STREAK CAMERA MAIN UNIT

SC-10

Main Unit for SC-10 Systems

- High temporal resolution 2 ps
- Modular design for universal use
- Synchroscan and triggered operation
- Dual sweep available
- Ethernet interface

www.optronis.com
The streak camera main unit is the central part of a streak camera system. The main unit consist of a streak tube with supply and control electronics including an Ethernet interface to control the system. The SC-10 main unit is completed with a shutter SH25-10 and a fiber optically coupled image intensifier II125. Using a separate image intensifier within the electro-optical signal chain provides photon counting sensitivity combined with high detection efficiency and low amplification noise. The modular design allows removing shutter or image intensifier for particular requirements.

**SPECIFICATIONS**

- **Temporal resolution**: ≤2 ps (TSU11-10 or SSU11-10)
- **Photocathode size**: 8 mm (hor.) x 2 mm (ver.)
- **Input window**: fused Silica (others on req.)
- **Streak tube magnification (typ.)**: 2
- **Screen size**: 15 mm (hor.) x 20 mm (ver.)
- **Phosphor type**: P43 (others on req.)
- **Static resolution**: <100 µm (FWHM on screen)
- **Sweep direction**: left-right (slow) / bottom-up (fast)
- **Dimensions**: 365 x 180 x 245-250 mm³
- **Weight**: 16 kg (incl. SH25-10 and II125)
- **Temperature**: 0 - 35°C (op.) / -5 - +45°C (stor.)
- **Environment**: 20 - 80% rel. hum. non-cond.
- **Altitude**: sea level up to 3000 m
- **Power supply**: 100 - 240 V / 45-60 Hz

**OPTION /H2 - HIGH FREQUENCY SYNCHROSCAN**

To operate the SC-10 with the synchroscan sweep unit SSU11-10/H2 at high sweep frequency above 150 MHz, the /H2 option for the main unit is needed.

**SHUTTER SH25-10**

- **Type**: Electro-mechanical
- **Delay**: <20 ms
- **Frequency**: <10 Hz
- **Operation mode**: manual / external control

**IMAGE INTENSIFIER II125**

- **Type**: Singel stage MCP
- **Adjustable gain (typ.)**: 1 - 1000
- **Gating time**: >2 ms
- **Operation mode**: continuous / gated

**PHOTOCATHODE**

The streak tube is available with different photocathodes having different spectral responses and noise characteristics. Typical data are listed below.

<table>
<thead>
<tr>
<th>Type</th>
<th>Ref.</th>
<th>Spectral range</th>
<th>Dark noise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bialkali</td>
<td>/BI</td>
<td>200 - 700 nm</td>
<td>20 nlux</td>
</tr>
<tr>
<td>S20LN</td>
<td>/S20LN</td>
<td>200 - 750 nm</td>
<td>40 nlux</td>
</tr>
<tr>
<td>S20</td>
<td>/S20</td>
<td>200 - 850 nm</td>
<td>0.20 µlux</td>
</tr>
<tr>
<td>S25</td>
<td>/S25</td>
<td>200 - 950 nm</td>
<td>0.40 µlux</td>
</tr>
</tbody>
</table>

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