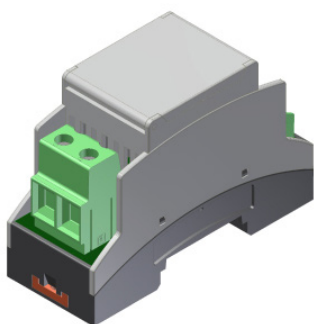


IsoBlock I-FG-1c

Single-Channel FluxGate
Current Measuring Module



OVERVIEW

The IsoBlock Current-FG is a sensor designed for high-quality isolated current measurements in the range from 6 to 50 Amperes. The IsoBlock Current-FG module provides 1200V primary-to-secondary isolation, which allows users to monitor a miscellaneous of currents at different potentials. The IsoBlock Current-FG uses Flux-Gate methodology to measure the current flowing through the input conductor. In essence, this technique works by placing a toroid with a high number of turns (secondary) around the input current path (primary), while a close-loop circuitry controls the current through the secondary to null out the magnetic field inside the toroid. The input current is then obtained by multiplying the current from the control circuitry by the number of turns of the secondary. This is followed by an anti-aliasing filter and a conditioning stage to output a $\pm 10V$ signal.

The compact form factor of the IsoBlock Current-FG module allows users to setup high channel density monitoring systems, making it ideal for deployed and portable systems.

SPECIFICATION

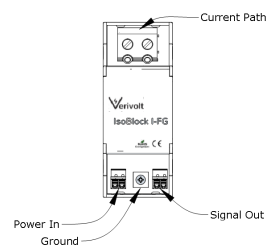
| IsoBlock I-FG | 6A | 15A | 25A | 50A |
|---|------------|--------------|----------|----------|
| Bandwidth (-3dB point) | DC - 50kHz | | | |
| Integrated sensor noise (Referenced to input) | < 3.2 mA | < 6 mA | < 10 mA | < 18 mA |
| Conversion Factor | 1.667 V/A | 666.667 mV/A | 400 mV/A | 200 mV/A |

| Electrical | |
|---|--|
| Accuracy | $\pm(0.2\% \text{ of reading} + 0.01\% \text{ range})$ |
| Max total phase shift at 60Hz | < 0.05° |
| Max Input delay | < 5 μ s |
| Isolation voltage from primary to secondary | > $\pm 1200V$ |
| Withstanding common mode surge voltage | $\pm 1100V$ |
| Thermal drift gain | < $\pm 0.01\% / ^\circ C$ |
| Mechanical | |
| Mounting Type | DIN Rail |
| Outer Dimensions | 3.5" x 2.5" x 1.5" |
| Weight | 205 g (7.2 oz) |

| Performance | |
|------------------------------|-------------------------------|
| Input-Output non-linearity | < 280 ppm/A |
| Hysteresis Error | < $\pm 10mV$ |
| Output voltage | $\pm 10V, \pm 5V$ Custom |
| Gain temperature drift | $\pm 50 \text{ ppm}/^\circ C$ |
| Power Supply Voltage | 9V to 28V |
| Output type | Differential signal |
| Output Offset Voltage | < $\pm 5mV$ |
| Output impedance | 100 Ω |
| Common mode impedance | > 2 G Ω 4pF |
| Differential Input impedance | > 1 M Ω |
| Environmental | |
| Operating temperature | - 25 to 65 °C |
| Storage temperature | - 40 to 70 °C |

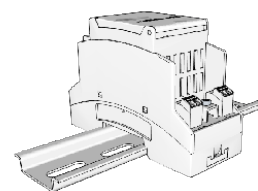
HARDWARE DESCRIPTION

The current input connector is located at the top of the module in the figure below. A connector that serves to power the unit, output signal and ground the sensor lay along the bottom.



indication of input, output and power of the IsoBlock I-FG

The IsoBlock Current module is designed to mount on standard NS-35 or NS-32 DIN rails with minimal preparation, providing users ease of use and flexibility.

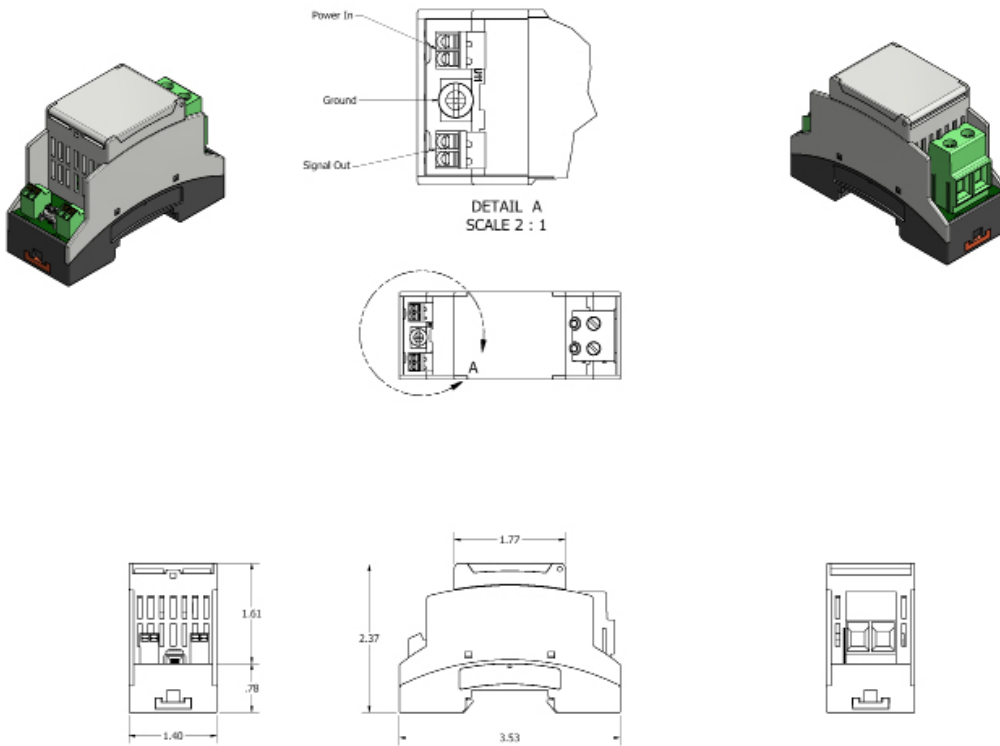


Installation on DIN rail

Important: Do not pass current through the sensor when powered off.

Fluxgate current sensors use a ferromagnetic core to detect magnetic fields. When off, the core isn't actively demagnetized, making it prone to magnetization if current flows through, especially strong or sustained currents. This can degrade sensor performance.

MERCHAL DIMENSIONS

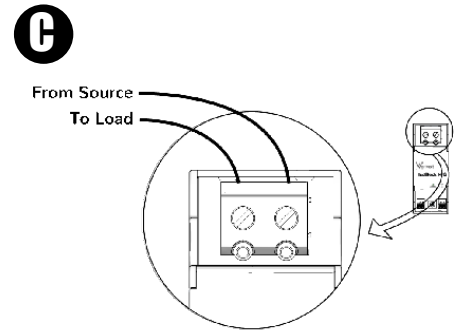
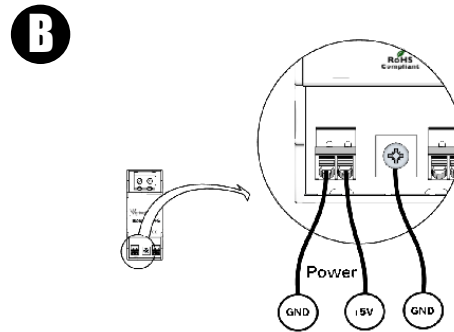
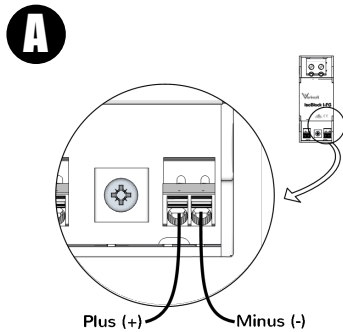


HARDWARE CONFIGURATION

A. Connect external power source to power the unit. For proper functioning the power supply should provide a voltage as specified with at least 0.2A of continuous current and 0.4A surge during module start-up.

B. Securely connect one end of a twisted pair to the output terminals, and the other end to the inputs of your data acquisition unit

C. Pass conductor through aperture and observe orientation for proper signal polarity.



DANGER

Standards and Certifications
CE

THIS SENSOR IS NOT A SAFETY DEVICE AND IS NOT INTENDED TO BE USED AS A SAFETY DEVICE. This sensor is designed only to detect and read certain data in an electronic manner and perform no use apart from that, specifically no safety-related use. This sensor product does not include self-checking redundant circuitry, and the failure of this sensor product could cause either an energized or de-energized output condition, which could result in death, serious bodily injury, or property damage.