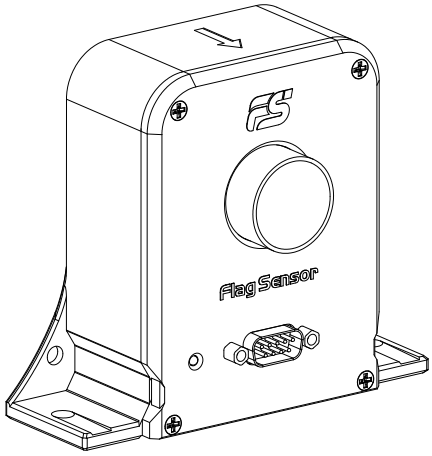
Features

Ultra-high precision
Ultra stable zero flux technology
Reliable and consistent performance
Ruggedized design
9-pin D-Sub male connector
1000:1 current ratio
DC – 800kHz bandwidth



Advantages

Nominal measuring current up to 600A
DC and AC measurement
±10ppm overall accuracy
Excellent linearity
Low noise

Applications

EV and new energy test bench
Power analysis
Precision current measuring
Medical power supply monitoring
Control stable power supply

Description

ZFxxxI is a ultra-high precision DC current transducer that can continuously measure DC current up to ±600A. ZFxxxI also can measure AC current. The primary current is transformed into a proportional secondary current with a 1000:1 ratio. In addition, ZFxxxI has many advantages, such as excellent linearity, ultra-high precision, and low noise.

Specifications

Electrical				
Parameter	**Test conditions**	**Minimum**	**Typical values**	**Maximum**
Transfer ratio			1000:1	
Accuracy	@ 25°C		±10ppm of range	
Linearity error				4ppm
Small signal bandwidth(-3dB)	1% of I_{PN}		800kHz	
Step response time				2.5us
Output offset current	@ 25°C	-1uA		1uA
Offset drift				0.1uA/K
Offset changes with time changes				0.2uA/month
Offset changes with supply voltage changes				0.1uA/V
Output noise(reference to secondary)				0.8uA_{PP}
Output load		0Ω		7Ω
Power supply voltage			±15V	
Power dissipation	I_{PN} = 600A	10W		

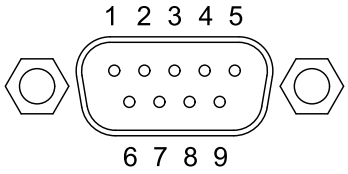
Shenzhen FlagSensor Technology Co., Ltd. +86-755-26975359 info@flagsensor.com www.flagsensor.com

Typical ranges of ZFxxxI (other ranges can be made on demand)						
Nominal primary DC current	±100A	±200A	±300A	±400A	±500A	±600A
Nominal primary AC current (RMS)	70A	141A	212A	282A	353A	424A
Rated output current	100mA	200mA	300mA	400mA	500mA	600mA

Insulation parameter	
Primary and secondary insulation voltage (1min)	±5kV

Environmental and mechanical characteristics	
Operation temperature	-40°C ~ 85°C
Storage temperature	-40°C ~ 85°C
Weight	550g
Hot swapping	Not supported
Output valid indicator	LED (pure green)

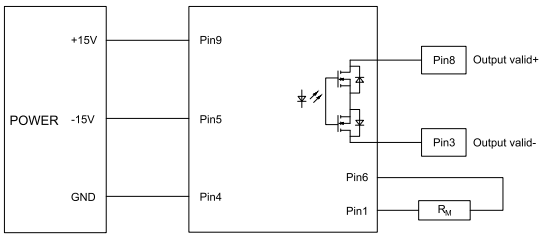
D-Sub Interface



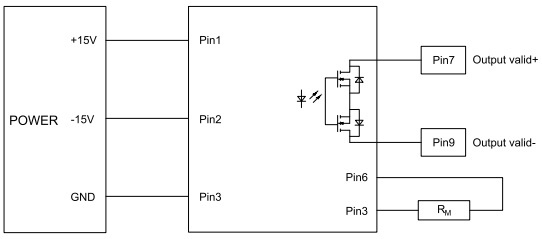
D-sub-9 Connector Male Pinout

Type A (default)									
Pin number	Pin1	Pin2	Pin3	Pin4	Pin5	Pin6	Pin7	Pin8	Pin9
definition	0V	NC	Output Valid-	0V	-15V	Current Output	NC	Output Valid+	+15V

Type B (on request)									
Pin number	Pin1	Pin2	Pin3	Pin4	Pin5	Pin6	Pin7	Pin8	Pin9
definition	+15V	-15V	0V	NC	NC	Current Output	Output Valid+	NC	Output Valid-



Type A (default)



Type B (on request)

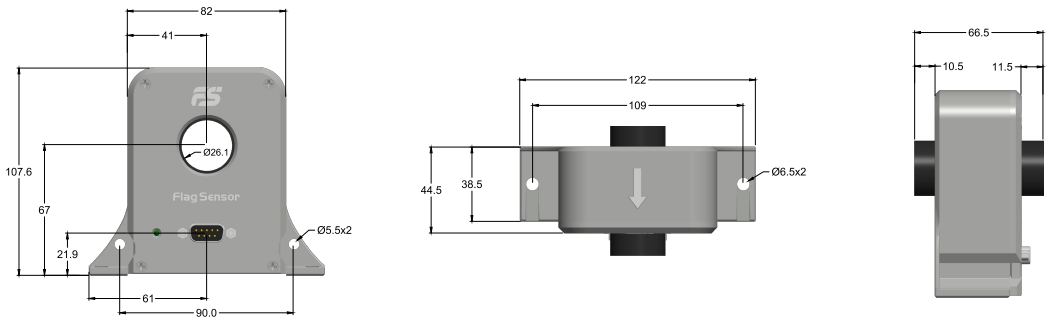
Testing Setup

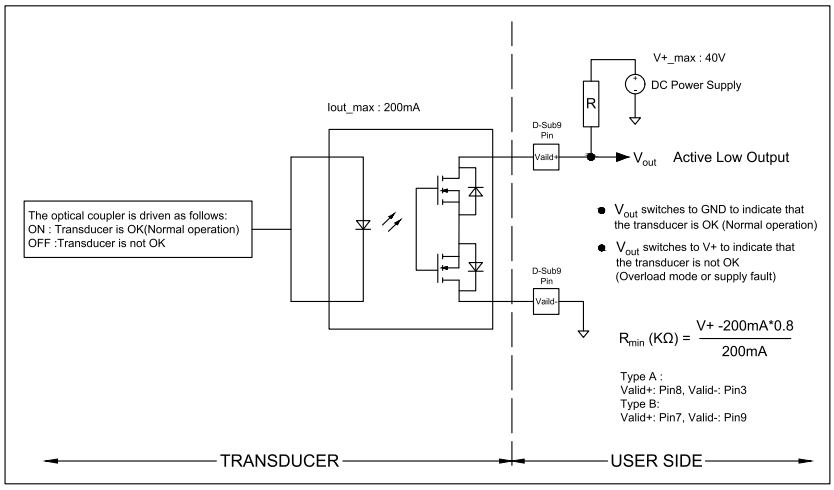
1. Connect the output current to the DAQ/instrument, the ground must be well grounded. The transducer status line is connected to the detection device.
2. Connect linear DC power supply to power it on.
3. The tested current conductor passes through the aperture of transducer, make sure the tested current is off before connecting. Positive current direction identified by an arrow on the top of housing.
4. Turn the tested current on.

Disassemble

Ensure that the tested current source is turned off, then remove the tested current wire. Disconnect the transducer from power and remove the output.

Dimensions (in mm)





ransducer status table		
Value of Vout	Status of LED	Status of transducer
<0.2V	on	operate normally
V+	off	operate abnormally

Shenzhen FlagSensor Technology Co., Ltd. +86-755-26975359 info@flagsensor.com www.flagsensor.com

Ordering Code

E.g. **ZF600I** (600: The nominal primary DC current is 600A)

If you have queries regarding the ZFxxxI 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.

Shenzhen FlagSensor Technology Co., Ltd. +86-755-26975359 info@flagsensor.com www.flagsensor.com