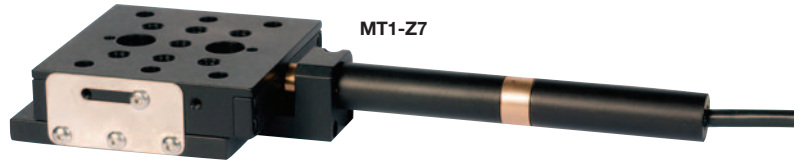


1/2" (13mm) Motorized Translation Stages

Features

- DC Servo Motor & Optical Encoder
- High Torque Gear Head
- Built-In Mechanical Limit Switches
- Right- or Left-Handed Configuration

The MT3-Z7 provides 1/2" of motorized motion in the X, Y, and Z axes. The motorized actuators use a 0.5mm pitch leadscrew, a 256:1 gear head, and a built-in optical encoder that provides 12,288 counts per revolution to ensure sub-micron positioning. The motor is a 12V DC servo motor with an integral gear head that offers both high resolution and high torque; see page 404 for more information on our DC motors.



10% SAVINGS!



Specifications

- **Travel:** 0.5" (12mm)
- **Max Vertical Load:** 10lbs (4.5kg)
- **Max Horizontal Load:** 20lbs (9kg)
- **Orthogonality:** <2mrad
- **Angular Deviation:** <150μRad
- **Bearing Type:** Ball on Hardened V-Grooves
- **Motor Type:** DC Servo
- **Motor Drive Voltage:** 12V
- **Lead Screw Pitch:** 0.5mm
- **Resolution:** ~40nm
- **Encoder Counts per Revolution of Leadscrew:** 12,288
- **Planetary Gear Head Ratio:** 256:1
- **Speed Range:** 100nm/s to 0.4mm/s

Linear Displacement per Encoder Count: There are 48 encoder counts per revolution of the motor. The output shaft of the motor goes into a 256:1 planetary gear head. This requires the motor to rotate 256 times in order to rotate the 0.5mm pitch leadscrew one revolution. The end result advances the leadscrew by 0.5mm. To calculate the linear displacement of the actuator per encoder count:

- $48 \times 256 = 12,288$ encoder counts per revolution of the leadscrew
- $0.5\text{mm}/12,288\text{cnts} = 4.069 \times 10^{-5}\text{mm}$ linear displacement of the leadscrew per encoder count.

ITEM#	METRIC ITEM #	\$	£	€	RMB	DESCRIPTION
MT1-Z7	MT1/M-Z7	\$ 659.00	£ 415.20	€ 612.90	¥ 6,293.50	Single-Axis Motorized Translation Stage, 1/2" Travel
MT3-Z7	MT3/M-Z7	\$ 1,978.00	£ 1,246.10	€ 1,839.50	¥ 18,889.90	Three-Axis Motorized XYZ Translation Stage, 1/2" Travel

**TOOLS
OF THE
TRADE**

DC Servo Motor Driver: TDC001

- A T-Cube Series Controller
- USB 2.0 Compliant
- Graphical Computer
- On Unit Manual Controls

The T-Cube series of controllers is an expanding line of modules used to control automated lab processes.



NEW

**For More Details,
See Page 352**