

2" TravelMax™ Stage with DC Servo Motor

Motorized TravelMax™ Cross Roller Bearing Stage

The combination of a TravelMax™ stage and a high-performance DC servo motor actuator provides the user with a high speed stage that has a high load capacity. The actuator incorporates a 1024-lines (4096 effective) rotary encoder for accurate and repeatable positioning, when driven with the BDC101 DC motor controller (pages 548-549).

The exceptional performance of the LNR50V is a result of the rigid all stainless steel construction of the stage combined with the rugged design of the DRV414 actuator (page 536).

When stability, long travel, and high load capacity need to be combined with automated control at high speeds, the DC servo-driven TravelMax™ stage is the perfect solution. The high-quality, cross roller bearing rails can carry loads up to 10 times larger than equivalent sized ball slides. The precision-ground shafts provide excellent straight line accuracy and the alternately crossed rollers can handle force in any direction. The performance is further enhanced by using thermally matched materials that ensure stability and uniform performance over the entire 2" (50 mm) range of motion.

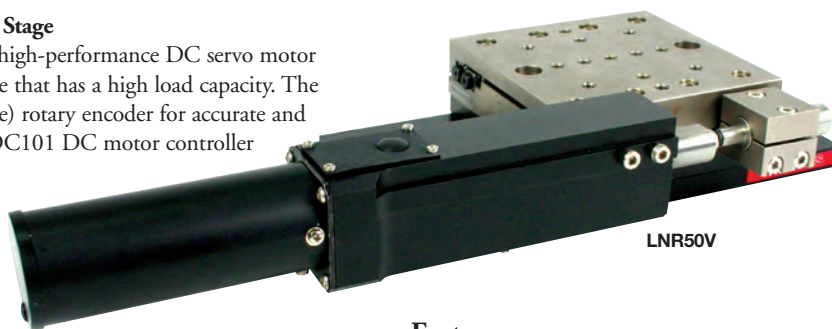
The modular design of the LNR50 family of stages allows optional elements (such as piezo actuators – see pages 530-532) to be added to the platform within minutes.

Left- or Right-Handed and XYZ Configurable

The TravelMax™ was designed with flexibility and functionality in mind. The top and bottom surfaces of the LNR series stages are equipped with an array of 1/4"-20 (M6 x 1.0) tapped holes to maximize the mounting flexibility of components. The LNR50P1 baseplate and LNR50P2 angle bracket allow the LNR series to be configured in left- or right-handed XY or XYZ systems.

Specifications

- **Travel Range:** 2" (50 mm)
- **Recommended Controller:** BDC101
- **Max Velocity:** 50 mm/s
- **Stage/Bearing Construction:**
Stainless Steel/Crossed Roller Bearing
- **Bidirectional Repeatability:** 5 µm
- **Backlash:** <11 µm
- **Minimum Achievable Incremental Movement:** 200 nm
- **Max On-Axis Load Capacity (Vertical):** 22 lbs (10 kg)
- **Max On-Axis Load Capacity (Horizontal):** 66 lbs (30 kg)
- **Absolute On-Axis Accuracy:** 83 µm
- **Max Percentage Accuracy:** 0.37%
- **Home Location Accuracy:** <10 µm
- **Lead Screw Pitch:** 1 mm
- **Rotary Encoder:** 1024 Line (4096 Effective QEP)
- **Pitch:** 0.03°
- **Yaw:** 0.015°
- **Weight:** 5.0 lbs (2.2 kg)

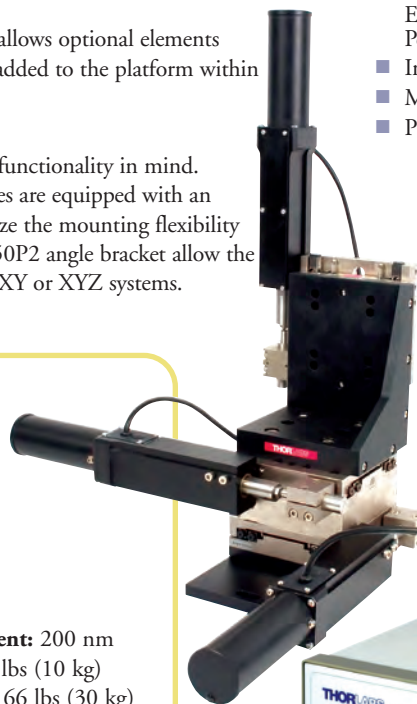


LNR50V

Features

- High-Speed Operation
- Solid Stainless Steel Construction
- Heavy-Duty Cross Roller Bearings
- Thermally Matched Stainless Steel Construction
- Right- or Left-Handed XYZ Configurable
- High-Quality DC Servo Motor Offers Excellent Dynamic and Static Torque Performance
- Integral Limit Switches
- Magnetic Rotary Encoder
- Precision Ground Leadscrew

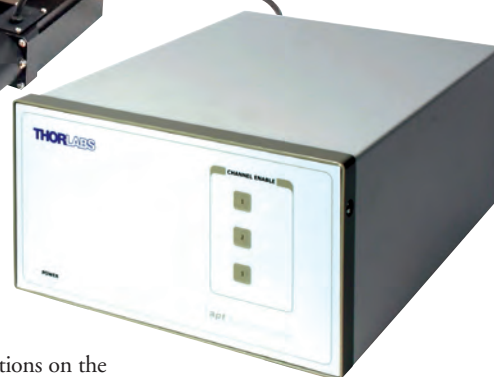
 **Mechanical**
Drawings Available on the
WEB



LNR50VK3

Stages, Controllers, Cables, and Software Included

BDC103



Specifications on the BDC101 and BDC103 Controllers can be found on pages 548-549.

2" (50 mm) Travel DC Servo Motor Actuator

| ITEM# | METRIC ITEM# | \$ | £ | € | RMB | DESCRIPTION |
|----------|--------------|-------------|------------|------------|-------------|--|
| LNR50V | LNR50V/M | \$ 2,190.00 | £ 1,518.00 | € 1,944.50 | ¥ 18,493.00 | 2" (50 mm) TravelMax Stage, DC Servo Motor Drive |
| LNR50VK1 | LNR50VK1/M | \$ 3,475.00 | £ 2,409.00 | € 3,085.00 | ¥ 29,343.00 | 2" (50 mm) TravelMax Stage, DC Motor Drive, BDC101 Controller |
| LNR50VK3 | LNR50VK3/M | \$ 9,240.00 | £ 6,406.00 | € 8,204.00 | ¥ 78,023.00 | 3-axis 2" (50 mm) TravelMax Stage, DC Motor Drive, BDC103 Controller |