

PSH14A-RT Scan Head

Focusing on high-end industrial laser applications



Typical Applications:

PSH14A-RT is the ideal product for laser processing applications that require extremely high precision. It is perfectly suitable for applications demanding the curvature accuracy of less than $\pm 0.5 \mu\text{m}$ and a line spacing accuracy of less than $\pm 1 \mu\text{m}$, for example, high-precision resistor trimming, etc.

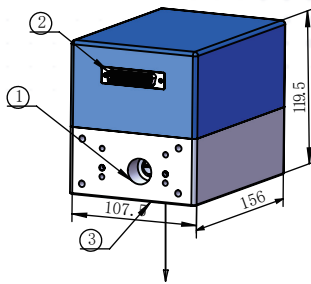
The product has extremely high positioning accuracy, outstanding scan line straightness and lowest temperature drift value.

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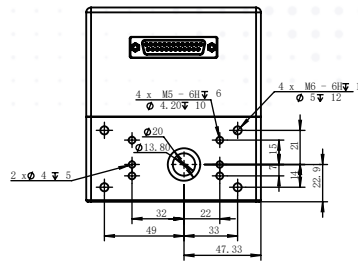
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Mechanical Drawings (Dimensions in mm)

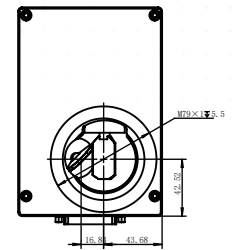


PSH14A-RT Scan Head

Legend :
 1.Beam in
 2.Electrical interface
 (XY2-100, power in)
 3.Beam out



Beam In & Mounting Bracket



Beam Exit Side

Specifications

Specifications	PSH14A-RT
Maximum allowed average laser power ⁽¹⁾	100 W
Aperture	14 mm
Typical scan angle ⁽²⁾	± 10°
Tracking error	≤ 0.45 ms
Step response time (1% of full scale)	≤ 1 ms
Speed	
Positioning / Jump ⁽³⁾	< 7 m/s
Line scan ⁽³⁾	< 7 m/s
Vector scan ⁽⁴⁾	< 1.2 m/s
Good writing quality ⁽³⁾⁽⁵⁾	300 cps
Precision	
Linearity	99.9 %
Repeatability	2 μrad
Temperature drift	
Offset	15 μrad/ °C
Gain	15 μrad/ °C
Long-term drift (at constant ambient temperature around 25 °C)	
Over 8 hours long-term offset drift (after 30 mins warm-up)	25 μrad
Over 8 hours long-term gain drift (after 30 mins warm-up)	40 μrad
Operating Temperature Range	25 °C ± 10 °C
Signal interface	Analog: ± 10 V or ± 5 V Digital: XY ₂ - 100, PRS422 protocol
Input power requirement (DC)	± 15 V @ 5 A Max RMS

Note:

- (1) For laser wavelength 532 nm.
- (2) All angles are in mechanical degrees.
- (3) With F-Theta objective f = 163 mm. Speed value varies correspondingly with different focal lengths.
- (4) Repeatability and temperature drift are measured within this speed.
- (5) Single-stroke font with 1 mm height.