

DC Current Sensor CYCT02-xnU0

The **CYCT02-xnU0** DC current sensor/transducer works according Magnetic Modulation and is designed for applications to measurement and monitoring of DC current. The output signal (DC voltage or current) of this transducer is proportional to the input DC current. They are suitable for measurements and long time monitoring of DC currents and can applied to power supply management, DC motor drivers, battery chargers and systems etc.

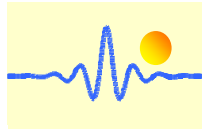
Specifications

Rated input current DC	1mA, 5mA, 10mA, 50mA, 100mA, 500mA, 1A, 2A, 3A, 4A, 5A DC
Linear measuring range	0 - 1.2 times of rated input current
Overload capacity	10 times of rated input current
Input response	Uni-directional DC and DC impulse current
Input resistance	$R_f=0.05V / I_x$, I_x : Input current
Output signals DC	0-5V, 0-10V, 0-20mA, 4-20mA DC
Measuring accuracy	0.2% for voltage output and 0-20mA output; 0.5% for 4-20mA output
Load capacity	voltage output: 5mA; current output: 6V
Response time	≤350ms
Thermal drift	voltage output : 100ppm/°C; current output: 150-250ppm/°C
Power supply	+12VDC, +24VDC
Static current	Voltage output: 10mA; Current output: 13-17mA
Isolation	Isolation between input and output, power supply at the output
Isolation withstanding voltage	2.5 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	U0 without aperture
MTBF	50000h
Unit weight	90g

Definition of Part number:

CYCT02	-	x	n	U0	-	0.2	-	m
(1)		(2)	(3)	(4)		(5)		(6)

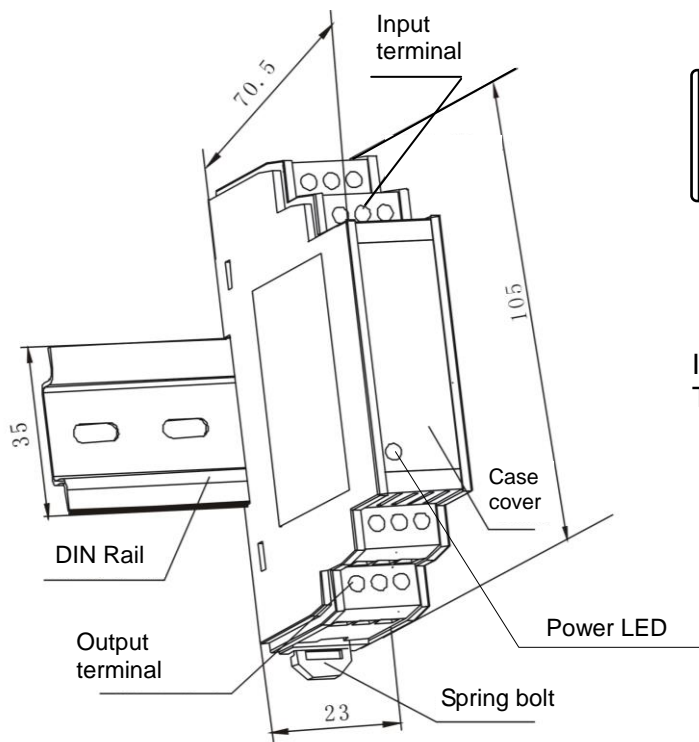
(1)	(2)	(3)	(4)	(5)	(6)
Series name	Output signal	Power supply	Case style	Accuracy class	Input current range (m)
CYCT02	x=3: 0-5V DC x=4: 0-20mA DC x=5: 4-20mA DC	n=2: +12V DC n=4: +24V DC	U0	0.2% 0.5%	1mA, 5mA, 10mA, 50mA, 100mA, 500mA, 1A, 2A, 3A, 4A, 5ADC
	x=8: 0-10V DC	n=4: +24V DC			



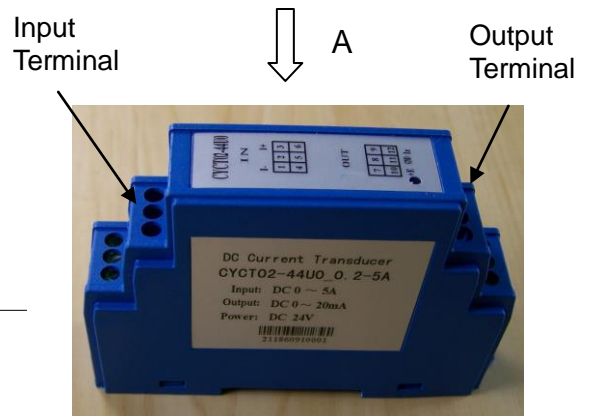
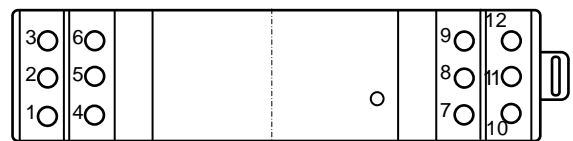
Example 1: CYCT02-32U0-0.2-100mA, DC Current sensor with
Output signal: 0-5V DC
Power supply: +12V DC
Rated input current: 0-100mA DC

Example 2: CYCT02-54U0-0.5-100mA, DC Current sensor with
Output signal: 4-20mA DC
Power supply: +24V DC
Rated input current: 0 -100mA DC

DIMENSIONS (mm)

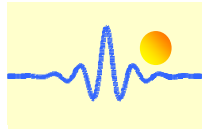


View of A Direction



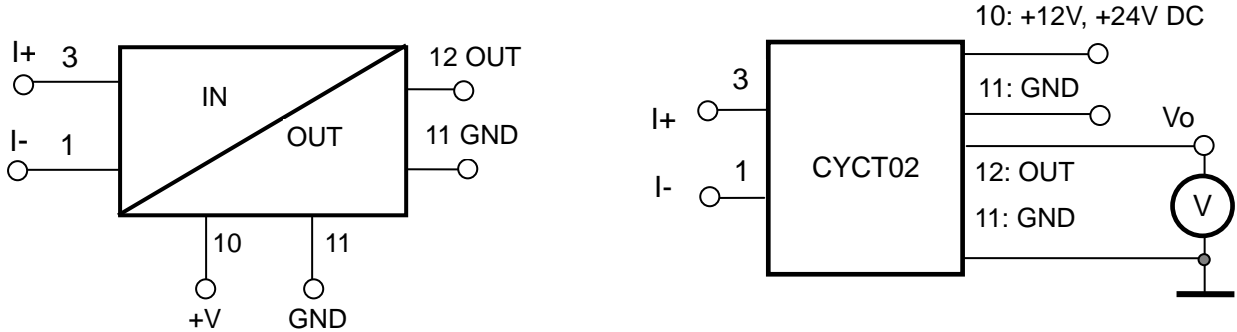
Dimensions: 105mm x 23mm x 70.5mm





CONNECTIONS

Wiring of Terminals for voltage output:

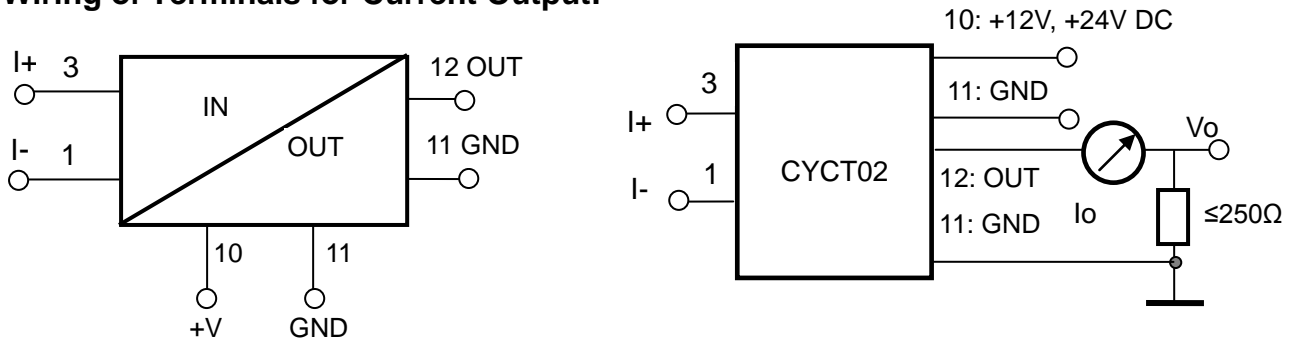


1,3: Input Current; 10: +12V, +24V Power Supply 11: GND 12: Voltage output

Relation between Input and Output:

Sensor CYCT02-32U0-0.2-100mA	
Input current (mA)	Output voltage (V)
0	0
25	1.25
50	2.5
75	3.75
100	5

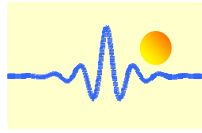
Wiring of Terminals for Current Output:



1,3: Input Current; 10: +12V, +24V Power Supply 11: GND 12: Current output

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

Sensor CYCT02-54U0-0.5-100mA		
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

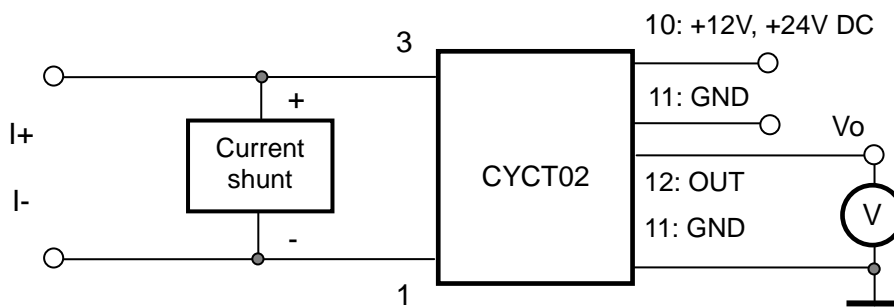


APPLICATION NOTES

The measuring range of the sensor series CYCT02-xnU0 is maximum 0-5ADC. For measuring a DC current of higher than 5A, a current shunt should be used in order to reduce the current to the input of the sensor. The current shunt is delivered with the sensor.

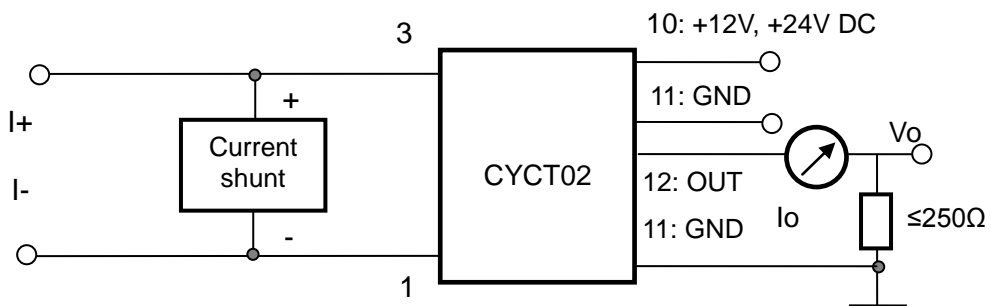


Wiring of Terminals for voltage output:



1,3: Input Current; 10: +12V, +24V Power Supply 11: GND 12: Voltage output

Wiring of Terminals for Current Output:



1,3: Input Current; 10: +12V, +24V Power Supply 11: GND 12: Current output