

## AC/DC Current Sensor CYCS-xnS0

The **CYCS-xnS0** AC/DC current sensor/transducer works according Photoelectrical Induction and is designed for applications to measurement and monitoring of AC/DC current and DC impulse current. The output signal of this transducer is tracing voltage, DC voltage and current, which is proportional to the input AC/DC current. They are suitable for measurements and long time monitoring of DC, AC and impulse currents.

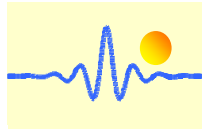
### Specifications

Rated input current	1mA, 5mA, 10mA, 50mA, 100mA, 500mA, 1A, 2A, 3A, 4A, 5A (DC calibration, option: AC calibration)
Linear measuring range	0 - 1.2 times of rated input current
Overload capacity	10 times of rated input current
Input frequency	±DC, 20Hz ~ 10kHz
Input resistance	$R_f=0.05V / I_x$ , $I_x$ : Input current
Output signals	Tracing output ±5V, DC output: 0-5V, 0-10V, 0-20mA and 4-20mADC
Measuring accuracy	0.2% for tracing output, 0.5% for DC output
Load capacity	Voltage output: 5mA ; Current output: 6V
Response time	≤15μs for tracing output, 250ms for DC output
Thermal drift	150ppm/°C for tracing output, 250-300ppm/°C for DC output
Power supply	±12VDC, ±15VDC, 12VDC, 15VDC, 24VDC
Static current	30mA for tracing output, 34mA+Output current for DC output
Isolation	Isolation between input and output, power supply at the output
Isolation withstanding voltage	1.5 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	S0 without aperture
MTBF	50000h
Unit weight	90g

### Definition of Part number:

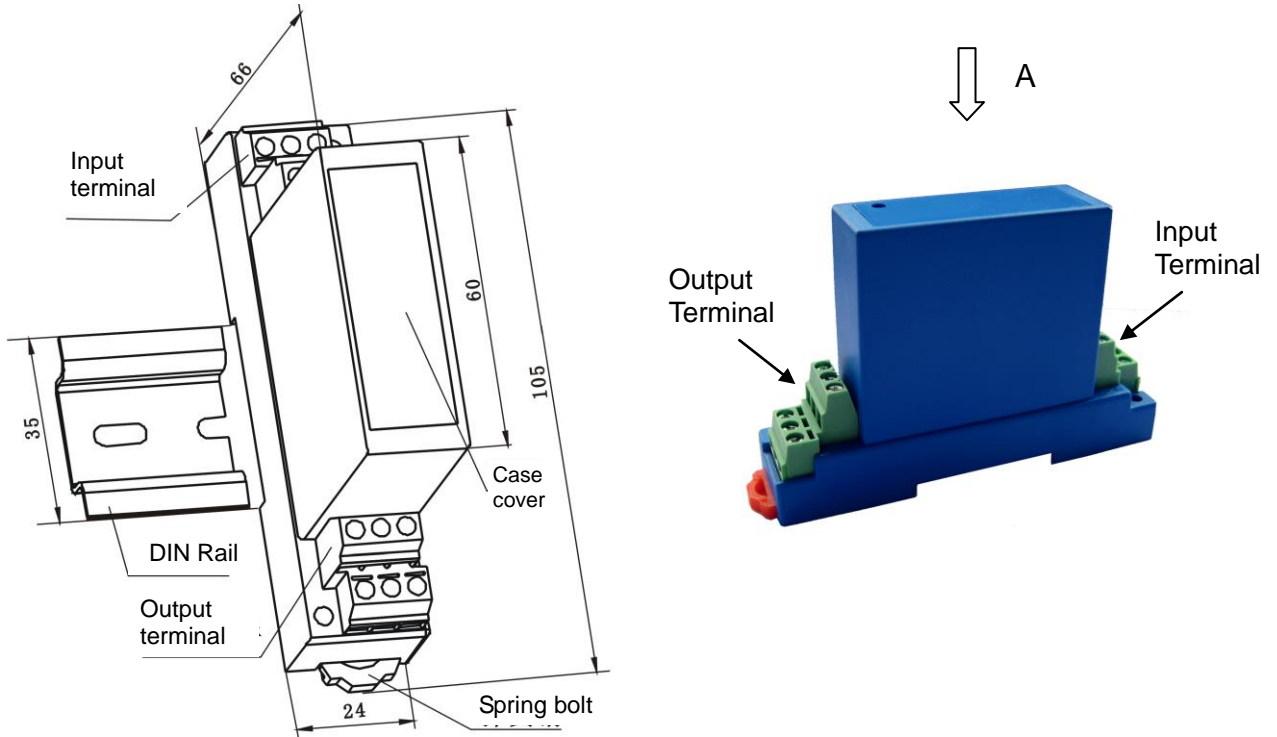
CYCS	-	x	n	S0	-	0.2	-	m
(1)		(2)	(3)	(4)		(5)		(6)

(1)	(2)	(3)	(4)	(5)	(6)
Series name	Output signal	Power supply	Case style	Accuracy class	Input current range (m)
CYCS	<b>x=1:</b> ±5V AC/DC	<b>n=5:</b> ±12V DC <b>n=6:</b> ±15V DC	S0	0.2%	1mA, 5mA, 10mA, 50mA, 100mA, 500mA, 1A, 2A, 3A, 4A, 5A
	<b>x=3:</b> 0-5VDC	<b>n=2:</b> 12V DC		0.5%	
	<b>x=4:</b> 0-20mADC	<b>n=3:</b> 15V DC			
	<b>x=5:</b> 4-20mADC	<b>n=4:</b> 24V DC			
	<b>x=8:</b> 0-10VDC	<b>n=4:</b> 24V DC			

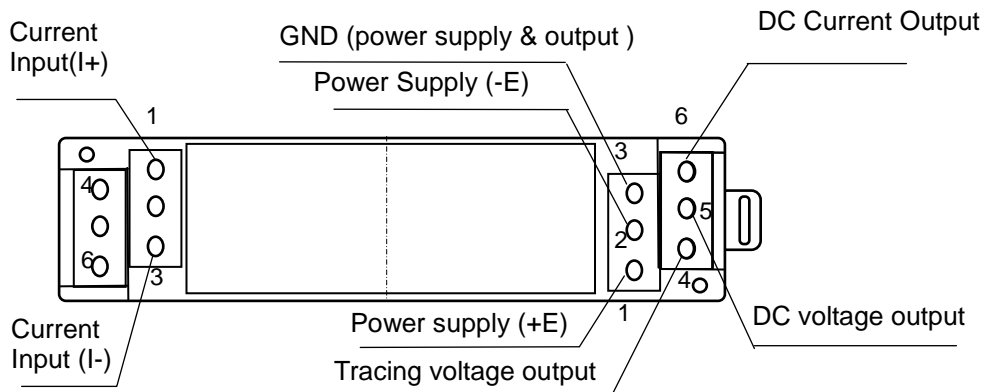


**Example 1:** CYCS-15S0-0.2-100mA, AC/DC Current sensor with  
Output signal:  $\pm 5V$  AC/DC  
Power supply:  $\pm 12V$  DC  
Rated input current:  $\pm 100mA$  AC/DC

**DIMENSIONS (mm)**

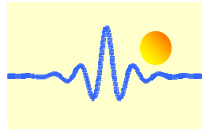


View of A Direction



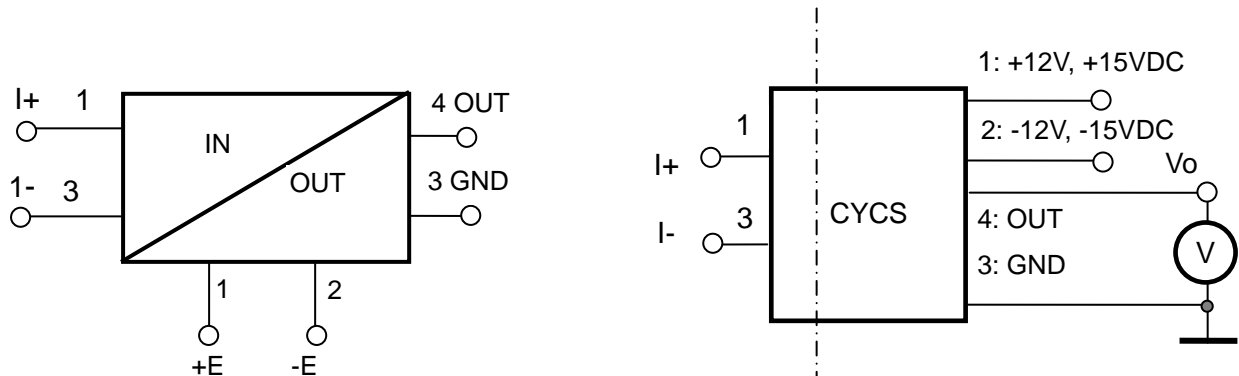
Please don't use the undefined terminals

Dimensions: 105mm x 24mm x 66mm



## CONNECTION

### Wiring of Terminals for Tracing Voltage Output:



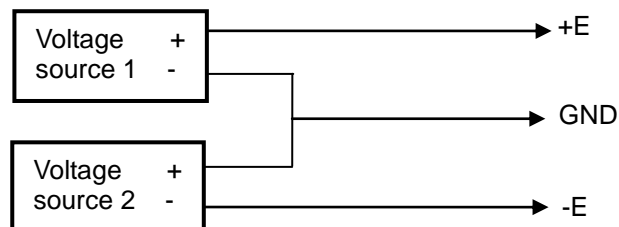
#### Input Terminals:

1, 3: Input Current  $I_+$  and  $I_-$ ;

#### Output Terminals:

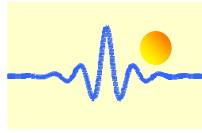
1, 2: Power Supply  $+E$  and  $-E$   
3: GND (for power supply and output)  
4: Tracing Voltage Output

The power supply  $+E$  and  $-E$  can be generated by using two voltage sources:

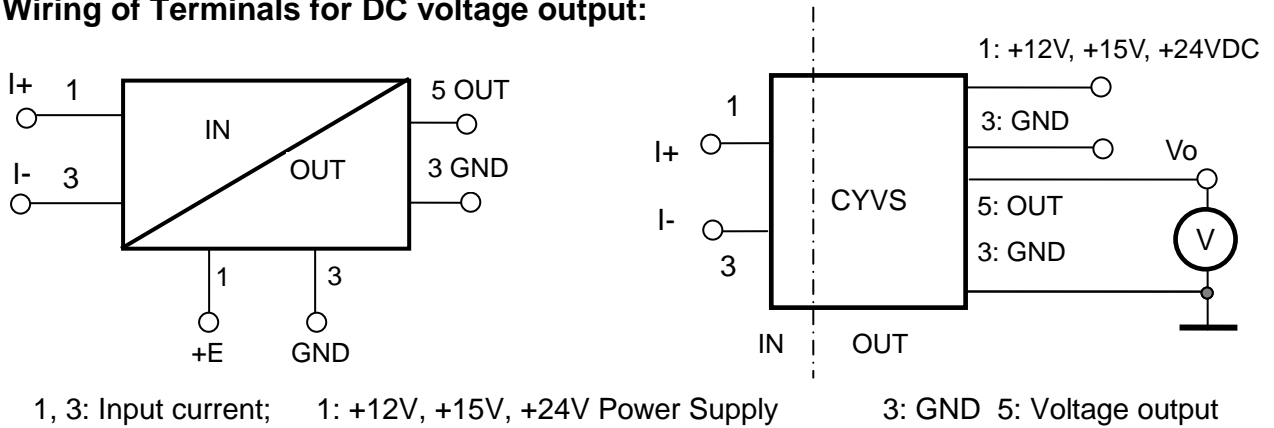


#### Relation between Input and Output:

Sensor CYCS-15S0-0.2-100mA	
Input current (mA)	Output voltage (V)
-100	-5
-50	-2.5
0	0
50	2.5
100	5



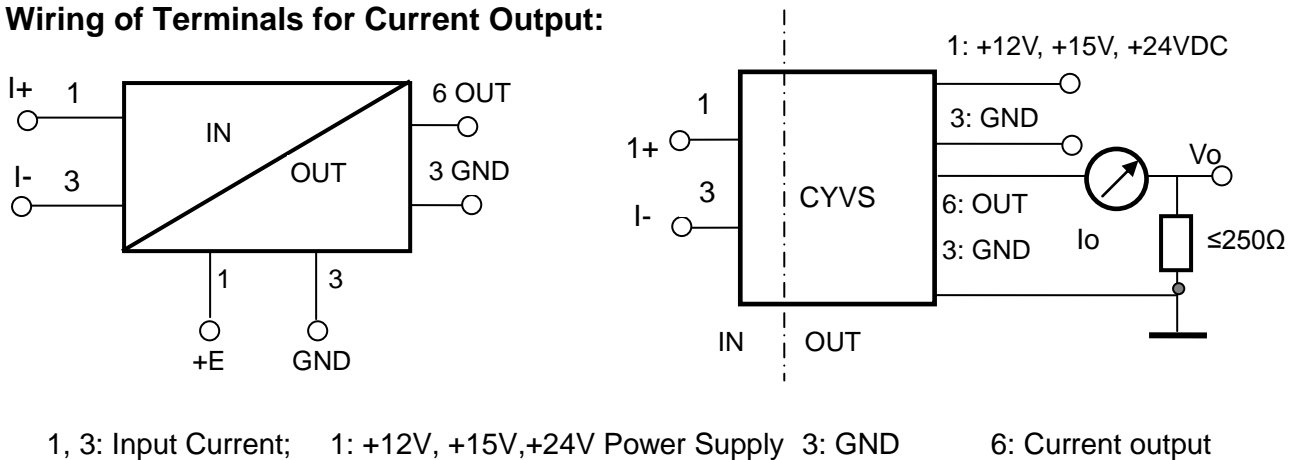
**Wiring of Terminals for DC voltage output:**



**Relation between Input and Output:**

Sensor CYCS-32S0-0.5-100mA	
Input Current (mA)	Output voltage (V)
0	0
25	1.25
50	2.5
75	3.75
100	5

**Wiring of Terminals for Current Output:**



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

Sensor CYCS-54S0-0.5-100mA		
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