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 ±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.

<table>
<thead>
<tr>
<th>SPECIFICATION</th>
<th>6A</th>
<th>15A</th>
<th>25A</th>
<th>50A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bandwidth (-3dB point)</td>
<td>DC - 300kHz</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integrated sensor noise (Referenced to input)</td>
<td>&lt; 3.2 mA</td>
<td>&lt; 6 mA</td>
<td>&lt; 10 mA</td>
<td>&lt; 18 mA</td>
</tr>
<tr>
<td>Conversion Factor</td>
<td>1.667 V/A</td>
<td>666.667 mV/A</td>
<td>400 mV/A</td>
<td>200 mV/A</td>
</tr>
<tr>
<td>Input dynamic range</td>
<td>12A</td>
<td>30A</td>
<td>50A</td>
<td>100A</td>
</tr>
</tbody>
</table>

**Electrical**

- Accuracy (percentage of reading): ±0.2%
- Max total phase shift at 60Hz: < 0.05°
- Max Input delay: < 5 μs
- Isolation voltage from primary side to secondary side: > ±1200V
- Withstanding common mode surge voltage: ±2000V
- Thermal drift gain: < ±0.01% / °C

**Performance**

- Input-Output non-linearity: < 280 ppm/A
- Output voltage: ±10V, ±5V Custom
- Gain temperature drift: ±50 ppm/°C
- Power Supply Voltage: 8V to 28V
- Output type: Differential signal
- Output Offset Voltage: < ±500µV
- Output impedance: 100Ω
- Common mode impedance: > 2 GΩ || 4pF
- Differential Input impedance: > 1 MΩ

**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 above. A connector that serves to power the unit and output the sensor signal lays along the bottom.

Installation on DIN rail
**MERCHANICAL 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.

**Standards and Certifications**

- CE
- RoHS Compliant

**DANGER**

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 safetyrelated 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.