

3DM-01 3-Dimensional Manipulator

Product Overview

The TDK 3DM-01 is a three-dimensional manipulator used for remote positioning of antennas or equipment under test (EUT) in EMC test environments. The 3DM-01 is used with a turntable to allow a complete three-dimensional pattern to be constructed. The turntable provides information for one axis and the 3DM-01 provides accurate elevation rotation. This combination permits rotation of a test object in polar coordinates for three-dimension characterization of the test object. The test object can be rotated in θ and ϕ independently, allowing positioning of the object in any particular plane about its axis.

Remote Control The 3DM-01 can be remotely controlled by TDK's SI-300 system interface unit. Remote control of the 3DM-01 is achieved by use of fiber optic links, eliminating a potential interference source and distance limitations.

Custom Dimensions The dimensions of the manipulator are designed to your specifications. Dimensions are limited only by the maximum length of cable that is used. The 3DM-01 is available in a standard duty model that supports up to 10 kg or a light duty model that supports up to 1 kg.

Features

- Independent vertical and horizontal positioning control
- Compatible with the TDK SI-300 system interface
- Fiber optic interface
- Shielded remote modules for use in high field environments
- Custom dimensions to meet your requirements



The TDK 3DM-01 3-D Manipulator is designed for remote three-dimensional positioning of test objects in EMC test environments.

Applications

- Remote positioning of test objects
- Antenna pattern measurements, antenna characterization

3DM-01 3-Dimensional Manipulator

Physical Specifications

Dimensions:	79 cm W x 51 cm D x 157 cm H (31" x 20" x 62"); custom heights available
3DM Weight:	22 kg (49 lbs.)
Maximum Load:	Light Duty – 1 kg Standard – 10 kg
Construction:	Non-conductive commercial grade fiberglass and ABS plastic

Mechanical Specifications

Positioning Accuracy:	$\pm 2^\circ$ standard with $\pm 0.5^\circ$ accuracy
Rotation Angle:	360 deg. continuous
Rotating Speed:	0.5 rev/min
Drive:	12 V/AC motor
Drive Controller:	Shielded controller unit
Interface:	Fiber optic serial communication
Remote Control Unit:	SI-300

Motor Box Specifications

Houses the motor to drive the belt and the circuitry to convert optical signals to analog signals.

Power:	48 VDC
Control Cables:	Fiber optic control
Connectors:	Filter connectors
Dimensions:	11.25" x 3" x 4" (28.5 cm W x 7.6 cm D x 10 cm H)
Construction:	Painted steel

Ordering Information

Product:	3-Dimensional Manipulator
Model Number:	3DM-01
Warranty:	1 year limited

To place an order or to learn more about the TDK products that best meet your needs, contact your TDK sales representative:

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