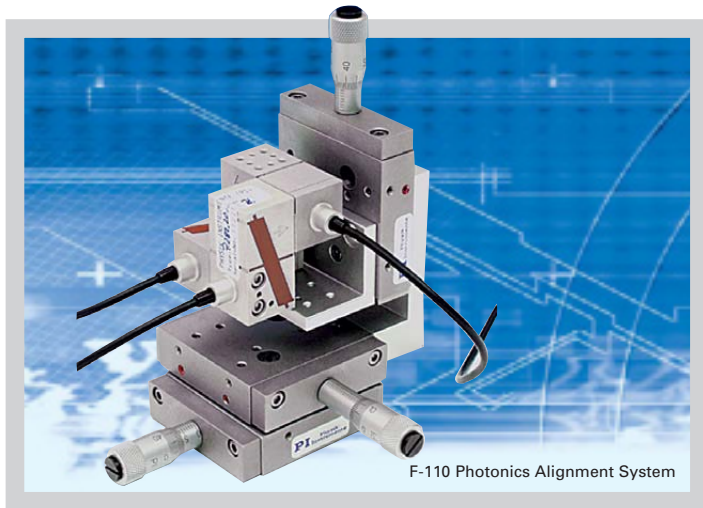


F-110

XYZ Hybrid Manual/Piezoelectric Photonics Alignment System



F-110 Photonics Alignment System

- PZT Drives with Sub-Nanometer Resolution
- Precision Mechanics with Crossed Roller Bearings
- 18 x 18 x 18 mm Travel Range
- 50 x 50 x 50 μm PZT Fine-Travel Range
- Optional Motor Drives

The F-110 photonics alignment system is an ideal solution for applications where a coarse operating position can be set manually and an ultra-high-resolution alignment process (tracking, scanning etc. with sub-nm resolution) is started from that position.

High-Resolution Piezo Drives

The F-110 is based on the M-105.30 XYZ translation stage, (see page 7-24) and the P-282.20 XYZ piezo Nano-Positioner (see page 2-25). The advantage of the piezoelectric fine adjustment is based on its extremely high resolution, responsiveness and electrical

controllability. If used with an external optical power meter and control software, the F-110 can be used as automatic aligner or scanner with a range of 50 x 50 x 50 μm .

The E-463 piezo amplifier (see page 6-40) is recommended as driving system. It comes with an analog high-speed interface (0 to 10 V). For digital control with a computer, the E-500 modular PZT control system with E-507 amplifier modules (see page 6-23) and optional E-516.i3 computer interface (see page 6-27) is available.

Optional Motor Drives

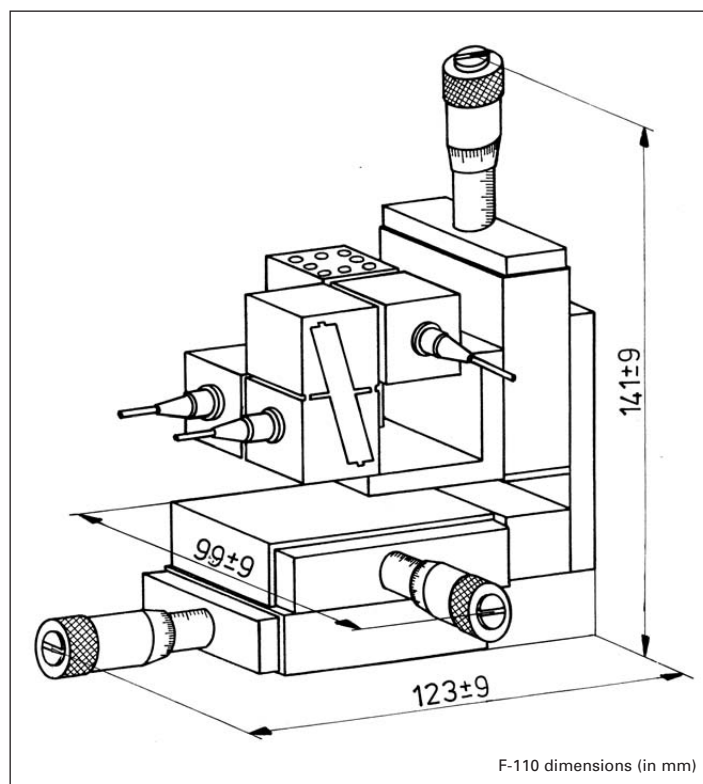
Motordrive upgrades for the F-110 are also available, (M-231 and M-232 Mike drives, see page 7-80 ff.). For fully automated alignment tasks, the new F-130, integrated motorized/piezoelectric alignment system featuring closed-loop piezo drives is recommended (see page 8-20).

Related Products

The M-105.3P XYZ stage with PiezoMike drives (replacing the manual micrometers). It is modular and can also be configured with only one or two PiezoMike high-resolution drives. The M-105.3BA translation stage, basic unit without drives (see page 7-24).

Ordering Information

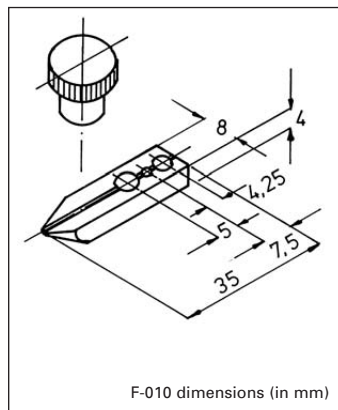
- F-110.00**
XYZ Piezoelectric Photonics Alignment System, 18 mm, 50 μm
 - F-010.00**
Fiber Holder with Magnet
- Ask about custom designs!**



F-110 dimensions (in mm)

Application Examples

- Photonics packaging
- Optical device testing
- Fiber alignment
- Micro-manipulation (life sciences)



Technical Data

Models	F-110.00	Units
Axes	X, Y, Z	
Travel range (manual)	18	mm
Piezo fine-travel range	50	µm
Resolution (piezoelectric)	0.5	nm
Resolution (micrometer drive)	1	µm
Max. load (Z-axis)	20	N
Mechanical positioning system	M-105.30, see page 7-24	
Piezoelectric positioning system	P-282.20, see page 2-25	
Weight	1.1	kg
Recommended amplifier/controller	E-463, E-500 w/ 3 x E-507	

Piezo Actuators

Nanopositioning & Scanning Systems

Active Optics / Steering Mirrors

Tutorial: Piezo-electrics in Positioning

Capacitive Position Sensors

Piezo Drivers & Nanopositioning Controllers

Hexapods / Micropositioning

Photonics Alignment Solutions

Motion Controllers

Ceramic Linear Motors & Stages

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