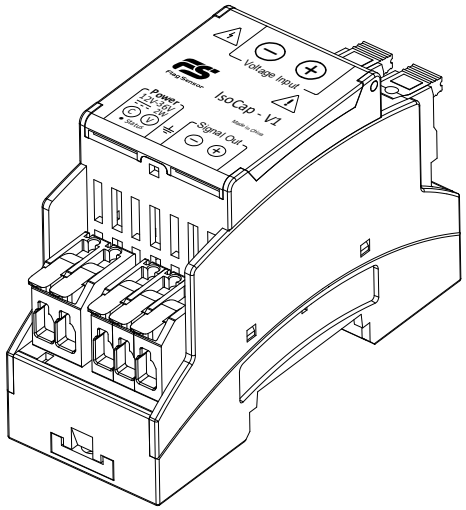
Features

±2000V galvanic isolated
±5000V Surge protection
Multiple measurement ranges
Non-polarized power supply
Low-power consumption
DIN rail mounting



Advantages

Multiple ranges from ±10V to ±2000V
Various output voltage options
DC-100kHz bandwidth
Accuracy up to ±0.1%

Applications

EV and new energy testing
Voltage monitoring
Power analysis

Description

IsoCap-V1 is a galvanic isolated voltage sensor that can measure voltage from ±10V to ±2000V. IsoCap-V1 can withstand common mode ±5000V Surge. In addition, IsoCap-V1 has multiple measurement ranges selection, it can be customized for specific requirements. IsoCap-V1 has many advantages, such as small size, high precision, and DIN rail mounting.

Specifications

Electrical				
Parameter	**Test conditions**	**Minimum**	**Typical values**	**Maximum**
Input ranges		±10V		±2000V
Accuracy	@ 25°C		±0.1% of range or ±0.2% of range	
Bandwidth (-3dB)			DC-100kHz	
Nonlinear error				0.04%
Maximum delay				3us
Output offset voltage	@ 25°C	-1mV		1mV
Output voltage			±5V differential pair or ±10V differential pair or customized	
Common mode rejection ratio (@ 50Hz)	@ 25°C		110dB	
Phase shift (@ 50Hz)	@ 25°C			0.05°
Input impedance		2MΩ		8MΩ
Power supply voltage		12V	24V	36V
Power supply power		2W		

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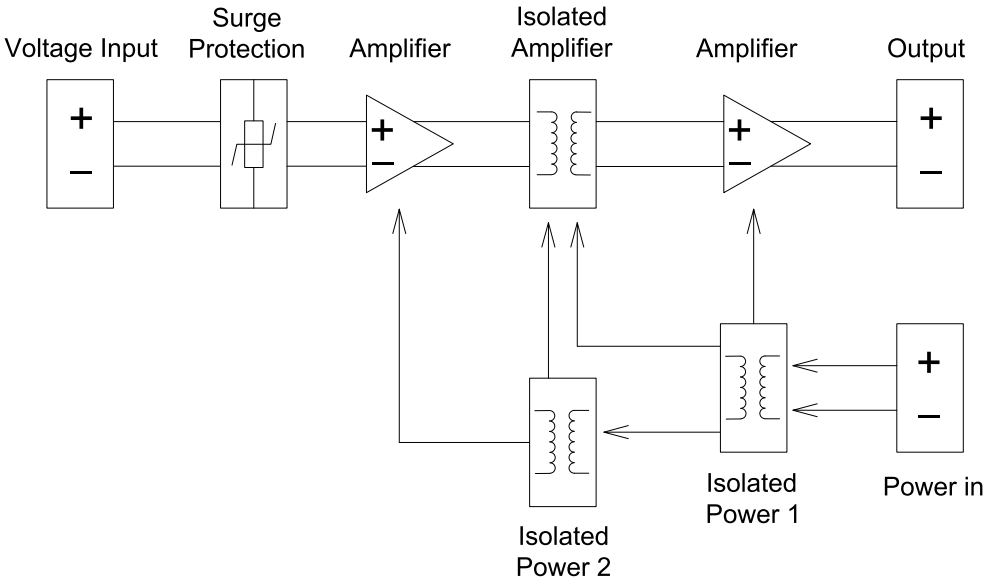
Typical ranges of IsoCap-V1(other ranges can be made on demand)								
±50V	±100V	±200V	±300V	±400V	±500V	±750V	±1000V	±2000V

Insulation parameter	
Primary and secondary isolation voltage	>±2000V
Withstand common mode surge voltage (1min)	±5000V
Insulation resistance	>10GΩ

Environmental and mechanical characteristics	
Operation temperature	-15°C ~ 70°C
Storage temperature	-25°C ~ 80°C
Weight	75g
Mounting type	DIN rail mounting / wall mounting
Number of channels	1 channel
Hot swapping	Not supported

Block Diagram



IsoCap-V1 block diagram

The IsoCap-V1 has surge protection to protect the input, it that can withstand surge voltage up to ±5000V. The amplifier at input side converts the input into a lower voltage, and then the isolated amplifier transfers the lower voltage from primary to secondary. Finally, the amplifier at the output side converts it to ±5V or ±10V differential voltage. The above diagram shows the signal processing in general.

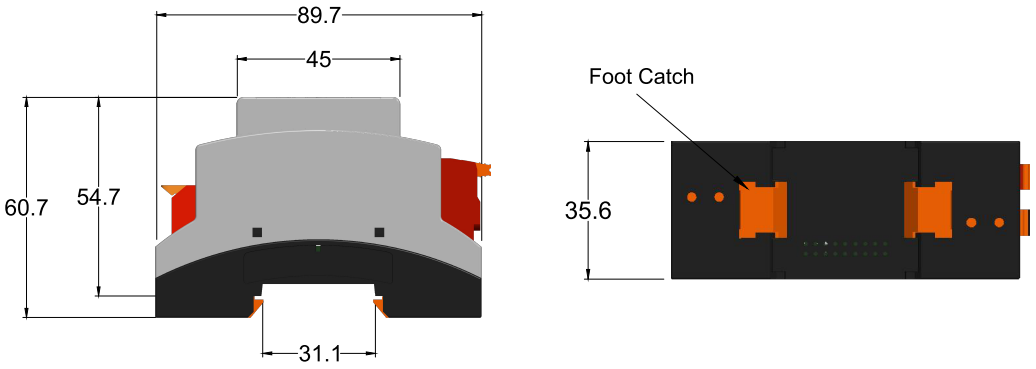
Testing Setup

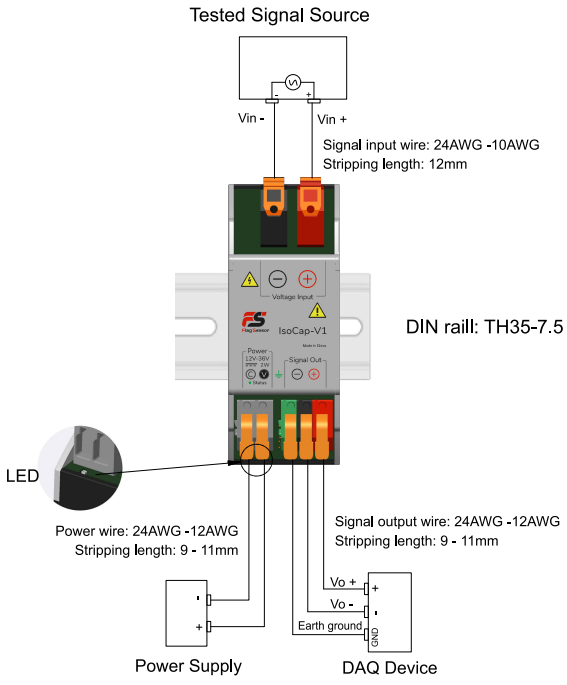
1. Connect the output voltage to the DAQ/instrument, the ground must be well grounded.
2. Connect DC power supply to power it on.
3. Connect the measurement voltage to the input, make sure the tested voltage is off before connecting.
4. Turn the tested voltage on.

Disassemble

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

Dimensions (in mm)





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Ordering Code

Product name	Input ranges	Output voltage	Accuracy
IsoCap-V1	±10V ~ ±2000V	±5V or ±10V	±0.1%(A) or ±0.2%(B)

E.g. **IsoCap-V1-500-5-A** (500: input range is ±500V, 5: output voltage is ±5V, A: accuracy of ±0.1% of range).
If you have queries regarding the IsoCap-V1 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.