

## Split Core DC 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.

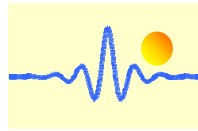
### Electrical Data

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	$\leq 120$	ms
Linearity $T_A = 25^\circ\text{C}$	$\leq 1.0$	%FS
Electric Offset Voltage, $T_A = 25^\circ\text{C}$	< $\pm 200$	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)

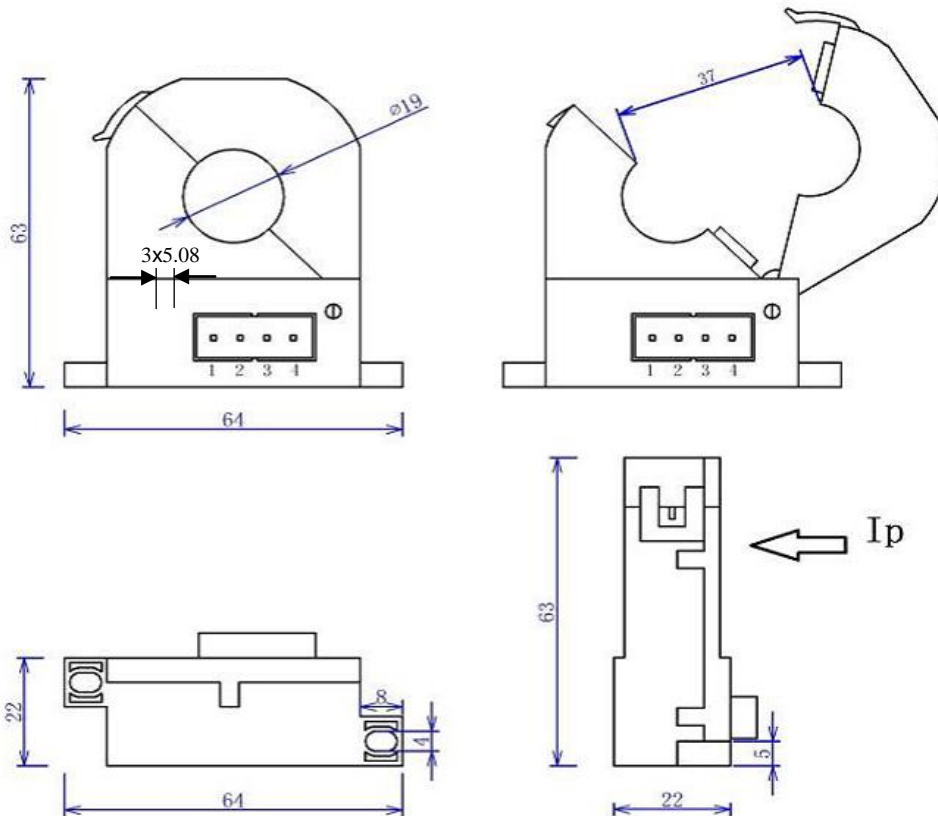
(1)	(2)	(3)	(4)	(5)	(6)
Series name	Output signal	Power supply	Case style	Basic Accuracy	Rated Input current (M=U/B + m)
CYCT04	x=1: tracing $\pm 5VDC$ x=3: 0-5V DC	n=5: $\pm 12V DC$ n=6: $\pm 15V DC$	ST with aperture $\varnothing 33mm$	1.0%	m = 100mA, 200mA, 300mA, 400mA, ..., 1A

**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)

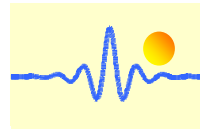
**DIMENSIONS (mm)**



Pin Arrangement

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

OFS:  
Offset adjustment

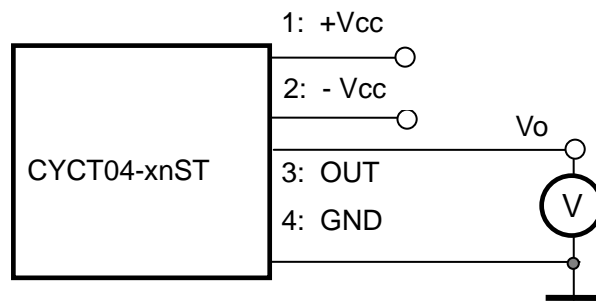


During the sensor is installed to a current conductor, the sensor half-core should be opened at first and then be closed again. It must be aware that the iron core interface on both sides is aligned and cannot be forcibly closed.

## 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.