

## POSITIONERS MODEL 2171C BORESIGHT PLUS ANTENNA TOWER



### ANTENNA MAST MODEL 2171C

- 1 m–4 m Scan Range
- Capable to the Latest ANSI and CISPR EMC Standards
- Negative and Positive Boresight (Tilt) Functionality per ANSI Requirements
- Variable Speed

**ETS-Lindgren's Model 2171C Boresight Plus Antenna Mast** is designed to provide innovative functionality whether you are performing EMC testing per ANSI or CISPR test requirements. 2171C can support both the non-boresight or boresight operation, also including the required negative angles (upward tilt) for ANSI testing. A toothed belt drive provides smooth ascent and decent of the carrier assembly as well as the boresight operation. The belts are an industrial grade, reinforced composite that were selected for strength and longevity.

2171C utilizes shielded stepper motor drives to adjust both the height of the antenna as well as the boresight angle. These are independently controllable and any custom routines, but the system can calculate the right angular speed vs. the antenna height when the antenna reference point and test distance are entered. During scans, this tower maintains constant directional antenna positioning while varying the angle between the antenna and the mast. This is particularly important when using higher gain antennas of more than 3 dBi. The tilting of the antenna will maintain the EUT within the half power (-3 dB) beamwidth.

2171C are constructed with plastics and fiberglass materials. Any metal on the motordrive is located as close to the ground plane and as far back as possible from the measurement antenna. This minimizes any interaction with the measurement antenna that can potentially alter the antenna performance from the calibrated factors.

#### Standard Accessories (For All Options)

- 10 m (38.2 ft) Fiberoptic Duplex ST-Multimode Cable
- 2 Piece ST-ST Bulkhead Connectors

#### Options

- Hardware Controller with Intuitive User Interface
- Emergency Stop (Table Top or 19" Rack Mountable Options)
- Other Length Fiberoptic Cables
- Outdoor Antenna Masts Available as Well
- Custom Antenna Adapters

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## Technical Specifications

| Electrical                                |                                                                                         |                                                                                         |
|-------------------------------------------|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| Voltage and Frequency                     | 220/230 VAC, 50/60 Hz, IEC 60320 C-14                                                   |                                                                                         |
| Current Consumption                       | 3A                                                                                      |                                                                                         |
| Remote Control                            | Fiberoptic, Duplex ST-Multimode cable; Handheld IR Remote (Close by)                    |                                                                                         |
| Drive Unit                                | Shielded assembly. 20dB below CISPR 11 Class B limits                                   |                                                                                         |
| Temperature Range                         | 5-40° C (41-104 ° F)                                                                    |                                                                                         |
| Physical                                  | 2.6 m (8.53 ft)                                                                         | 4.9 m (16.08 ft)                                                                        |
| Adjustable Antenna Height                 | 1.0 m to 2.0 m (3.28 ft to 6.56 ft) (Non-Boresighted)                                   | 1.0 m to 4.0 m (3.28 ft to 13.12 ft) (Non-Boresighted)                                  |
| Travel Limits                             | Fiber Optic To Prevent Exceeding The Physical Limits                                    | Fiber Optic To Prevent Exceeding The Physical Limits                                    |
| Overall Mast Height                       | 2.6 m (8.53 ft)                                                                         | 4.9 m (16.08 ft)                                                                        |
| Mast Base Size                            | 121 cm x 87 cm (47.6 in x 34.2 in)                                                      | 121 cm x 87 cm (47.6 in x 34.2 in)                                                      |
| Antenna Mounting                          | Stinger Mount Antennas To Achieve On-Axis Rotation                                      | Stinger Mount Antennas To Achieve On-Axis Rotation                                      |
| Load Capacity (Non-Boresight Mode)        | 43.3 Nm (32 lbf)                                                                        | 43.3 Nm (32 lbf)                                                                        |
| Load Capacity (Boresight Mode)            | 32.5 Nm (24lbf)                                                                         | 32.5 Nm (24lbf)                                                                         |
| Speed                                     | 1.0 cm/s to 7.0 cm/s (0.4 in to 2.8 in/s)                                               | 1.0 cm/s to 7.0 cm/s (0.4 in to 2.8 in/s)                                               |
| Positioning Accuracy (Linear Motion)      | ± 0.5cm (± 0.2in)                                                                       | ± 0.5cm (± 0.2in)                                                                       |
| Positioning Accuracy (Boresight Motion)   | ± 0.5°                                                                                  | ± 0.5°                                                                                  |
| Boresight Range                           | Angle Adjustment Is Automatically Calculated For Given Antenna Length And Test Distance | Angle Adjustment Is Automatically Calculated For Given Antenna Length And Test Distance |
| Boresight Range Limits                    | -15° to +55°                                                                            | -15° to +55°                                                                            |
| Polarization                              | Pneumatic, 0° / 90° or Horizontal and Vertical                                          | Pneumatic, 0° / 90° or Horizontal and Vertical                                          |
| Air Pressure Requirement for Polarization | 4.0 to 5.5 bar (60 to 80 psi)                                                           | 4.0 to 5.5 bar (60 to 80 psi)                                                           |
| Polarization Time                         | Typical 3-4 Sec. Slightly Adjustable With Air Pressure                                  | Typical 3-4 Sec. Slightly Adjustable With Air Pressure                                  |
| Communication Interface                   | LAN or Optional Hardware Controller                                                     | LAN or Optional Hardware Controller                                                     |
| Environment                               | Indoor Use Only                                                                         | Indoor Use Only                                                                         |