

Features

- Galvanic isolated
- Multiple measurement ranges
- High precision
- Non-polarized power supply
- Zero flux technology
- DIN rail mounting

Advantages

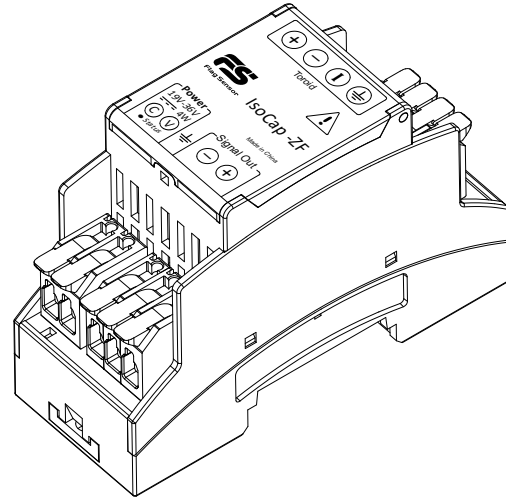
- 5000V withstanding isolation
- Multiple ranges from $\pm 10A$ to $\pm 2000A$
- Various voltage output options
- Accuracy up to $\pm 0.02\%$

Applications

- EV and new energy testing
- High precision current testing
- Power semiconductor measurement

Description

IsoCap-ZF is a galvanic isolated current sensor that can measure current from $\pm 10A$ to $\pm 2000A$, it consists



of two parts: measuring head and signal processing module. IsoCap-ZF has multiple measurement ranges selection, it can be customized for specific requirement. IsoCap-ZF is a non-contact current sensor, the tested current in the conductor passing through the aperture of the measuring head, and the signal processing module converts the output to $\pm 10V$.

Specifications

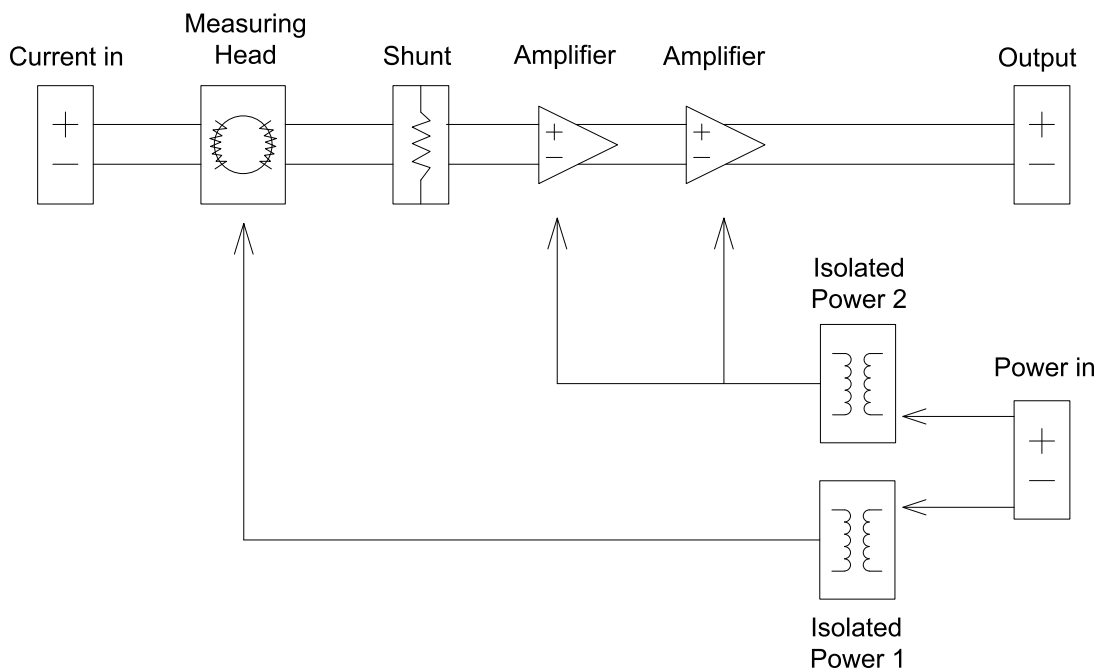
Electrical				
Parameter	Test conditions	Minimum	Typical values	Maximum
Input ranges		$\pm 10A$		$\pm 2000A$
Accuracy	@ 25°C		$\pm 0.02\%$ of range or $\pm 0.1\%$ of range	
Nonlinear error				0.01%
Maximum delay				1us
Output offset voltage	@ 25°C	-1mV		1mV
Output voltage			$\pm 5V$ differential pair or $\pm 10V$ differential pair or customized	
Phase shift (@ 50Hz)	@ 25°C			0.01°
Power supply voltage		19V	24V	36V
Power supply power		4W		

Typical bandwidth of IsoCap-ZF								
±10A	±50A	±100A	±200A	±400A	±500A	±600A	±1000A	±2000A
DC-100kHz(-3dB)				DC-80kHz(-3dB)			DC-30kHz(-3dB)	

Insulation parameter	
Primary and secondary insulation voltage(1min)	±5kV
Insulation voltage for transient(50us)	±10kV

Environmental and mechanical characteristics	
Operation temperature	-15°C ~ 70°C
Storage temperature	-25°C ~ 80°C
Mounting type	DIN rail mounting
Number of channels	1 channel
Hot swapping	Not supported

Block Diagram



IsoCap-ZF block diagram

The measuring head measures the input current values of conductor and outputs the corresponding current. Then, amplifier converts induced voltage on shunt to ±5V or ±10V differential voltage. The above diagram shows the signal processing in general.

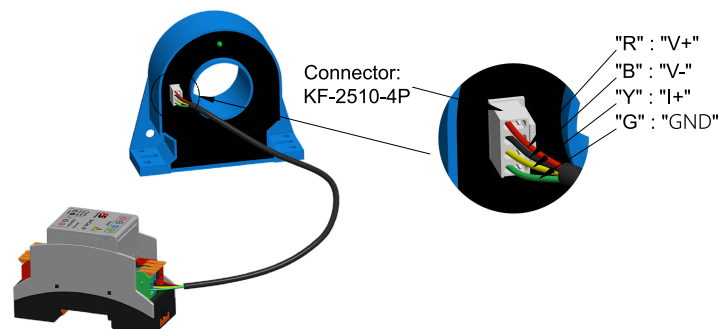
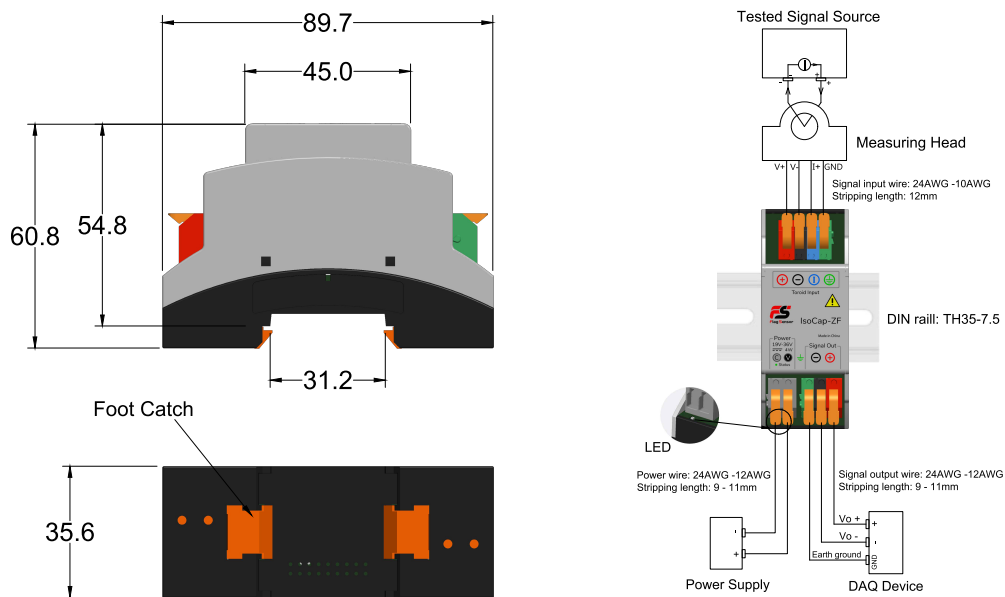
Testing Setup

1. Connect measuring head and signal processing module.
2. Connect the output voltage of signal processing module to the DAQ/instrument, the ground must be well grounded.
3. Connect DC power supply to power it on.
4. The tested current conductor passes through the center hole of the measuring head, make sure the tested current is off before connecting. Positive current direction identified by an arrow on the top of housing.
5. Turn the tested current on.

Disassemble

Ensure the tested current source is turned off, then remove the tested current wire. Disconnect the sensor from power and remove the output and grounding wires.

Dimensions (in mm)



Ordering Code

Product name	Input ranges	Output voltage	Accuracy
IsoCap-ZF	$\pm 10\text{A} \sim \pm 2000\text{A}$	$\pm 5\text{V}$ or $\pm 10\text{V}$	$\pm 0.02\%$ (A) or $\pm 0.1\%$ (B)

E.g. **IsoCap-ZF-500-5-A** (500: input range is $\pm 500\text{A}$, 5: output voltage is $\pm 5\text{V}$, A: accuracy of $\pm 0.02\%$ of range).

If you have queries regarding the IsoCap-ZF or require specifications outside standard ranges, please do not hesitate to contact us.

CAUTION

Do not connect or disconnect sensor or test leads in operation.

To avoid fire or shock hazard, observe all ratings and markings on the product carefully.

If you suspect there is damage to this product, have it inspected by qualified service personnel.

Do not touch exposed connections and components in operation.

Do not operate in wet/damp conditions.

Do not operate in an explosive atmosphere.

Keep product surfaces clean and dry.

Warning

The service instructions are for use by qualified personnel only. To avoid personal injury, do not perform any servicing unless you are qualified to do so. Refer to all safety contents prior to performing service.