T_A=25^\circ\text{C}$	50	mV
Load Resistance	$\geq 10\text{k}$	Ω

General Data

Operating temperature	-25 ~ +70	$^\circ\text{C}$
Storage temperature	-40 ~ +85	$^\circ\text{C}$
Window size	$\Phi 20$	mm
Case dimensions H x L x W	68 x 59 x 20	mm



Definition of Part number:

CYCS11	-	x	n	L20	ADC	-	1.0	-	M
(1)		(2)	(3)	(4)	(5)		(6)		(7)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Series name	Output signal	Power supply	Case style	Input current type	Accuracy	Rated Input current (M=AC/(U/B+DC))
CYCS11	x=3: 0-5V DC	n=5: ±12V DC n=6: ±15V DC	L20 With aperture Ø20mm	AC: AC Current DC: DC current ADC: AC and DC Current	1.0%	DC= 10mA, 20mA, 50mA, 100mA, 200mA, 500mA, 1A, 2A AC=10mA, 20mA, 50mA, 100mA, 200mA, 500mA

U: unidirectional DC input current;

B: bidirectional DC input current

U and B are not used for AC input current.

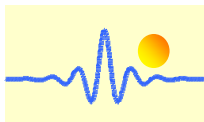
Example 1: CYCS11-35L20DC-1.0-U1A, DC Current sensor with
Output signal: 0-5V DC
Power supply: ±12V DC
Rated input current: 0~1A DC (unidirectional)

Example 2: CYCS11-36L20DC-1.0-B1A, DC Current sensor with
Output signal: 0-5V DC
Power supply: ±15V DC
Rated input current: -1A ~ +1ADC (bidirectional)

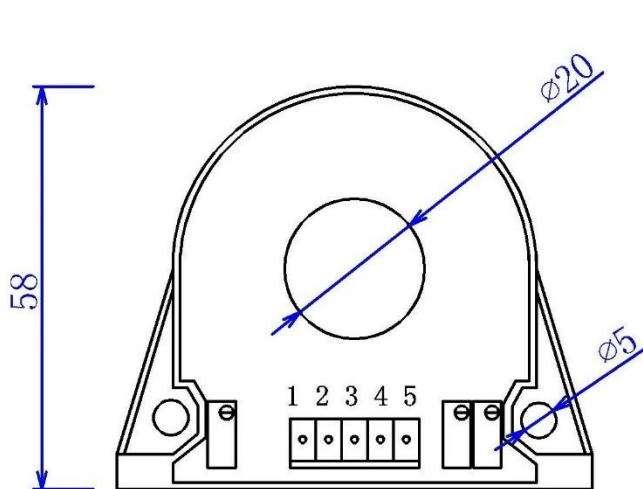
Example 3: CYCS11-35L20AC-1.0-0.5A, AC Current sensor with
Output signal: 0-5V DC
Power supply: ±12V DC
Rated input current: 0~0.5A AC

Example 4: CYCS11-36L20ADC-1.0-0.2A/B1A, AC/DC Current sensor with
Output signal: M1: 0-5V DC, M2: 0-5V DC
Power supply: ±15V DC
Rated input current: 0~ 0.2AAC; ±1A DC (DC bidirectional)

Example 5: CYCS11-35L20ADC-1.0-0.2A/U1A, AC/DC Current sensor with
Output signal: M1: 0-5V DC; M2: 0-5V DC
Power supply: ±12V DC
Rated input current: 0~0.2AAC; 0~1ADC (DC unidirectional)

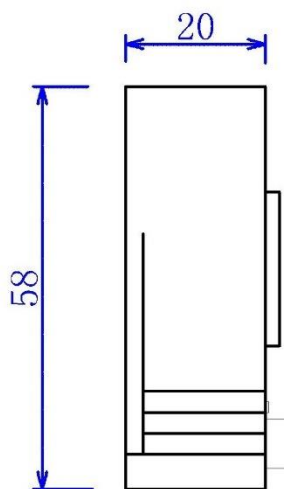


DIMENSIONS (mm)

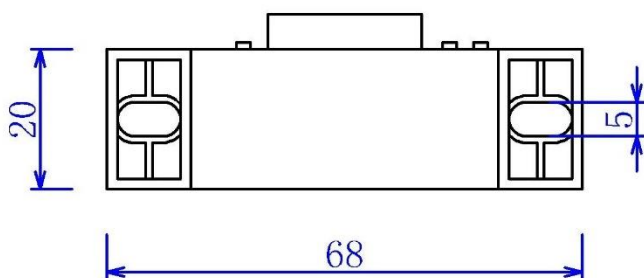


OFS
(DC)

OFS GIN
(AC) (AC)

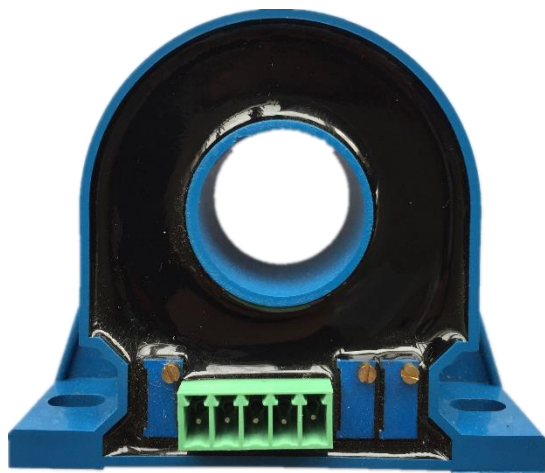


Pin Arrangement



- 1: +Vcc
- 2: -Vcc
- 3: M1 (DC Output for DC Input)
- 4: M2 (DC Output for AC Input)
- 5: GND

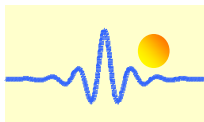
OFS (DC): DC Offset Adjustment
OFS (AC): AC Offset Adjustment
GIN (AC): AC Gain Adjustment



Notes

M1: DC output voltage for measuring DC current

M2: DC output voltage for measuring



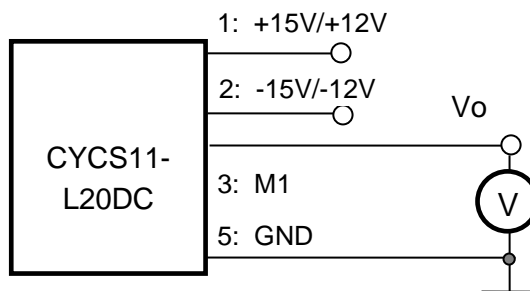
CONNECTIONS

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

a) Wiring of Sensors for Measuring DC Current

Voltage Output

- 1: +15V/+12V Power Supply
- 2: -15V/-12V Power Supply
- 3: M1
- 4: M2 (NC)
- 5: GND



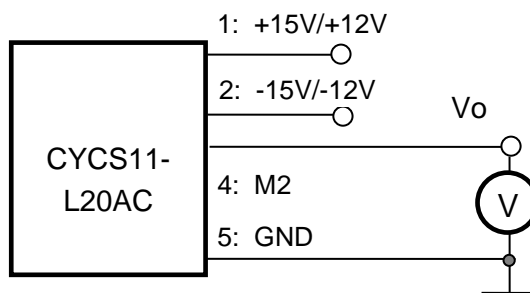
Relation between Input and Output:

Sensor CYCS11-35L20DC-1.0-U1A		Sensor CYCS11-36L20DC-1.0-B1A	
Input current (A)	Output voltage M1(V)	Input current (A)	Output voltage M1(V)
0	0	-1	0
0.25	1.25	-0.5	1.25
0.5	2.5	0	2.5
0.75	3.75	0.5	3.75
1	5	1	5

b) Wiring of Sensors for Measuring AC Current

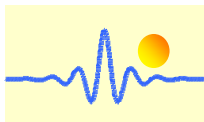
Voltage Output

- 1: +15V/+12V Power Supply
- 2: -15V/-12V Power Supply
- 3: M1 (NC)
- 4: M2
- 5: GND



Relation between Input and Output:

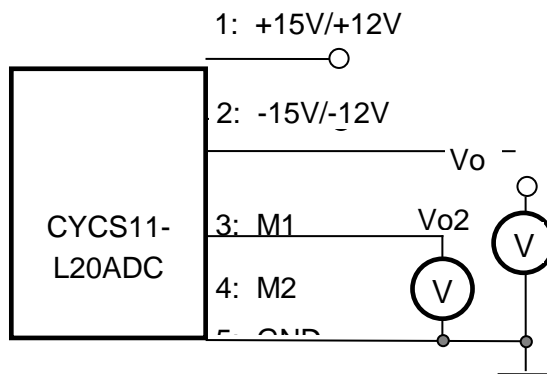
Sensor CYCS11-35L20AC-1.0-0.5A	
Input current rms (A)	Output voltage M2 (V)
0	0
0.125	1.25
0.25	2.5
0.375	3.75
0.5	5



c) Wiring of Sensors for Measuring AC/DC Current

Voltage Output

- 1: +15V/+12V Power Supply
- 2: -15V/-12V Power Supply
- 3: M1
- 4: M2
- 5: GND



Relation between Input and Output:

Sensor CYCS11-35L20ADC-1.0-0.2A/U1A		
Current rms (A)	Current DC(A)	M1 & M2 (V)
0	0	0
0.05	0.25	1.25
0.1	0.5	2.5
0.15	0.75	3.75
0.2	1	5

Sensor CYCS11-36L20ADC-1.0-0.2A/B1A		
Current rms (A)	Current DC(A)	M1 & M2 (V)
0	-1	0
0.05	-0.5	1.25
0.1	0	2.5
0.15	0.5	3.75
0.2	1	5

Notes:

13. Connect the terminals of power source, outputs respectively and correctly, never make wrong connection.
14. Two potentiometers can be adjusted, only if necessary, by turning slowly to the required accuracy with a small screwdriver.
15. The best accuracy can be achieved when the window is fully filled with current carrying conductor.
16. The in-phase output can be obtained when the direction of current of current carrying conductor is the same as the direction of arrow marked on the transducer case.