Innovation Matrix

Product Catalog

Technology

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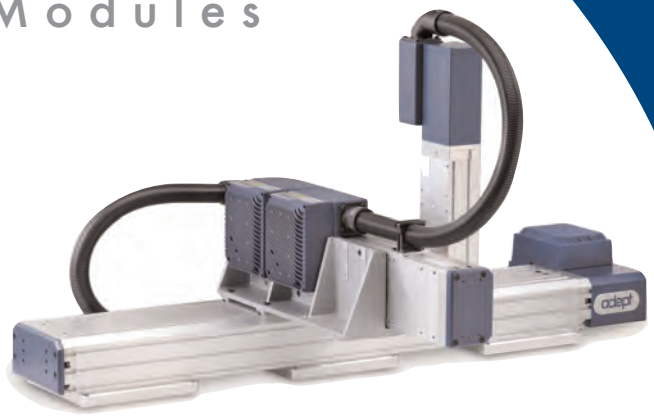
Introducing

Innovation™ Matrix

Bridging the Pacific with Automation Technology

Adept Python™ Linear Modules



Adept Python is a family of high-quality linear modules for assembly and material handling applications. Python linear modules incorporate unique design features making them the most robust modules for gantry or cantilever configurations.

Our exclusive manufacturing process enables Adept to provide the exact system needed for your specific application with a very competitive delivery time.

General Specifications

• Stroke	100 to 1600 mm (range of motion)
• Max speed	Up to 1450 mm/sec (varies with ball screw)
• Repeatability	±0.010 mm
• Max payload	80kg
• Operating temperature	0 - 40°C
• Relative humidity	5 - 90%

Standard Features

- Absolute encoders, 16-bit minimum resolution
- Precision ground ball screws
- Belt seals for harsh environments
- Integrated AC servo motor drives with onboard processor
- High quality linear bearings
- High moment loading capacities
- Pre-engineered cables and cable tubes
- Linear bearings and ball screw lubricated for life
- CE Compliance

Options

- Gantry Support
- Brakes available on all axes
- In-line, left, or right side motor mounts
- Selectable ball screw lead for any module
- IO-Blox (8 digital input & 8 digital output channels) connects to Adept MotionBlox-10

Flexible Configurations from which to Choose

Python linear modules can be combined into several configurations. Select the configuration best suited for your application, including single-axis, 2-axis and 3-axis configurations. Mounting options for table, wall, or ceiling, including direct mount, mounting plates or toe clamps.

Performance

- Absolute encoders eliminate homing motion
- High-resolution encoders provide high-precision and superior slow-speed following
- High-efficiency motors deliver high performance with more torque per amp
- 8 kHz servo update rate for superior path following and reduced settling time

Reliability and Maintenance

- Serviced worldwide by Adept Technology
- Proven design offers high reliability and low MTTR
- Diagnostics display enables faster troubleshooting

System Includes

Typical Python linear modules systems include:

- 1-, 2- or 3-axes linear modules mechanism
- Adept SmartController™ CX (with software installed)
- PDU3 safety package with AC power filtering and surge protection
- Adept MotionBlox™-10 servo controller and amplifier on each axis
- Front Panel with E-Stop
- 4.5-meter cables to mechanism
- AdeptWindows™ Software
- Network File Server (NFS) software
- Ethernet TCP/IP capability
- User Documentation

User Supplied Items

The user must supply the following items:

- Power to the SmartController CX and PDU3
- External emergency stop
- Windows™-based PC (not required at run-time)

Adept Python™ Linear Modules

3D Online Configurator Builder

Adept's exclusive 3D online configurator lets you built your own system to your specifications and request a quote via the internet.

Module Types

The Python linear modules are available in three types. Within each modules type, there are different length and configuration options available.

Mechanism Control

Adept control systems feature several communication interfaces, including Fast Ethernet, IEEE 1394, DeviceNet and RS 232. The IEEE 1394 SmartServo interface is the backbone of Adept's distributed controls architecture. Python linear modules are controlled by the Adept SmartController and the MotionBlox-10 servo controller and amplifier.

Theta Module - Specifications

The Theta module adds a 4th axis to a Python system, providing additional handling options.

- Payload 5.0 kg (max) / 2.0 kg (rated)
- Load Inertia 350 kg-cm² (max) / 150 kg-cm² (rated)
- Speed 1000 deg/sec (max) / 400 deg/sec (rated)
- Torque 9.0 N-m (max) / 4.0 N-m (rated)

Power Requirements for SmartController

- SmartController
  24VDC (+/- 10%), 120W (5A), User-Supplied
- Power Distribution Unit 3 (PDU3)
  200V to 240V AC, 1-phase, 50/60Hz (10A), User-Supplied

For More Information or to configure your own system

Call (763) 682-9548 or (800) 226-6385
Visit our web-site at www.adept.com where you can configure your system, download CAD files and request a quotation.

Specifications

Module Type	L08 Module	L12 Module	L18 Module
Size (cross section)	85 mm	125 mm	185 mm
Ball Screw Pitch	10 mm	10 mm	10 mm
	20 mm	20 mm	20 mm
Max Payload			
Horizontal	20 kg	40 kg	80 kg
Vertical	10 kg	20 kg	40 kg
Transportable Moment			
Rolling	70 N-m	300 N-m	700 N-m
Pitching	50 N-m	260 N-m	500 N-m
Yawing	50 N-m	200 N-m	450 N-m
Available Stroke Length			
	100 - 800 mm	200 - 1500 mm	300 - 1600 mm
Brakes	Optional	Optional	Optional

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