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Find the *OMRON / Adept Technology MotionBlox-10* at our website: *Click HERE*

# 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.

### Flexible Configurations from which to Choose

Python linear modules can be combined into several configurations. Select the configuration best suited for your application, including singleaxis, 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
- Adept ACE
- 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)

### Specifications

| | |
|---|---|
| Stroke | 100 to 2000 mm (range of motion) |
| Max speed | Up to 1450 mm/sec (varies with ball srew) |
| Repeatability | ± 0.010 mm |
| Max payload | 80 kg |
| 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 drive 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

Theta Module

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

Specifications:

| | |
|---|---|
| Payload (max) | 5.0 kg |
| Payload (rated) | 2.0 kg |
| Load Inertia (max) | 350 kg-cm$^2$ |
| Load Inertia (rated) | 150 kg-cm$^2$ |
| Speed (max) | 1000 deg/sec |
| Speed (rated) | 400 deg/sec |
| Torque (max) | 9.0 N-m |
| Torque (rated) | 4.0 N-m |

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# ADEPT PYTHON LINEAR MODULES

## 3D Online Configurator Builder




Adept's exclusive 3D online configurator lets you build 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.

- L08 modules have a cross section of 85 mm and are available in lengths from 100 mm to 800 mm.
- L12 modules have a cross section of 125 mm and are available in lengths from 200 mm to 1500 mm.
- L18 modules have a cross section of 185 mm and are available in lengths from 300 mm to 2000 mm.

## Mechanism Options

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

## Mechanism Control

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

## Power Requirements for SmartController

24 VDC (+/- 10%), 120W (5A), User-Supplied

## Power Requirements for PDU3

200V to 240 AC, 1-phase, 50/60Hz (10A), User-Supplied

## 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 | 300-2000 mm |
| Brakes | Optional | Optional | Optional |

## For More Information or to configure your own system

Visit our web-site at www.adept.com where you can configure your system, download CAD files and request a quotation.

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