

DC Current Sensor CYCT03-L20

This current sensor **CYCT03-L20** works according to the principle of magnetic modulation and was developed for applications for measuring and monitoring DC current. The output signal (DC voltage or current) of the current transducer is proportional to the DC input current.

Features and Advantages	Applications
- DC current measurement - High isolation between primary and secondary circuits - Protection against reversed polarity - Output protection against electrical disturbances	- DC motor drivers - Battery banks, such as, monitoring load current and charge current, verifying operation - Power supply management - Telecommunication application

Specifications

Rated input current range	5mA, 10mA, 20mA, 50mA, 100mA, 200mA, 500mA, 750mA, 1A, 2A, 3A, 5A, 10A, 15A, 20A, 25A
Output signal	0-5VDC, 0-20mA, 4-20mA, 0-10VDC
Power supply	+12VDC, +15VDC, +24VDC
Measuring accuracy	±1.0% FS
Linearity (10% - 100%), 25°C	±0.5% FS
Isolation	between input, output and power supply
Load resistance	≥2kΩ for voltage output, ≤250Ω for current output
Isolation withstanding voltage	2.5 kV DC, 1min, leakage current 1mA
Operating temperature	-40°C ~ +85°C
Storage temperature	-40°C ~ +85°C
Relative humidity	10% ~ 90%
Response time	≤120ms
Thermal drift of offset voltage	≤600ppm/°C
Thermal Drift (-40°C to 85°C)	<2200ppm /°C
Quiescent power consumption	500mW – 1300mW (depending on power supply)
Mounting	Panel Screw mounting
Case style	L20 with aperture Ø20mm

Definition of Part number:

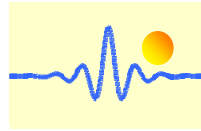
CYCT03	-	L20	-	M	-	x	n
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(1) (2) (3) (4) (5)

(1)	(2)	(3)	(4)	(5)
Series name	Case style	Rated Input current (M=U/B+m)	Output signal	Power supply
CYCT03	L20	m = 5mA ~ 500mA, 750mA, 1A, 2A, 3A, 5A, 10A, 15A, 20A, 25A	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

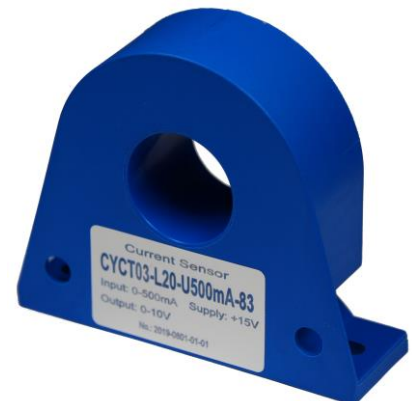
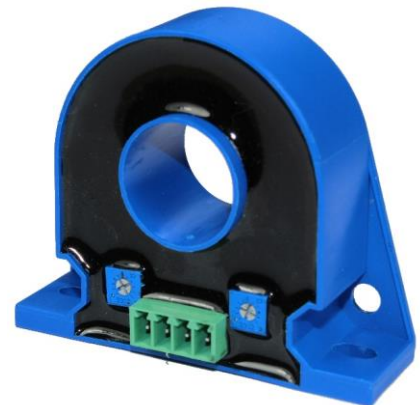
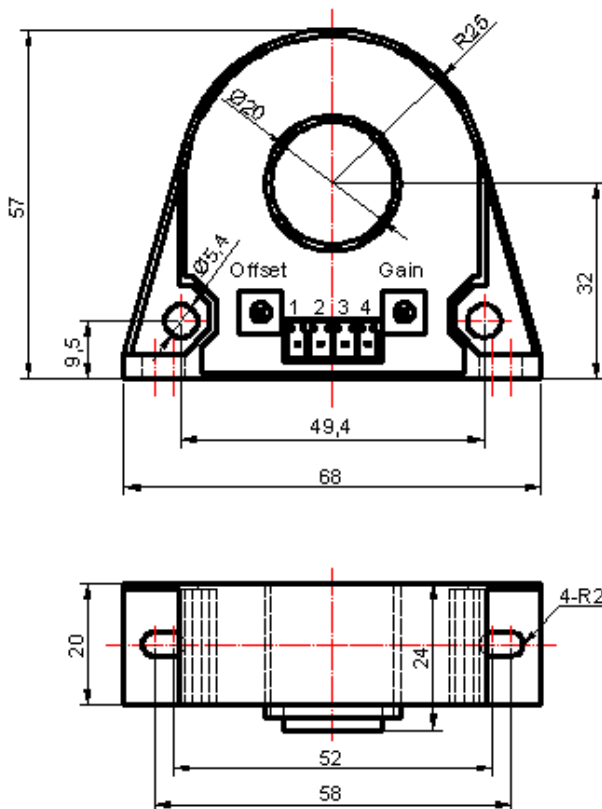
U: unidirectional;

B: bidirectional (please add U or B in the part number)

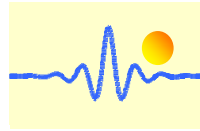


- Example 1:** CYCT03-L20-U10mA -32, DC Current sensor with
Output signal: 0-5V DC
Power supply: +12V DC
Rated input current: 0-10mA DC
- Example 2:** CYCT03-L20-B10A -54, DC Current sensor with
Output signal: 4-20mA DC
Power supply: +24V DC
Rated input current: -10A ~0~10A DC
- Example 3:** CYCT03-L20-U10A -84, DC Current sensor with
Output signal: 0-10V DC
Power supply: +24V DC
Rated input current: 0-10A DC

DIMENSIONS (mm)



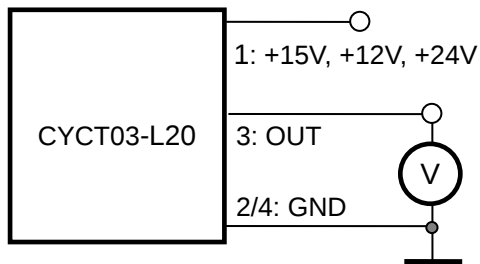
Dimensions: 68mm x 57mm x 24mm, Aperture: Ø20 mm



CONNECTIONS

The current carrying cable must pass through the window. The current direction is indicated by the arrow on the case.

Wiring of Terminals for voltage output:

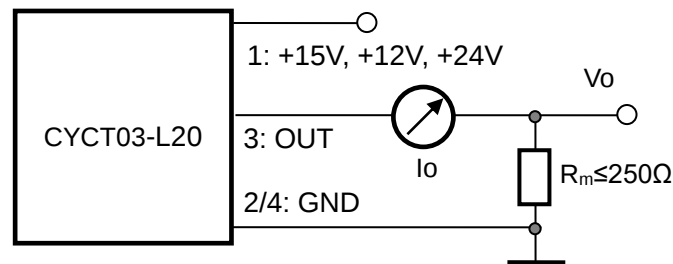


Relation between Input and Output:

Sensor CYCT03-L20-U10mA-32	
Input current (mA)	Output voltage (V)
0	0
2.5	1.25
5.0	2.5
7.5	3.75
10	5

1: Power supply; 2: GND; 3: Voltage Output; 4: GND

Wiring of Terminals for Current Output:



1: Power supply; 2: GND; 3: Current Output; 4: GND

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

Sensor CYCT03-L20-B10A-54		
Input current (A)	Output current I_o (mA)	Output voltage V_o (V)
-10	4	1
-5	8	2
0	12	3
5	16	4
10	20	5

Notes:

1. Before powering on the device, make sure the polarities of all connections are correct. Avoid wrong connection.
2. The two potentiometers can (only if really necessary) be used to adjust the accuracy of the sensor by using a small screwdriver.
3. Make sure to use a measuring instrument which has a better accuracy than the sensor, when calibrating the sensor.
4. Best accuracy can be achieved if window is completely filled by the current-carrying conductor.