The TeraPyro sensor is a compact and highly sensitive device, based on the combination of a high-quality absorbing black coating, paired with a LiTaO3 pyroelectric crystal. The broad absorption range of the coating allows the use of this sensor over a large spectral range (from 0.1 to 30 THz). The high sensitivity and low NEP offer no compromise on performances. The integrated, pre-aligned, high quality THz optics based on AR coated Si-lenses ensures maximized optical coupling to the sensor. The optics are highly modular allowing three configurations: bare sensor, collimated input or focused input with 50 mm working distance. A sensitivity switch allows to reduce the response of the detector and gain in response time for faster measurements. A BNC output ensures fast and standard connectivity for data recovery. The sensor operates on a common +/-12 V DC power supply.
Features:
- High quality HRFZ-Si THz optics with anti-reflective (AR) coating or broadband Zeonex polymer optics
- Modular optics:
  ➢ Bare sensor
  ➢ Collimated input
  ➢ Focused input with 50mm working distance
- 3 channels sensitivity switch for optimized dynamics and response time
- Standard M4 optical post assembly

Applications:
- THz sensing
- High definition imaging
- Optical sources characterization
- Power measurements
- High frequency signal detection

Specifications

<table>
<thead>
<tr>
<th>Optical data</th>
<th>TeraPyro</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency range</td>
<td>From 0.1 to 30 THz</td>
</tr>
<tr>
<td>Wavelength</td>
<td>From 10 to 3000 μm</td>
</tr>
<tr>
<td>Maximum power density</td>
<td>50 mW/cm²</td>
</tr>
<tr>
<td>Noise equivalent power</td>
<td>1.6 nW/√Hz</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sensitivity switch</th>
<th>High</th>
<th>Medium</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitivity at 2.5 THz</td>
<td>1.8 kV/W</td>
<td>390 V/W</td>
<td>70 V/W</td>
</tr>
<tr>
<td>Rise time</td>
<td>80 ms</td>
<td>10 ms</td>
<td>1.5 ms</td>
</tr>
<tr>
<td>Maximum chopper frequency</td>
<td>15 Hz</td>
<td>150 Hz</td>
<td>2.5 kHz</td>
</tr>
</tbody>
</table>

Options
- Optical collection lenses ✓
- Power supply connector ✓
- Optical post assembly ✓

Dimension and weight
- Working distance | 50 mm |
- Sensor area | 2x2 mm |
- Diameter | 67 mm |
- Length | 125 mm |
- Weight | 300 g |

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Empower your application