

# Fluxgate Closed Loop Current Sensor CYFGCS50LRSH

CYFGCS50LRSH is a current sensor based on the fluxgate closed-loop principle, and can be used for measuring DC, AC, pulse and various irregular waveform currents under galvanic isolation conditions. It has ultra-high accuracy and linearity, ultra-high sensitivity and resolution, very low out-of-phase current and temperature drift. It is widely used in instrumentation, medical equipment, metrology and calibration, laboratories, high-precision power supplies, new energy vehicles and so on.

#### Features

- High electrical isolation
- High linearity, high accuracy
- High reliability
- Good overload capability
- Small sizes
- Insulated plastic case recognized according to UL94-V0
- Very good property-price ratio

#### Applications

- Battery supplied applications
- Uninterruptible power supplies (UPS)
- Variable speed drives
- Welding machine
- Electric power network monitoring
- AC frequency conversion servo-motors
- Electrochemical applications

### **Technical Data**

Parameters	Values						Unit
Part number	CYFGCS	CYFGCS	CYFGCS	CYFGCS	CYFGCS	CYFGCS	
	0.5LRSH	1LRSH	5LRSH	10LRSH	20LRSH	50LRSH	
Rated input current IPN	0.5	1	5	10	20	50	А
Current measuring range IP	0~±1	0~±2	0~±10	0~±20	0~±40	0~±75	А
Rated output voltage	5±0.2%	5±0.2%	5±0.1%	5±0.1%	5±0.05%	5±0.05%	V
Turns ratio K <sub>N</sub>	1:200	1:200	1:500	1:500	1:1000	1:1000	
Supply voltage	±15(±5%)						V
Current consumption	At $V_c=\pm 15V$ 15 + $I_P/K_N$						mA
Isolation voltage	2.5kV rms/50Hz/1min between primary and secondary circuits						
Linearity	<0.01						%FS
Zero offset voltage	T <sub>A</sub> =25°C <±5						mV
Thermal Drift of Offset Voltage	$V_{P=0}, T_{A=-25 \sim +85^{\circ}C} <\pm 0.01 (\leq 1A \pm 0.03)$						mV/°C
Response time	<1						μs
Bandwidth(-3dB)	DC~100						kHz
Following accuracy di/dt	>100						A/µs
Operating Temperature	-25~+85						°C
Storage Temperature	-40~+100						°C
Load Resistance	≥10k						Ω
Mass (approx.)	46						g
Used standard	Q/320115QHKJ01-2016						



### **Chen Yang** Technologies GmbH & Co. KG

## **Case Style and Connection**



Pin arrangement: 1: +15V2: -15V3: V\_{OUT}4: 0V (power ground)OFS:Zero Adjustment

## **Application Note**

- 1. Incorrect wiring may cause damage to the sensor. After the sensor is powered on, the same-phase voltage value can be measured at the output when the measured current passes through the sensor in the direction of the arrow.
- 2. The dynamic characteristics (di/dt and response time) are optimal when the input current drain completely fills the primary current input perforation.
- 3. The temperature of the primary busbar or cable should not exceed 100°C.
- 4. The installation and use environment of the sensor should be free of conductive dust and corrosive gases.
- 5. The sensor is a precision device, it should be lightly handled and put away when using and avoid violent vibration or high temperature.