

▼ CHAPTERS

Manual Stages

Motorized Stages

Multi-Axis
Platforms

Actuators

Controllers

▼ SECTIONS

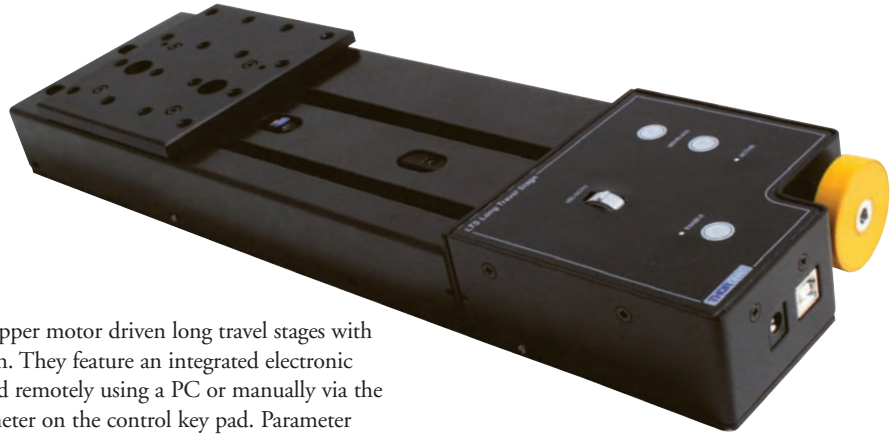
Linear Translation

Microscopy Stages

Rotation

Goniometers

150 mm and 300 mm Travel: LTS Series (Page 1 of 2)



The LTS Series of stages are stepper motor driven long travel stages with ranges of 150 mm and 300 mm. They feature an integrated electronic controller that can be controlled remotely using a PC or manually via the buttons and velocity potentiometer on the control key pad. Parameter settings can be adjusted on the PC and stored in non-volatile memory within the unit itself. When the unit is next powered up these settings are applied automatically. This is particularly useful when the stage is being used in the absence of a PC and USB link.

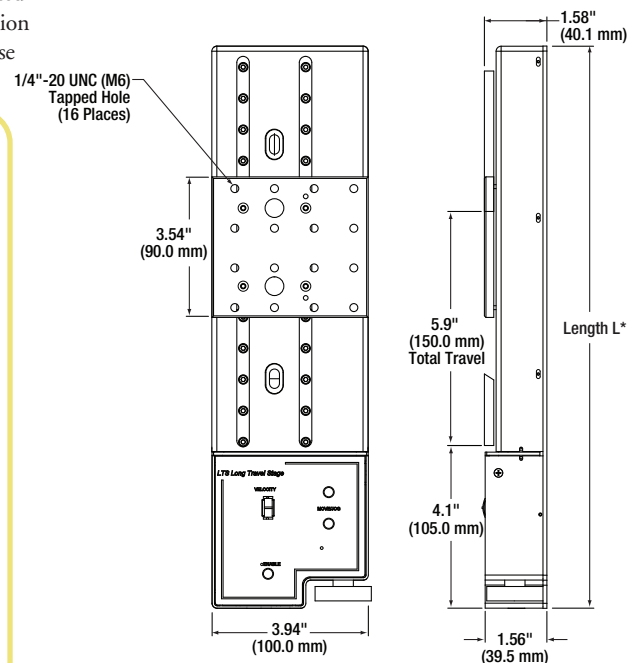
The stages are lightweight, compact, and robust with excellent performance characteristics over the full travel range. The long travel range makes them ideal for applications such as interferometry and M² measurements, while the 33 lbs (15 kg) load capacity make the stage practical for most applications that fit on the large 3.54" x 3.54" platform. They are compatible with our range of optomechanical and translation stages. The aluminum construction and low profile design make these stages ideal for applications where space is limited. Integrated magnetic limit switches allow homing and provide overdriving protection in both directions. A precision ball screw delivers smooth virtually noise free movement.

Specifications

- **Travel Range:**
 - LTS150: 150 mm (5.91")
 - LTS300: 300 mm (11.81")
- **Maximum Velocity:** 15 mm/s
- **Stage/Bearing Construction:** Aluminum/Recirculating Ball Bearing
- **Bidirectional Repeatability:** 2 μm
- **Backlash:** 2 μm
- **Min Achievable Incremental Movement:** 100 nm
- **Max On-Axis Load Capacity (Vertical):** 8.8 lbs (4 kg)
- **Max On-Axis Load Capacity (Horizontal):** 33 lbs (15 kg)
- **Absolute On-Axis Accuracy:** 50 μm
- **Calibrate Accuracy:** 5 μm
- **Max Percentage Accuracy LTS150:** 0.18 %
- **Max Percentage Accuracy LTS300:** 0.20%
- **Home Location Accuracy:** <6 μm
- **Pitch:**
 - LTS150: 0.016°
 - LTS300: 0.022°
- **Yaw:**
 - LTS150: 0.05°
 - LTS300: 0.06°
- **Weight:**
 - LTS150: 4.2 lbs (1.9 kg)
 - LTS300: 5.5 lbs (2.5 kg)

Features

- Low-Profile, Long Travel Stages
- X, XY, XYZ Configurable
- Stepper Motor Driven
- Integrated APT Controller with USB Interface
- 150 mm and 300 mm Travel Ranges



***Overall Length**
LTS150: 14.2" (360.0 mm)
LTS300: 19.7" (500 mm)

150 mm and 300 mm Travel: LTS Series (Page 2 of 2)

Driver Flexibility

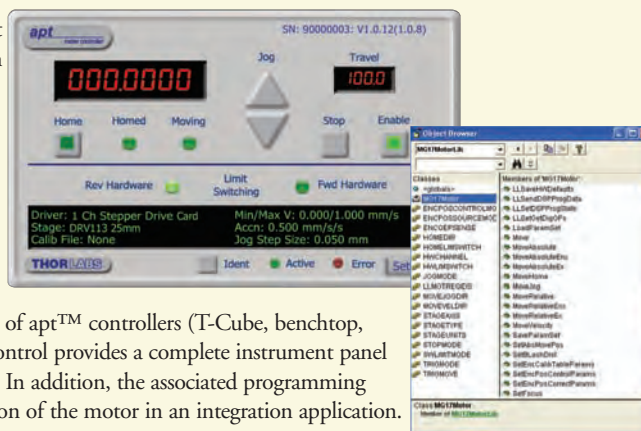
The LTS series of stages feature an integrated apt™ compatible controller, that is fully configurable (parameterized) with key settings that can be made by using the included software. Jog step sizes can be selected, phase currents can be limited to suitable peak powers as required, and limit switch configuration is accommodated through flexible logic settings. Moreover, relative and absolute moves can be initiated with move profiles set using velocity profile parameters (including acceleration and deceleration). Similarly, homing (zero position datum) sequences have a full set of associated parameters that can be adjusted for a particular application. For simplicity of operation, the apt™ software incorporates pre-configured settings for the LTS series stages. For convenience and ease of use, adjustment of all key parameters is possible through direct interaction with intuitive software graphical panels. For example, a move to the next position can be initiated by clicking directly on the position display and entering a new value. Note that all such settings and parameters are also accessible through the ActiveX® programmable interfaces for automated alignment sequences.

Full Software GUI Control Suite and ActiveX® Controls Included

A full and sophisticated software support suite is supplied with the LTS series stages. The suite includes a number of out-of-the-box user utilities to allow immediate operation of the unit without any detailed pre-configuration. All operating modes can be accessed manually, and all operating parameters may be changed and saved for future use. For more advanced custom motion control applications, a fully featured ActiveX® programming environment is also included to facilitate custom application development in a wide range of programming environments. Note that all such settings and parameters described above are also accessible through these ActiveX® programmable interfaces.

The ActiveX® apt™ system software shipped with the LTS stages is also compatible with other apt™ family controllers including our multi-channel rack-based system and smaller optical table mountable T-Cube controllers. This unified software package allows seamless mixing of the LTS stages with any apt™ benchtop, table top, and rack based controllers so that the user can build a single software interface for an application utilizing multiple stages of different types.

ActiveX® Controls allow apt™ motion control and alignment functionality to be incorporated quickly and easily into custom applications. ActiveX® Controls are pre-compiled software functional blocks (or components) that typically include both a graphical user interface (GUI) and programming (software function) interface. There are many such ActiveX® Controls available to the Windows software developer providing an enormous range of pre-compiled functionality for use in their own custom (or client) applications. The ActiveX® Controls supplied with the apt™ system provide all of the GUI and programmability required to operate and control the full range of apt™ controllers (T-Cube, benchtop, and rack-based variants). For example, the Motor ActiveX® Control provides a complete instrument panel allowing full manual control of our stepper motor driver units. In addition, the associated programming interface allows the software developer to automate the operation of the motor in an integration application.



LTS Stages (See Next Page for XZ Angle Brackets and a XY Spacer Plate)

ITEM #	METRIC ITEM #	\$	£	€	RMB	DESCRIPTION
LTS150	LTS150/M	\$ 2,600.00	£ 1,872.00	€ 2,262.00	¥ 20,722.00	Integrated Long Travel Stage 150 mm Travel
LTS300	LTS300/M	\$ 2,950.00	£ 2,124.00	€ 2,566.50	¥ 23,511.50	Integrated Long Travel Stage 300 mm Travel