Fiber Optic Temperature Sensing for Medium Voltage Industrial Applications

FTX-301-PWR+ Temperature Transmitter

Reliable Fiber Optic Thermal Monitoring

Osensa's PWR+ series fiber optic temperature transmitter offers scalable industry leading performance. Each signal conditioner accepts three optical fiber sensor inputs for convenient three-phase monitoring of hot spots in generator and transformer windings, on bus bars in switch gear, or critical connection points on transmission cables and circuit breakers. The FTX-301-PWR+ model includes three isolated 4-20mA outputs that are loop powered from a 12~24VDC source. All transmitters include isolated RS-485 serial connectivity over industry standard Modbus RTU protocol. Multiple transmitters can be connected in series on a standard 35mm DIN rail with power and RS-485 communication supplied to by the five-pin T-Bus connector.

Product Specifications

<table>
<thead>
<tr>
<th>Model Name</th>
<th>FTX-301-PWR+</th>
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</thead>
<tbody>
<tr>
<td>Number of Channels</td>
<td>3</td>
</tr>
<tr>
<td>Analog Output</td>
<td>Isolated 4-20mA</td>
</tr>
<tr>
<td>Digital Interface</td>
<td>USB &amp; Isolated RS-485</td>
</tr>
<tr>
<td>Measurement Range</td>
<td>-40°C to +200°C</td>
</tr>
<tr>
<td>Resolution</td>
<td>0.1°C</td>
</tr>
<tr>
<td>System Accuracy</td>
<td>±1.0°C</td>
</tr>
<tr>
<td>Update rate</td>
<td>30 Hz</td>
</tr>
<tr>
<td>Comm. Protocol</td>
<td>Modbus RTU, Half Duplex</td>
</tr>
<tr>
<td>Status Indication</td>
<td>3 Color Flashing and Solid LEDs</td>
</tr>
<tr>
<td>Operating Humidity</td>
<td>0 to 90% RH (Non-Condensing)</td>
</tr>
<tr>
<td>Operating Environment</td>
<td>-40°C to +65°C</td>
</tr>
<tr>
<td>Power</td>
<td>12-24 VDC (2.5W max)</td>
</tr>
<tr>
<td>Dimensions</td>
<td>114mm Tall x 22.5mm Wide x 102mm Long</td>
</tr>
<tr>
<td>Mounting</td>
<td>35mm DIN Rail</td>
</tr>
<tr>
<td>Configuration Software</td>
<td>OSENSAView or OSENSAView Pro</td>
</tr>
<tr>
<td>Product Compliance</td>
<td>CE cUL us</td>
</tr>
</tbody>
</table>

For use with OSENSA’s medium voltage temperature probes:
- PRB-PF1-xxM-ST-L
- PRB-GB3-xxM-ST-L

TECHNICAL SUPPORT
OSENSA Innovations offers on-site support, commissioning, and training for all of its products. For immediate assistance with any technical issue, please contact support@osensa.com or call 1-888-732-0016.

WARRANTY INFORMATION
OSENSA Innovations stands behind its products and services. All fiber optic temperature probes and signal conditioners ship with a full one year repair or replacement warranty. You may also purchase an extended five year warranty. Some conditions apply.

CUSTOM OEM SOLUTIONS
OSENSA offers cost-effective design and consulting services at discounted rates for high-volume OEM customers. Let the engineering team at OSENSA Innovations help you rapidly develop custom probes for your process control application. OSEN’s team has many years of experience designing fiber optic temperature probes for various industrial environments.

FURTHER INFORMATION
For more information on any of our products or services please visit our website: www.osensa.com or email: info@osensa.com.
Temperature Transmitters

Please consult the table below to ensure you are ordering the correct transmitter for the probe style you desire. Also note that only the -LUX+ and -XFMR+ series can be ordered as 1, 2 or 3 channel devices. For instance, an FTX-100-LUX+ is a single channel device and an FTX-201-XFMR+ is a 2 channel device.

<table>
<thead>
<tr>
<th>Fiber Optic Temperature Probe Styles</th>
<th>Extension Cables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model #</td>
<td>PF1</td>
</tr>
<tr>
<td>FTX-602/302-PWR</td>
<td>✓</td>
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<tr>
<td>FTX-301-PWR+</td>
<td>✓</td>
</tr>
<tr>
<td>FTX-300-LUX+</td>
<td></td>
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<tr>
<td>FTX-301-XFMR+</td>
<td></td>
</tr>
</tbody>
</table>

Fiber Optic Temperature Probes

PRB-PF1-06M-ST-L-TP2

- **Tip Style:**
  - TP1 – Mounting Nut
  - TP2 – Ring Clamp

- **Connector Style:**
  - ST – Standard ST
  - STM – Non-Magnetic ST

- **Sensing Range/Accuracy:**
  - L – Standard
  - MRI – Medical
  - C – Custom
  - HC – High Custom

- **Probe Style:**
  - PF1, MR1, GB3 Probes
  - G40 – Probes
  - G20 – Probes

- **Cable Length:**
  - 0.5M – 0.5 meters (min)
  - 10M – 10 meters (max)

Fiber Optic Extension Cables

EXT-400-10M-STM-STM

- **1st and 2nd Connector Style:**
  - ST – Standard ST
  - STM – Non-Magnetic ST

- **Cable Length:**
  - 02M – 2 meters (min)
  - 50M – 50 meters (max)

- **Cable Style:**
  - PF1 – for PRB-MR1, PRB-PF1 or PRB-GB3 Probes
  - 400 – for PRB-G40 Probes
  - 200 – for PRB-G20 Probes

Specifications subject to change without notice.

www.osensa.com
Purchase Orders

Please email purchase orders containing the following information to info@osensa.com:

1. Purchase Order number and date when items are required
2. Ship to address, including contact person and telephone number
3. Bill to address
4. Accounts receivable email address including contact person and telephone number
5. Courier account number or note for Osena to add shipping charges to the invoice. Please note that Osena only ships products by the following couriers; Fedex, DHL, UPS, TNT, and Purolator. If shipping insurance is desired, you must indicate on the PO to include insurance and designate a value to insure. Osena is not liable for loss or damage once products leave our factory, even if Osena pays the shipping charges.

Payment

Please note the following payment terms:

1. For orders from new customers, Osena expects payment in advance of shipping and will hold the order until payment is received. Payment may be made by international bank wire transfer, credit through PayPal, or by Cheque (international cheques will be held for up to 21 days). Contact info@osensa.com for wire transfer instructions.
2. Credit terms may be granted on a case-by-case basis. Overdue invoices may be charged an interest penalty of 18% per annum, or a $100 USD late payment fee, whichever is greater.
3. Osena reserves the right to refuse any order without explanation.
4. Osena may request a minimum order value of $1000 USD for new customers.

Additional terms and conditions may be found at www.osensa.com/terms_conditions.php