AC Leakage 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 modern 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, ±12VDC and ±15VDC,
- 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, ±12VDC, ±15VDC
Current consumption	25mA ~ 50mA + output current
Galvanic isolation	3KV RMS/50Hz/min
Measuring resistance for current output	≤250Ω

Accuracy and Dynamic Performances

Zero offset voltage	±20	mV
Hysteresis error	±10	mV
Thermal drift of offset current	≤250	ppm/°C
Response time	≤120	ms
Accuracy	±1.0	%
Linearity	≤1.0	%FS

General Data

Operating temperature	-10 ~ +80	°C
Storage temperature	-25 ~ +85	°C

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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

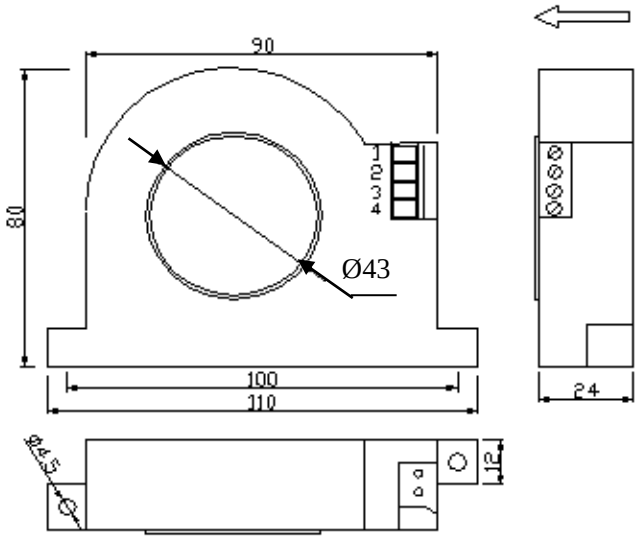
** For output 0-10VDC the power supply should be +15VDC, +24VDC, ±12V DC and ±15V DC

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):



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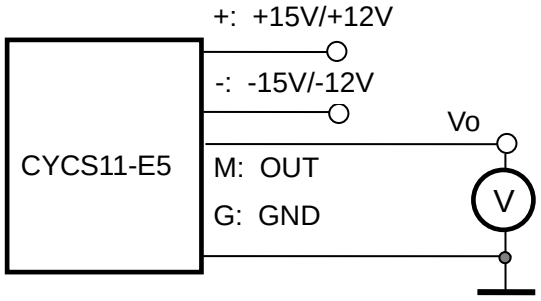
CONNECTION

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

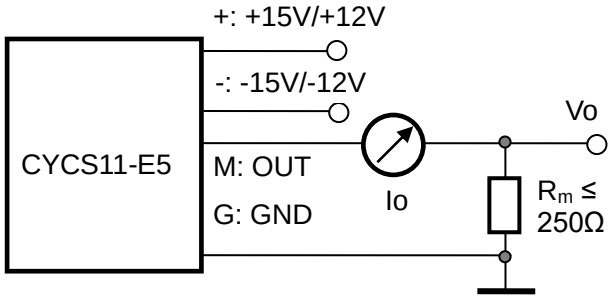


Relation between Input and Output:

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 Ω):

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

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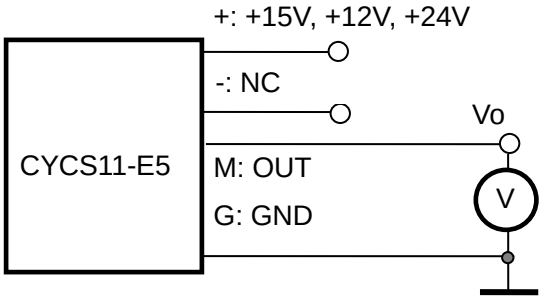
B) Wiring of Sensors Using Single Power Supply

Voltage Output

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

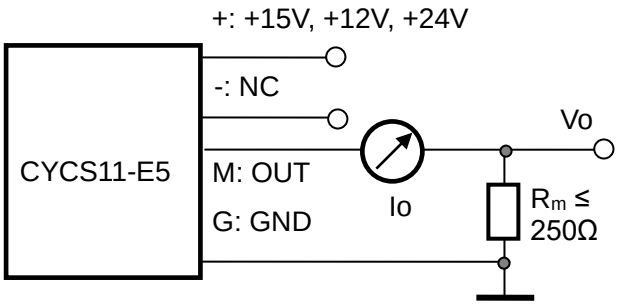


Relation between Input and Output:

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 Ω):

Sensor CYCS11-54E5-1.0-U1A		
Input current (A)	Output current Io(mA)	Output voltage Vo (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.

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