All the benefits of fiber optic measurement without the hassle. The F108 Optical Gage Amplifier seamlessly integrates with the Q.series-X data acquisition platform. Benefit from the modularity and versatility of the Q.series X product line to address any of your measurement challenges. Connect with G.i.bench software for the quick and easy setup for your multi-channel DAQ system for G.i.cloud-based storage and monitoring.

- RS485 fieldbus interface up to 48 Mbps: LocalBus, up to 115.2 kbps: Modbus-RTU, ASCII
- Connectable to Controller Q.station X
- Electromagnetic Compatibility according to EN61000-4 and EN55011
- Power supply 10 ... 30 VDC
- DIN rail mounting (EN60715)

**Key Features**

- 8 Universal optical input channels
  - Strain up to 1,100 μm/m
  - Pressure up to 10,000 PSI
  - Acceleration up to 1,000 g (peak)
  - Temperature up to 1,000 °C
- High Sampling Speed
  - Measurement bandwidth up to 50 kS/s
- Long transmission distance
  - up to 25 km
- Electrical Noise Immunity & Complete Isolation
- Low measurement uncertainty
  - Complete measurement chain capable of achieving a maximum uncertainty of ±0.5% FSO from transducer to digitization. For temperature, this equates to ±0.5°C over a 200°C range.
- Typical operating environments
  - Cryogenic and ultra-high temperature
  - Electromagnetic radiation
  - High-voltage
  - Ionizing (gamma) radiation
  - Hazardous areas
Q.bloxx XL F108
Optical Gage Amplifier

Block diagram

Technical Data

Optical Inputs

<table>
<thead>
<tr>
<th>Channels</th>
<th>1 to 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supported transducer types</td>
<td>Temperature, strain, pressure, acceleration, vibration, displacement</td>
</tr>
<tr>
<td>Single channel sampling rate</td>
<td>10 k samples per second (kS/s)</td>
</tr>
<tr>
<td>Multi channel sampling rate</td>
<td>5 sample per second (S/s)</td>
</tr>
</tbody>
</table>

Connector: E2000 APC

Wavelength-range: 1548 nm - 1552 nm

Wavelength resolution: 0.1 pm

Uncertainty: ± 5 pm

Repeatability: ± 1 pm

Laser specification: Class 1 laser

Communication Interface

Protocols:
- proprietary Localbus (115200 bps to 48 Mbps, latency <100 ns)
- ASCII (19200 bps to 115200 bps)
- Modbus RTU

Data format: 8E1

Electrical standard: ANSI/TIA/EIA-485-A, 2-wire

Input Power

<table>
<thead>
<tr>
<th>Input voltage</th>
<th>10 to 30 VDC, overvoltage and overcurrent protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power consumption</td>
<td>approx. 15 W</td>
</tr>
</tbody>
</table>

Environmental Specifications

<table>
<thead>
<tr>
<th>Electromagnetic compatibility (EMC)</th>
<th>IEC 61326-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating temperature</td>
<td>0 °C to 50 °C</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>-40 °C to 85 °C</td>
</tr>
<tr>
<td>Relative humidity</td>
<td>5% to 95% at 50°C, non-condensing</td>
</tr>
</tbody>
</table>
Remarks

<table>
<thead>
<tr>
<th>Warm-up time</th>
<th>Validity of all listed specifications are subject to a warm-up period of at least 45 minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Specifications subject to change without notice</td>
</tr>
</tbody>
</table>

Mechanical information

<table>
<thead>
<tr>
<th>Material</th>
<th>Aluminum and ABS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurements (W x H x D)</td>
<td>60 x 145 x 135mm</td>
</tr>
<tr>
<td>Weight</td>
<td>approx. 700 g</td>
</tr>
</tbody>
</table>

Ordering Information

| Article number | 606929 |

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