

# UA91

## CHOCK RING ANTENNA

The eSurvey UA91 adopts a high-gain broadband antenna to receive GNSS signals such as GPS, BDS, GLONASS, Galileo, IRNSS, QZSS, and L-Band. The scheme of multi-stage 3D choke coils with a symmetrical distribution is adopted to achieve higher phase center stability and excellent anti-multipath interference performance. It has excellent performance and the phase center coincides with the mechanical center



### Powerful Satellite Tracking Capacity

Obtain all available and reliable data sources, with total channels and all signals (GPS, BDS, GLONASS, GALILEO, IRNSS, QZSS, and SBAS) of GNSS tracking.

### Temperature Performance

The UA91 works in the range of temperatures from  $-55^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ , and stores in  $-55^{\circ}\text{C}$  to  $+90^{\circ}\text{C}$ .

### High Phase Center Accuracy

Experience millimeter phase center accuracy with higher stability.

### Rugged Design for Harsh Environments

Use it for many years with IP67 design, which is 95% protected against solid objects like dust and sand, and it has been tested to work for at least 30 minutes under 15 cm to 1 m of water.

### Excellent Multipath Suppression Effect

Due to the unique 3D choke coil design and electrostatic protection against eight kv of air and four kv of static electricity, no longer need to worry about interference by multipath.

### High Gain

The UA91 uses a high-gain wide-band dual-band multimode GNSS measuring antenna to achieve coverage of the GNSS signal reception.



Website



Social media

# Product Specification

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| Antenna Performance |         |                                                                      |
|---------------------|---------|----------------------------------------------------------------------|
| Satellites tracking | GPS     | L1, L2, L5                                                           |
|                     | BDS     | B1, B2, B3                                                           |
|                     | GLONASS | G1, G2, G3                                                           |
|                     | GALILEO | E1, E2, E5, E6C                                                      |
|                     | QZSS    | L1, L2, L5                                                           |
|                     | IRNSS   | L5                                                                   |
|                     | SBAS    | SBAS:L1                                                              |
| L-Band              |         | L-Band                                                               |
| Polarization        |         | Right-handed circular                                                |
| Axis ratio          |         | ■ $\leq 2$ dB @Axial<br>■ $\leq 4$ dB @Elevation angle $20^\circ$    |
| Antenna gain        |         | ■ $\geq 5$ dBi @Axial<br>■ $\leq -3$ dBi @Elevation angle $20^\circ$ |
| Out-of-roundness    |         | $\leq 1$ dBi @Elevation angle $20^\circ$                             |
| Phase center offset |         | $\pm 1.5$ mm                                                         |

| Low Noise Amplifier Performance |                                    |
|---------------------------------|------------------------------------|
| Frequency range                 | 1525 - 1615 MHz, 1165 - 1278 MHz   |
| Characteristic impedance        | 50 $\Omega$                        |
| VSWR                            | $\leq 1.3:1$                       |
| Noise figure                    | 1.6 dB typically @ $25^\circ$      |
| LNA gain                        | $52 \pm 2$ dB @ $25^\circ\text{C}$ |
| In-band flatness                | $\pm 1.5$ dB                       |
| Out-of-band suppression         | ■ L1 $\pm 200$ MHz $>40$ dBc       |
|                                 | ■ L2 $\pm 200$ MHz $>50$ dBc       |
| Differential transmission delay | $\leq 5$ ns (L1-L2)                |
| Antenna transmission delay      | 15 ns (Typically)                  |
| Voltage                         | 3.3 - 12 V dc                      |
| Current                         | $\leq 45$ mA                       |

| Environmental Performance |                                         |
|---------------------------|-----------------------------------------|
| Operating temperature     | $-55^\circ\text{C} - +85^\circ\text{C}$ |
| Storage temperature       | $-55^\circ\text{C} - +90^\circ\text{C}$ |
| Humidity                  | Up to 95%                               |
| Water/dust proof          | IP67                                    |

| Physical          |                           |
|-------------------|---------------------------|
| Dimension         | D370 mm x H263 mm         |
| Weight            | 7700 g                    |
| Antenna interface | TNC-F                     |
| Radome material   | FRP                       |
| Base material     | Aluminium magnesium alloy |
| Mount             | 5/8-11 UNC-2B             |