A small form factor and cost oriented fiber optic hot spot monitoring system for dry type and oil filled power transformers

- Offers an easy way to link Neoptix probes to Qualitrol 509 and 507 transformer controllers
- This updated module offers a similar SCADA interface to existing Neoptix T/Guard-Link systems
- Interfaces to all Neoptix probes
- Small and sturdy cast aluminum enclosure
- RS-485 serial interface (Modbus and ASCII communication)
- 4-20 mA analog outputs
- Accuracy of +/- 1 °C
- Available with up to 8 channels. With Modbus, up to 32 modules can be cascaded together
- Ideal for OEM applications

Product Summary

**Description:** A small form factor and cost oriented fiber optic hot spot monitoring transducer for dry type and oil-filled power transformers. Its standard MODBUS communication protocol allows for a quick and easy integration to any SCADA system. Optimized for use with the Qualitrol 507 and 509 systems.

**Application:** Fiber optic hot spot monitoring system for any type of transformers.
<table>
<thead>
<tr>
<th>Compatibility</th>
<th><strong>T/Guard-Link-RevB, for GaAs Neoptix probes</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>T/Guard-Link-RevB</strong></td>
<td></td>
</tr>
<tr>
<td><strong>XX</strong></td>
<td></td>
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<tr>
<td><strong>RevB</strong></td>
<td></td>
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<tr>
<td>Number of channels</td>
<td>2, 4, 6 or 8. With Modbus, up to 32 modules can be linked together, to a theoretical total of 256 channels</td>
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<tr>
<td>Probe compatibility</td>
<td>Double calibration: Neoptix and older Nortech Fibronic probes</td>
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<tr>
<td>Measurement range</td>
<td>-80 to +250 °C</td>
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<tr>
<td>Resolution reading</td>
<td>0.1 °C</td>
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<tr>
<td>Power requirement</td>
<td>24 VDC nominal (20-28 VDC acceptable)</td>
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<tr>
<td>Consumption</td>
<td>6 watts</td>
</tr>
<tr>
<td>Warranty</td>
<td>Five-year Limited international warranty - Extended warranty available</td>
</tr>
</tbody>
</table>

**Communication and I/O**

- **Operating Mode**: ASCII commands and Modbus over RS-485
- **Communication (hardware)**: Optically isolated RS-485 and analog outputs. Can be user configured in half or full duplex
- **Communication protocols**: ASCII (Neoptix commands) or serial Modbus RTU (full or half duplex). Mode can be changed via a front panel key, with an indicator
- **Remote (SCADA outputs)**: 4-20 mA outputs, one output per optical channel. Detachable header connector blocks, 3.5 mm pitch
- **Relays**: None
- **System status reading and indicators**: A LED confirms communication mode (ASCII or Modbus) on panel. System has internal built-in temperature sensor; value is available through serial port

**Mechanical and environmental**

- **Operating temperature**: -40 to +72 °C, 5-90 % humidity, non-condensing
- **Storage temperature**: -50 to +80 °C, 5-95 % humidity, non-condensing
- **Board level environmental protection**: MIL-I-46058C (IPC-CC-830) Type SR silicone conformal coating
- **Light source MTBF**: Light source lifespan and optimal system performance superior to 300 years of continuous use
- **Vibrations**: 60/120 Hz @ 0.1 mm displacement
- **Shock**: 10g half-sine in three orthogonal planes
- **Form factor**: Solid aluminum enclosure, mounting brackets at each corner. Must be protected from rain, dust, etc. Complete mechanical compatibility with legacy T/Guard-Link system
- **Front membrane**: UV stabilized polyester
- **Connectors**: Optical: ST connectors; Serial, analog out and power in: 3.5 mm pitch connectors, socket for plugs with screw terminal
- **Dimensions / weight**: Width: 190 mm; Height: 113 mm; Thickness: 38 mm; Weight: 0.7 kg

**Compliance**

- **Conducted/Radiated Emissions and Surge Withstand**: IEC 61000-4-2 ESD; IEC 61000-4-3 Radiated RFI; IEC 61000-4-4 Burst; IEC 61000-4-5 Surge; IEC 61000-4-6 Induced (Conducted) RFI; IEC-ES-003 Issue 5, Aug 2012; IEC 60255-5 Dielectric strength; IEEE C37.90 Dielectric strength; IEEE C37.90.1-2002 Fast transient; IEEE C37.90.1-2002 Oscillatory; IEC 60068-2-14 Temperature -40 to +72 °C

**Power**

- **Power requirement**: 24 VDC nominal (20-28 VDC acceptable)
- **Consumption**: 6 watts

**System Ordering Codes**

TGL - **XX** - RevB

**XX** = Number of channels (02, 04, 06 or 08)