



GNSS Antennas

TSA320

Four-system Full-frequency
External Antenna

TSA320 Survey GNSS Antenna

TSA320 is an external measurement antenna that covers four systems, namely GPS, GLONASS, BDS and GALILEO, providing full-frequency compatibility. It meets the current requirements of multi-system compatibility for measurement devices. It finds extensive applications in geodetic surveying, marine measurement, channel surveying, land surveying, seismic monitoring, bridge deformation monitoring, landslide monitoring, container operations at ports, and other fields within the surveying industry.

SPECIFICATION

SIGNAL RECEIVED	
GPS	L1/L2/L5
GLONASS	L1/L2/L3
GALILEO	E1/E5a/E5b/E6
BDS	B1I/B2I/B3I/B1C/B2a/B2b
QZSS	L1/L2/L5/L6
SBAS	L1/L5
NavIC (IRNSS)	L5
L-Band	
ANTENNA FEATURE	
Phase Center Offset	$\pm 2\text{mm}$
Nominal Impedance	50 Ω
Polarization	RHCP
Axial Ratio	$\leq 3\text{dB}$
Gain at Zenith (90°)	5dBi
LNA Gain	L1: $34 \pm 2\text{dB}$
	L2: $36 \pm 2\text{dB}$

Noise Figure	$\leq 2\text{dB}$
Output/Input VSWR	≤ 2.0
Operation Voltage	+3.3VDC to +12VDC
Operation Current	$\leq 45\text{mA}$
Group Delay Ripple	$\leq 5\text{ns}$
MECHANICAL	
Dimensions	$\varnothing 27.5\text{mm} \times 59\text{mm}$
Connector	SMA Male
Weight	$\leq 25\text{g}$
Mounting	Refer to installation guidance
ENVIRONMENTAL	
Temperature	Operating -40°C to $+85^\circ\text{C}$
	Storage -55°C to $+85^\circ\text{C}$
Humidity	95% non-condensing
Protection	IP67
Operating vibration specifications require compliance with the industry vehicle vibration national standards such as GBT-3871, GBT-2423, and GBT-28046	

