Active distributed temperature measurements provide information about thermal transport at all locations along a fiber optic cable. This insight can be crucial for monitoring fluid presence and flow in environments with limited natural thermal gradients, or for characterizing thermal properties in-situ.

Silixa’s Heat Pulse System (HPS) allows the heating of a fibre optic cable by supplying time and power-controlled pulses. It operates with an electric power supply and an optical fibre cable with embedded heating elements. HPS can be combined with any Silixa distributed temperature sensor to provide a complete monitoring solution, with both units controlled by a shared interface. The total measurement time, frequency and intensity of the heating cycles can be set to meet the measurement requirements of the installation.

Specifications:

Typical deployment example

<table>
<thead>
<tr>
<th>Output power</th>
<th>Heated length</th>
<th>Cable resistance</th>
<th>Power rate</th>
<th>Temperature increase*</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 kW</td>
<td>1 km</td>
<td>42 Ω/km</td>
<td>17 W/m</td>
<td>5º C</td>
</tr>
</tbody>
</table>

*Example based on a standard hybrid cable with 2X18AWG twisted copper conductor as heating elements. The copper conductors are wired in series at the far end of the cable.

Power

- inlet: 220 - 600VAC, up to 50Amps
- outlet: 0 - 600VAC, up to 50Amps (max power:30kW)

Communication options

- 2 x ethernet port

Physical dimensions, IP66 enclosure

<table>
<thead>
<tr>
<th>Height</th>
<th>Width</th>
<th>Depth</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>730 mm</td>
<td>600 mm</td>
<td>250 mm</td>
<td>42 kg</td>
</tr>
</tbody>
</table>

Operating environment

- Temperature: 0ºC - 50ºC
- Humidity: 20% - 90% RH non-condensing

Panel PC

- Rated IP65
- OS: Windows7 (64bit)

Certification & Compliance

<table>
<thead>
<tr>
<th>Safety</th>
<th>EMC</th>
<th>FCC</th>
<th>CE Mark</th>
</tr>
</thead>
<tbody>
<tr>
<td>BS EN ISO 12100</td>
<td>BS EN 61000-6-2</td>
<td>CFR 47:2008 Part 15 Sub Part B</td>
<td>2014/35/EU (safety)</td>
</tr>
<tr>
<td>BS EN 60204-1</td>
<td>BS EN 61000-6-4</td>
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<td>2014/30/EU (EMC)</td>
</tr>
</tbody>
</table>

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