ChenYang Technologies GmbH & Co KG

AC/DC Leakage Current Sensor CYCS11-xnL20ADC

This current sensor is based on magnetic modulation and compensation principle, and can be used for measurement of small AC/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: ±12VDC and ±15VDC
- Sensors with window for contactless measurements

Applications:

- Isolation Monitoring of AC/DC power systems and cable selection systems,
- Measurements of small AC/DC currents and leakage currents etc.

Electrical Data

Measuring range M	10mA ~ 2A DC, 10mA ~500mA AC
Linearity range	1.2 x M (measuring range)
Nominal output signals	0-5VDC
Supply voltage	±12VDC and ±15VDC
Current consumption	20mA
Galvanic isolation	2.5KV RMS/50Hz/ 1min

Accuracy and dynamic properties

Thermal drift of offset voltage	Ta=10°C~60°C, <±2	mV/°C
Response time	≤120	ms
Frequency range	DC + AC: 30 ~ 1k	Hz
Accuracy	±1.0	%
Linearity	≤1.0	%FS
Electric Offset Voltage, TA=25°C	50	mV
Load Resistance	≥ 10k	Ω

General Data

Operating temperature	-25 ~ +70	°C
Storage temperature	-40 ~ +85	°C
Window size	Φ20	mm
Case dimensions H x L x W	68 x 59 x 20	mm

Markt Schwabener Str. 8
D-85464 Finsing
Germany

Tel.: +49 (0)8121 – 2574100
Fax: +49 (0)8121– 2574101
Email: info@cy-sensors.com
http://www.cy-sensors.com

Definition of Part number:

CYCS11	-	x	n	L20	ADC	-	1.0	-	M
(1)		(2)	(3)	(4)	(5)		(6)		(7)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Series name	Output signal	Power supply	Case style	Input current type	Accuracy	Rated Input current (M=AC/(U/B+DC)
CYCS11	**x=3:** 0-5V DC	n**=5:** ±12V DC n**=6:** ±15V DC	L20 With aperture Ø20mm	**AC:** AC Current **DC:** DC current **ADC:** AC and DC Current	1.0%	DC= 10mA, 20mA, 50mA,100mA,200mA, 500mA, 1A, 2A AC=10mA, 20mA, 50mA,100mA,200mA, 500mA

U: unidirectional DC input current; **B:** bidirectional DC input current
U and B are not used for AC input current.

Example 1: CYCS11-35L20DC-1.0-U1A, DC Current sensor with
Output signal: 0-5V DC
Power supply: ±12V DC
Rated input current: 0~1A DC (unidirectional)

Example 2: CYCS11-36L20DC-1.0-B1A, DC Current sensor with
Output signal: 0-5V DC
Power supply: ±15V DC
Rated input current: -1A ~ +1ADC (bidirectional)

Example 3: CYCS11-35L20AC-1.0-0.5A, AC Current sensor with
Output signal: 0-5V DC
Power supply: ±12V DC
Rated input current: 0~0.5A AC

Example 4: CYCS11-36L20ADC-1.0-0.2A/B1A, AC/DC Current sensor with
Output signal: M1: 0-5V DC, M2: 0-5V DC
Power supply: ±15V DC
Rated input current: 0~ 0.2A AC; ±1A DC (DC bidirectional)

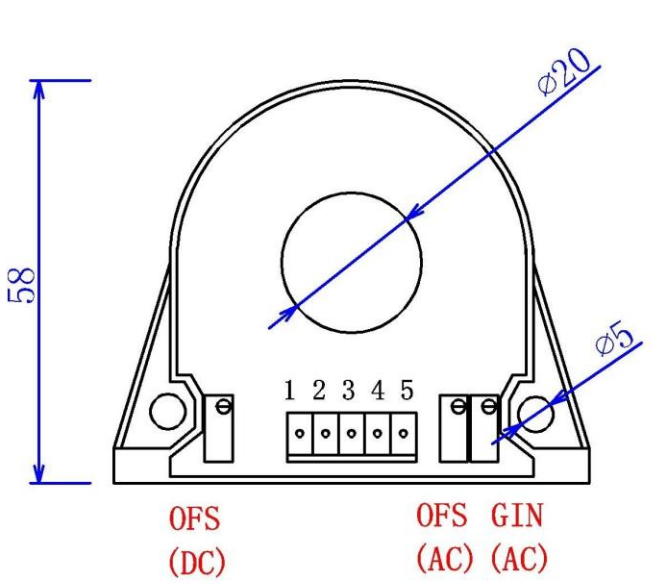
Example 5: CYCS11-35L20ADC-1.0-0.2A/U1A, AC/DC Current sensor with
Output signal: M1: 0-5V DC; M2: 0-5V DC
Power supply: ±12V DC
Rated input current: 0~0.2AAC; 0~1ADC (DC unidirectional)

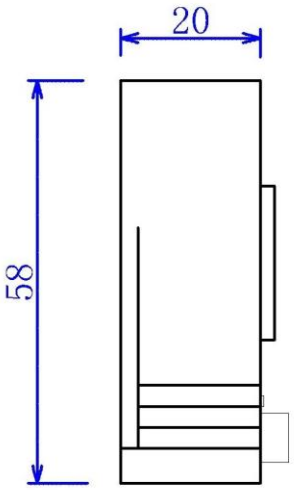
Markt Schwabener Str. 8
D-85464 Finsing
Germany

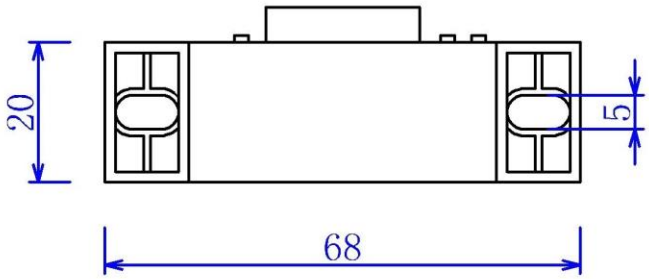
Tel.: +49 (0)8121 – 2574100
Fax: +49 (0)8121– 2574101
Email: info@cy-sensors.com
http://www.cy-sensors.com

ChenYang
Technologies GmbH & Co KG

DIMENSIONS (mm)



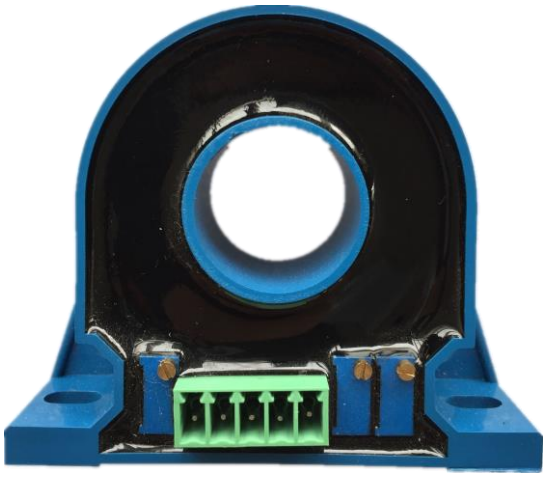




Pin Arrangement

1: +Vcc
2: -Vcc
3: M1 (DC Output for DC Input)
4: M2 (DC Output for AC Input)
5: GND

OFS (DC): DC Offset Adjustment
OFS (AC): AC Offset Adjustment
GIN (AC): AC Gain Adjustment



Notes

M1: DC output voltage for measuring DC current

M2: DC output voltage for measuring AC current

Markt Schwabener Str. 8
D-85464 Finsing
Germany

Tel.: +49 (0)8121 – 2574100
Fax: +49 (0)8121– 2574101
Email: info@cy-sensors.com
http://www.cy-sensors.com

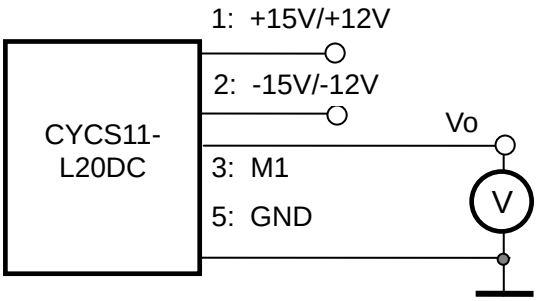
CONNECTIONS

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 for Measuring DC Current

Voltage Output

1: +15V/+12V Power Supply
2: -15V/-12V Power Supply
3: M1
4: M2 (NC)
5: GND



Relation between Input and Output:

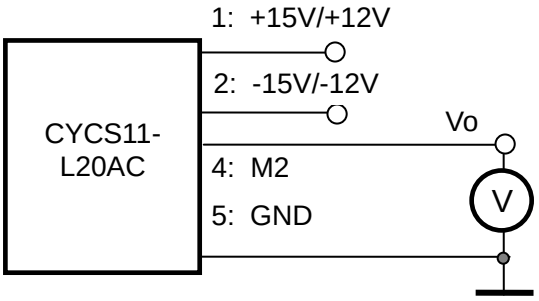
-

Sensor CYCS11-35L20DC-1.0-U1A		Sensor CYCS11-36L20DC-1.0-B1A	
Input current (A)	Output voltage M1(V)	Input current (A)	Output voltage M1(V)
0	0	-1	0
0.25	1.25	-0.5	1.25
0.5	2.5	0	2.5
0.75	3.75	0.5	3.75
1	5	1	5

b) Wiring of Sensors for Measuring AC Current

Voltage Output

1: +15V/+12V Power Supply
2: -15V/-12V Power Supply
3: M1 (NC)
4: M2
5: GND



Relation between Input and Output:

Sensor CYCS11-35L20AC-1.0-0.5A	
Input current rms (A)	Output voltage M2 (V)
0	0
0.125	1.25
0.25	2.5
0.375	3.75
0.5	5

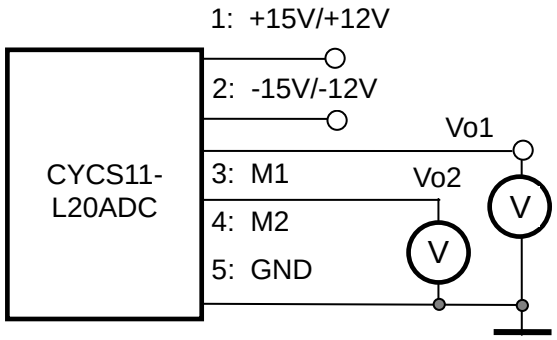
Markt Schwabener Str. 8
D-85464 Finsing
Germany

Tel.: +49 (0)8121 – 2574100
Fax: +49 (0)8121– 2574101
Email: info@cy-sensors.com
http://www.cy-sensors.com

c) Wiring of Sensors for Measuring AC/DC Current

Voltage Output

1: +15V/+12V Power Supply
2: -15V/-12V Power Supply
3: M1
4: M2
5: GND



Relation between Input and Output:

Sensor CYCS11-35L20ADC-1.0-0.2A/U1A		
Current rms (A)	Current DC(A)	M1 & M2 (V)
0	0	0
0.05	0.25	1.25
0.1	0.5	2.5
0.15	0.75	3.75
0.2	1	5

Sensor CYCS11-36L20ADC-1.0-0.2A/B1A		
Current rms (A)	Current DC(A)	M1 & M2 (V)
0	-1	0
0.05	-0.5	1.25
0.1	0	2.5
0.15	0.5	3.75
0.2	1	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.

Markt Schwabener Str. 8
D-85464 Finsing
Germany

Tel.: +49 (0)8121 – 2574100
Fax: +49 (0)8121– 2574101
Email: info@cy-sensors.com
http://www.cy-sensors.com