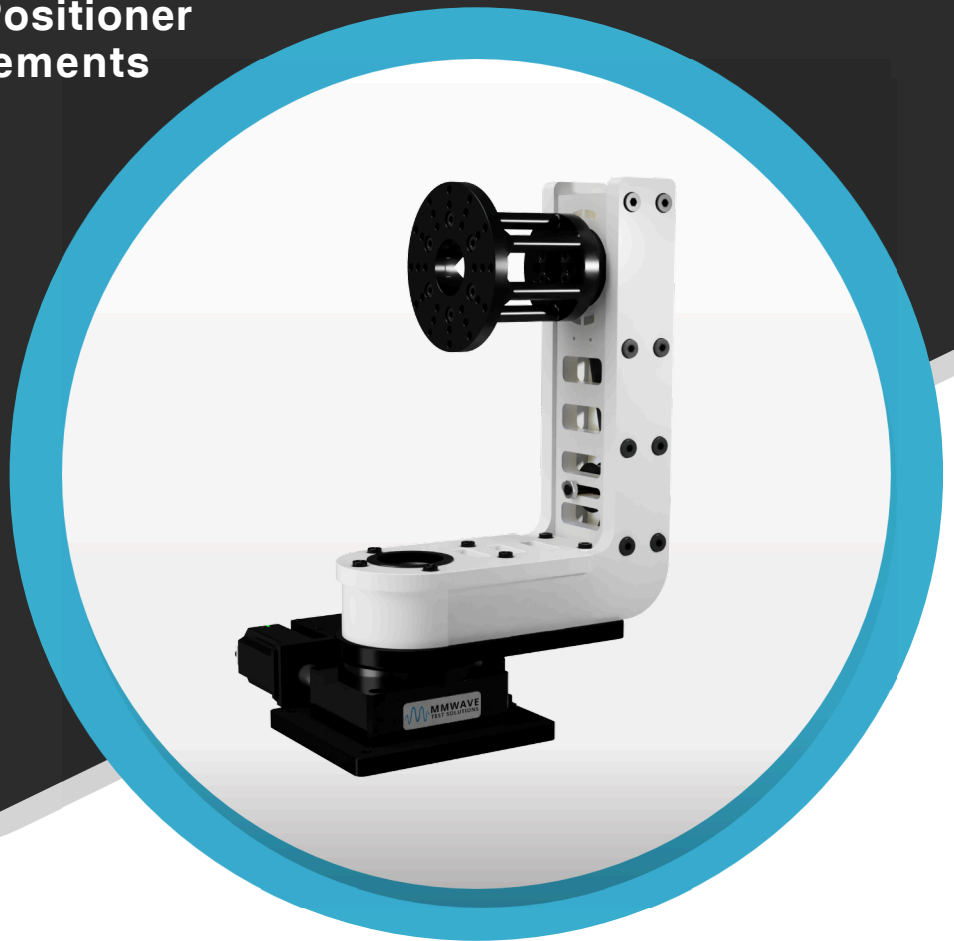


UNO3

Compact Spherical Positioner for Antenna Measurements



FEATURES

Mono-Mast Design for Small to Medium AUTs

For spherical (roll-azimuth) or single-arm (azimuth-elevation) precision antenna tests.
For AUTs up to 2.5 kg (9 lbs) in spherical mount, and 1.2 kg (2.6 lbs) with elevation arm.

High-Quality Design

Precision instrument-grade turntable, high-torque motors, and single-stage gears.

Metal-free mast construction to limit stray reflections.

Autonomous closed-loop motor control system.

Electrical slip ring in azimuth axis to eliminate elevation motor cable tangling.

Built-in controller for uncomplicated use and application programming.

INTRODUCTION

The UNO3 is a small but versatile positioner for professional Over-The-Air (OTA) antenna measurements. It is derived from the DUO3 and reuses the same components and design approach to ensure best-in-class performance.

With its spherical roll design, it provides the broadest clear field of view possible. However, by attaching an elevation arm instead, it can also be used as a stand-alone azimuth-elevation positioner.

The UNO3 may be compact but offers the same precision and quality as our larger positioners.



HARDWARE OVERVIEW

The material selection and quality components ensure the highest rigidity in the main mechanical structure even under maximum load. The L-shaped mast and axle are CNC-machined from solid Polyethylene Terephthalate (PET), offering high rigidity and a low dielectric constant to limit stray reflections.

The high rigidity allows the UNO3 to also be used as a single-arm azimuth-elevation positioner without torque twisting during load.

The azimuth turntable, also used in the DUO3 and DUO3.5, offers high precision and torque, and the system overhead ensures high performance in demanding applications. All gears are single-stage for minimum backlash, and all motors operate in a closed-loop feedback system through digital encoders to maintain measurement quality and never skip a beat.

The UNO3 has a built-in four-axis controller to control its two axes and an optional roll mast for a complete spherical setup. It connects directly to the host computer as serial-over-USB, is uncomplicated to control, and also ships with a Python reference application. The controller and Python code offer a straightforward approach for as-is use, with minor modifications, or to develop own application.

UNO3 - SPHERICAL KIT

The UNO3 Spherical Kit offers a fully integrated solution for your spherical measurement needs.

Combining the UNO3 2-axis roll-azimuth positioner with a matching 1-axis roll antenna mast creates a compact 3-axis positioner kit for a spherical measurement setup.

Similar to the stand-alone positioner, the UNO3 Spherical Kit comes with all control and power cables, a fanless 100-240 Volt power supply, a built-in intelligent controller, reference Python application code for easy integration, and tools for initial boresight setup.

The UNO3 Spherical Kit fits perfectly with our AC1120 and AC888 anechoic chambers. The chambers are prepared for mounting the positioners without any drilling or machining, and we deliver all needed fittings plus a pedestal to mount the kit securely and ensure the roll/elevation axis is placed equidistant from the ceiling and floor.



UNO3 - AZ/EL

For light-to-medium loads, the UNO3 2-axis positioner will perform excellent in an azimuth-elevation setup.

The elevation arm, the roll mount plate, or any of your own custom 3D prints can be swapped out as required. The UNO3 axle uses mortise and tenon joinery for a tight, sturdy fit to any accessory year after year.

If a polarization option is ever needed, the separate roll mast from the UNO3 Spherical Kit can be added and controlled directly from the UNO3 positioner, and the elevation arm can be replaced with the roll plate system.



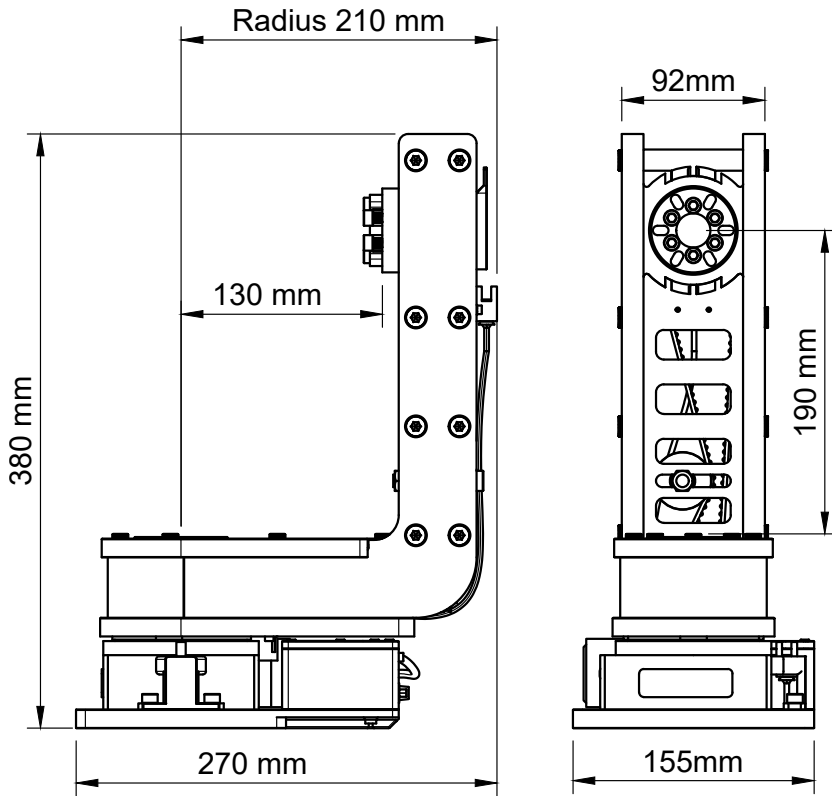


UNO3 SPECIFICATIONS

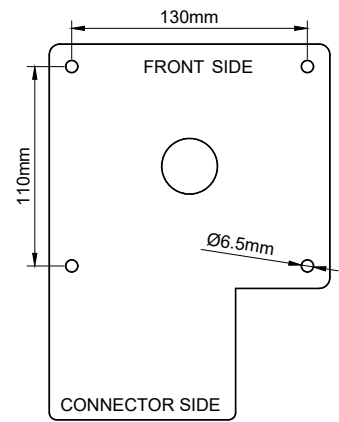
AUT Max Dimensions	Up to 36 cm width/diameter and up to 2.5 kg in spherical mount Up to 22 cm width/diameter and 1.2 kg in elevation arm mount
Positioner Dimensions	W 15.5 cm x H 38 cm x D 27 cm, weight 5.5 kg Arm rotation radius 21 cm
Azimuth Platform	0.01° full-step, max torque Holding torque 44.5 N-m (32.8 lb-ft) Angular velocity 25° per second Hollow slip ring in azimuth (power for the elevation axis)
Roll / Elevation Mast	0.05° full-step, max torque Holding torque 32 N-m (23.6 lb-ft) Angular velocity 45° per second Mast and roll axis metal-free, built from Delrin/POM & PET
Controller System	Built-in 4-axis controller for positioner and external roll mast USB1.1 Type-A, Serial-over-USB connection Python reference application
Power Supply	24 Volt / 100-240 Volt mains, fanless power supply
Configurations Options	Optional adapters for roll and elevation Custom adapters upon request

For more information, contact us on info@mmwavetest.com

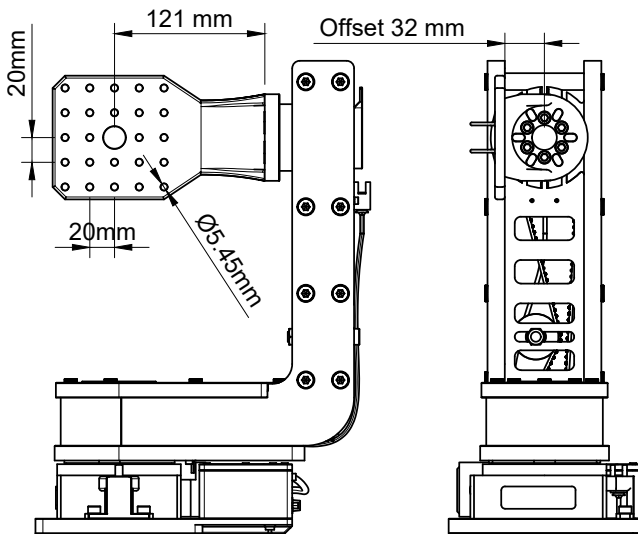
MAIN DIMENSIONS



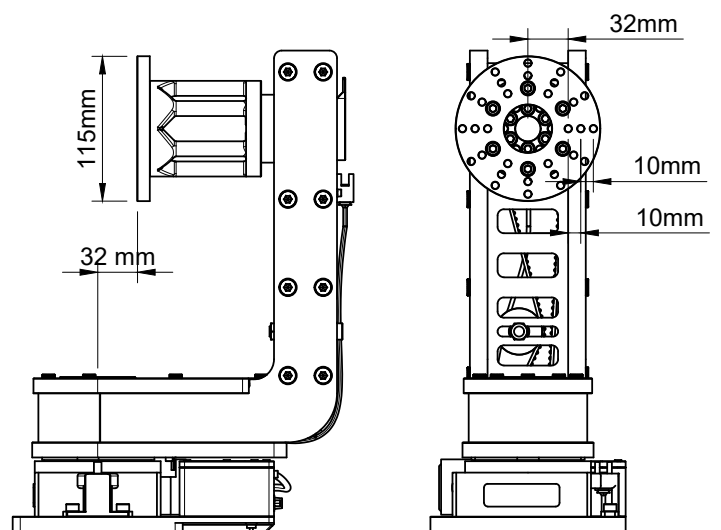
WITHOUT ARM / PLATE



MOUNT HOLE PATTERN

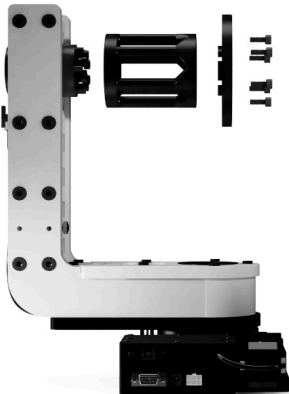
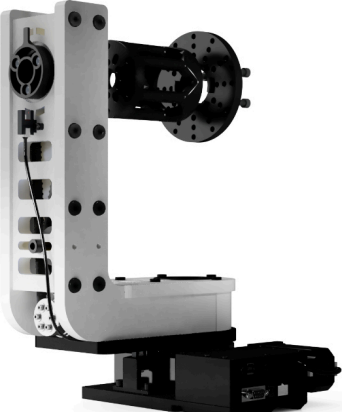
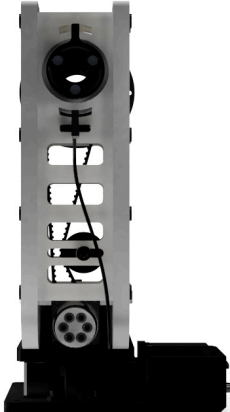
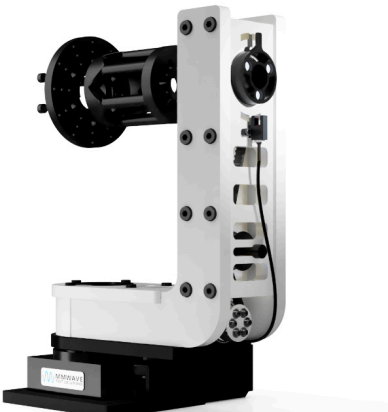
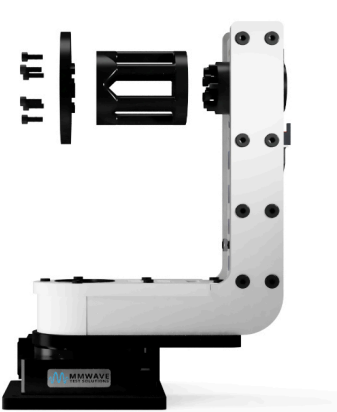


WITH ELEVATION ARM



WITH ROLL PLATE

GALLERY



All product images are renderings, actual product will deviate in appearance.

