

# Differential Interferometer

## SP 5000 DI Series

| System parameter                                                                                                                | SP 5000 DI                             | SP 5000 DI/F                                                      |
|---------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|-------------------------------------------------------------------|
| Measurement range                                                                                                               | 0 m to ≥ 5 m                           |                                                                   |
| Resolution                                                                                                                      | 5 pm*                                  |                                                                   |
| Angular measurement range<br>with reflector<br>with plane mirror (recommended distance ≤2 m)                                    | ±12.5° **<br>±430 µrad                 | ±15° **<br>±430 µrad                                              |
| Angular resolution                                                                                                              | 0,005 µrad***                          | 0,007 µrad***                                                     |
| Beam distance (standard)                                                                                                        | 21 mm                                  | 14 mm                                                             |
| Temperature sensitivity                                                                                                         | <20 nm/K                               | <10 nm/K                                                          |
| Wavelength                                                                                                                      | 632.8 nm                               |                                                                   |
| Frequency stability of the HeNe laser<br>(after warm-up time)                                                                   | 2·10 <sup>-8</sup>                     |                                                                   |
| Warm-up time of the HeNe laser                                                                                                  | 10 ... 20 min                          |                                                                   |
| Operating temperature range                                                                                                     | 15 ... 30°C                            |                                                                   |
| Maximum displacement speed of measuring reflector                                                                               | 3 m/s                                  |                                                                   |
| <b>Geometric Data</b>                                                                                                           |                                        |                                                                   |
| Dimensions (L x W x H):<br>Sensor head (with base plate)<br>Reflector<br>Electronic evaluation and supply unit EU<br>(standard) | [150 x 140 x 43] mm<br>Ø 15 mm x 15 mm | [110 x 65 x 33] mm<br>Ø 10 mm x 15 mm<br><br>[450 x 400 x 150] mm |
| Mass:<br>Sensor head<br>Base plate<br>Reflector<br>Electronic evaluation and supply unit EU<br>(standard)                       | 2.0 kg<br>1.5 kg<br>8 g                | 1.1 kg<br>-<br>6 g<br><br>ca. 8 kg                                |
| <b>Electrical Data</b>                                                                                                          |                                        |                                                                   |
| Interfaces standard<br>other interfaces on request (/R)                                                                         | RS232C, USB                            |                                                                   |
| Cable length between sensor head and electronics unit                                                                           | 3 m, optionally up to 10 m             |                                                                   |
| Power supply                                                                                                                    | 100 ... 240 VAC / 47 ... 63 Hz         |                                                                   |
| Laser safety class according to EN 60825-1:2014 and ANSI Z136.1 (CDRH)                                                          | 2M<br>II                               |                                                                   |

\*in frequency domain

\*\* rotary point dependent

\*\*\*least significant bit (LSB)

04/2024 · Subject to change.