

WLE1600A

Antenna Base System

- Supports up to 2.5m antennas
- Controller integrated in base
- Remote control by PC, Laptop or Workstation
- Tracking hard- and software (optional)

The WLE1600A high precision antenna base system is especially designed for measurement applications and satellite tracking. The construction supports up to 2.5m parabolic antennas and allows precise movement even under severe environmental conditions.

The most innovative idea behind this antenna system is the placement of the power controls into the antenna socket. Only the mains power (230VAC) and a standard serial bus (Controller Area Network CAN) have to be cabled to the station. This allows remote operation from distances up to 1000m, from any personal computer, laptop or workstation.

The mechanical construction includes high performance gears from TEIJIN-SEIKI which are currently used in the robotics industry. They include 1:170 gearing and deliver high precision and no backlash.

The antenna is mechanically locked with brakes directly at the motors. The brakes are automatically activated when the unit is without power on the controllers. Brake control is either manually or remote controlled.

The antenna base system is controlled by professional stepping motor drives. The drive controllers use a serial bus to communicate with a remote system. The serial bus can either be CAN or any others like RS-232 or RS-485. The protocol is very simple; however, a WINDOWS based DDE driver enables the user to operate the antenna from a remote PC running under WINDOWS. Application notes for using Hewlett-Packard's HP-VEE or National Instruments LabVIEW are included.

If application specific requirements are needed, the engineering team of WaveLab Engineering AG supports you to define and realize for you the appropriate solution.



Item		Unit	Value	
Mechanical Specifications	Height to elevation axis		1268 mm	
	Distance: Movement center to antenna fixing plate		310 mm	
	Nominal torque	Elevation	3000	Nm
		Azimuth	3000	Nm
	Velocity	Elevation	265	°/min
		Azimuth	265	°/min
	Resolution	Elevation	0.0013	°
		Azimuth	0.0013	°
	Limit-to-limit travel	Elevation	0..180	°
		Azimuth	0..360	°
	Temperature range	operational	-20.. +50	°C
		storage	-40.. +70	°C
	Color	Standard	9010 (white)	RAL
Weight	approx.	680	kg	

Item		Unit	Value	
Electrical	Power requirements	230	VAC	
		5	A	
	Internal power	Galvanic isolated	24	VDC
	CAN Interface	Galvanic isolated	> 2	kV isolation
	Grounding	At the positioner		
	Lightning protection	Structure on GND		

Item		Value
Controller	Monitoring and control	Manually Remote
	Controller interfaces	Standard Optional
		Using buttons on controller Using serial interface from PC, Laptop or Workstation
		CAN (Controller Area Network) RS-232, RS-485, Interbus-S IEEE488.2, 100-Base T
	PC control software	Windows DDE client supporting diff. standard software packages

A CAN interface (parallel port) and test cable is included in the standard package.



Options

- Auto tracking hard- and software
Special auto tracking hard- and software, based on Keplerian elements. To achieve “real time” performance, the dedicated axis controllers are arranged in “distributed” architecture and only taking care of the tracking tasks.
- 100/1G-BASE T Ethernet Interface and GUI controller interface realized over “normal” browser, different user groups can be separated.
- Larger structures (for larger antenna diameters): Needs and options are treated separate to find the best fitting solution for the customers project.

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