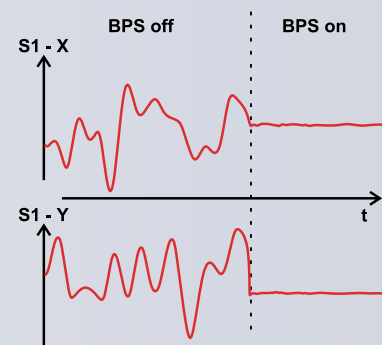




BPS 1002

Beam Pointing Stabilization

High average power laser systems are often associated with longer thermalization behaviors interfering with reproducibility of experimental measurements and implying optical realignment throughout the day. Using the BPS 1002, you will speed up your warm-up time and stabilize the performance of your system by precisely locking the laser beam position.



User-friendly interface

Intuitive and clear layout

Stand-alone controller

Digital controller and piezo driver

Precise position detection

4-quadrant photodiode sensors

Improved laser performance

Shorter warm-up times
Consistent results
Live data display



Technical data

	BPM2 1010
Detector type	Si PIN 4-quadrant photodiode
Detection area	10 mm x 10 mm
Spectral range	400 nm ... 1100 nm
Input pulse frequency ¹	>10 Hz ... cw
Average power input	~ 1 µW ... 400 µW
Laser beam size (recommended)	0.3 mm ... 3 mm
Measurement rate	max. 2 kHz
Resolution (Beam ø 1mm; Sum=1)	~ 100 nm
Mounting thread	M4x4 (tapped holes)
Accessory thread	SM1
Size (w x h x d)	50.8 mm x 50.8mm x 12.7 mm
Weight	51 g

	BPS 1002
Operating temperature range	0 °C ... +55 °C
Storage temperature range	-20 °C ... +80 °C
Relative humidity	0 % ... 90 % (non-condensing)
Maximum altitude	2000 m
Controller refresh rate	100 Hz
Beam pointing angular range ²	~ 400 µrad
Minimum pointing step size ²	~ 0.2 µrad
Piezo drive voltage ³	0 V ... 120 V
Trigger input	SMA max. 5.5V 50 Ω or 2 kΩ (configurable)
Power supply	24 VDC ±5% / 2 A max.
Connectivity	Ethernet 10/100Base-T USB-C (USB 2.0)
Size (w x h x d)	172 mm x 85 mm x 180 mm
Weight	1187 g

	User computer requirements for DiraRemote 3
Operating system	Windows 10 or newer
Display	Full HD (1920 x 1080) or higher resolution
Runtime	.NET 6.0

TRUMPF Scientific Lasers follows a policy of continuous improvement. Specifications are subject to change without notice.

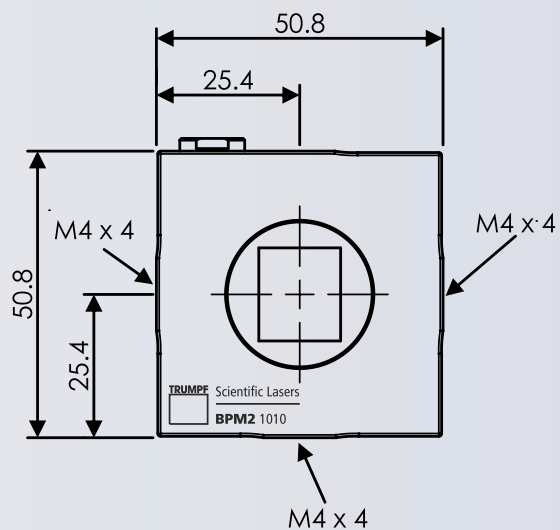
¹ For operation with repetition rates below 10 Hz, please ask your TRUMPF Scientific Lasers contact.

² With supplied 1" mirror mount.

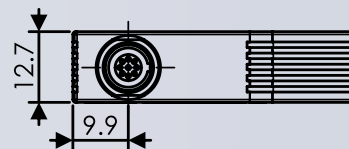
³ Recommended mirror mounts are POLARIS-K1S2P (1") or POLARIS-K2S2P (2").
Operation with other piezo electric actuators is possible if the maximum specified operation voltage of these piezo actuators is sufficient.

Mechanical dimensions

BPM2 1010 Sensor

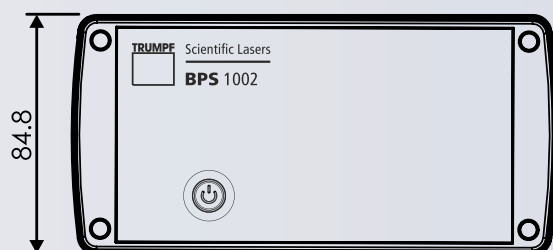


Front view

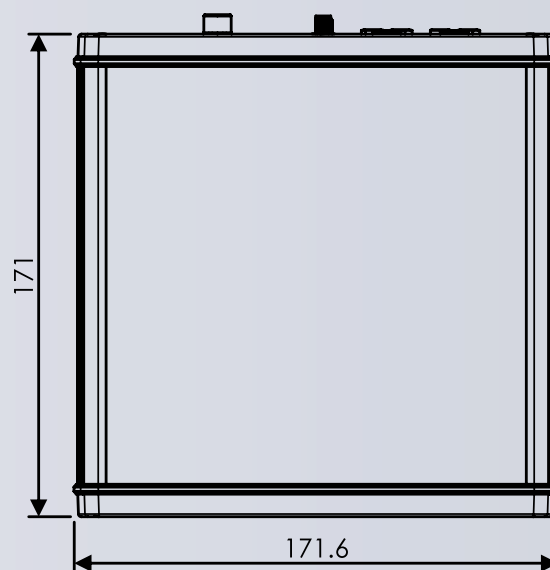


Top view

BPS 1002 Controller



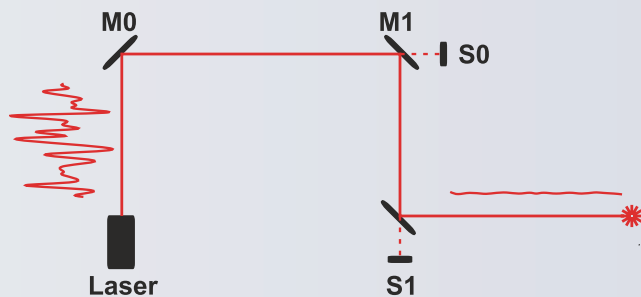
Front view



Top view

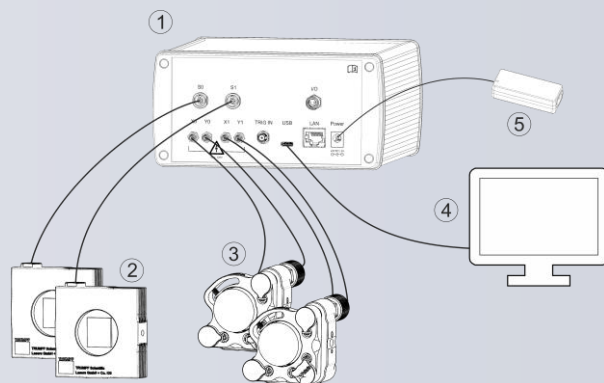
For interface descriptions and more information contact your TRUMPF Scientific Lasers contact.

Typical system setup



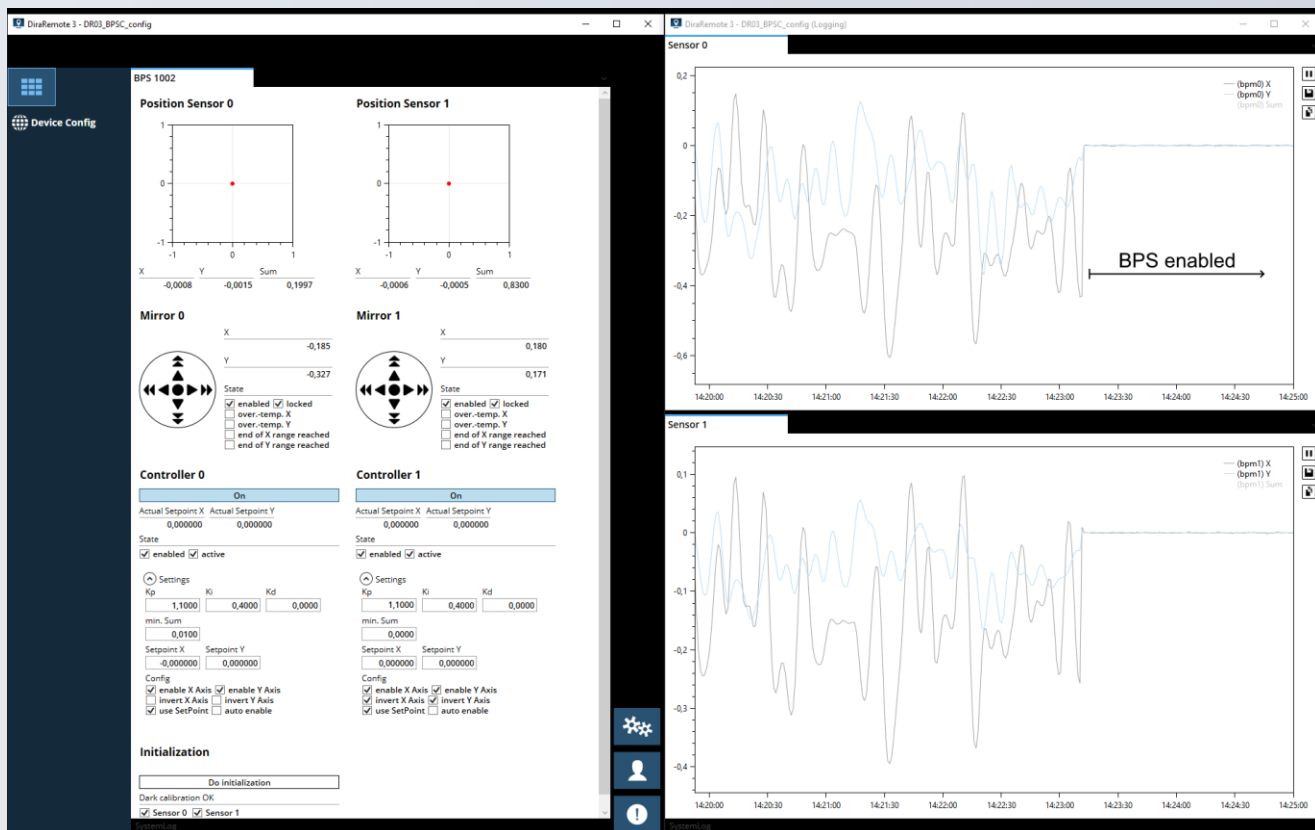
S0, S1 BPM2 1010 Sensor
M0, M1 Piezo Mirror Mount

Typical optical setup.



1 BPS 1002 Controller
2 BPM2 1010 Sensor
3 Piezo Mirror Mount
4 Computer (not included)
5 Power Adaptor

Example cabling of the BPS system.



DiraRemote 3 Main Window (left). Logging View (right) show sensor readout free running and with enabled BPS-Controller.