

TW7900P



Multi-Constellation Triple-Band Passive Antenna

Frequency Coverage: GPS L1, L2, L5 | GALILEO E1, E5a, E5b | BEIDOU B1, B2a, B2b | GLONASS G1, G2, G3 | NavIC L5 + L-Band

The TW7972P is a precision-tuned triple-band, Accutenna® technology antenna for reception of GPS/QZSS-L1/L2/L5, GLONASS-G1/G2/G3, BeiDou-B1/B2b, Galileo-E1/E5a/E5b plus L-Band corrections signals. The TW7972 provides superior multipath rejection and axial ratio, a linear phase response, and tight phase centre variation (PCV).

This antenna is ideal for precision agriculture, autonomous vehicle tracking and guidance, and other applications where precision matters.

The TW7972P is housed in a magnetic mount, weatherproof enclosure. Architecturally, it features a dual-feed circular stacked patch element. The signals from the two orthogonal feeds are summed in quadrature.

A 100 mm diameter ground plane is recommended for optimal antenna performance.



Applications

- Precision GNSS position
- Triple-frequency RTK systems (base and rovers)
- Positive Train Control (PTC) systems
- Safety & security
- Precision agriculture

Features

- Axial ratio: < 2.0 dB typ.
- Tight phase centre variation
- ESD circuit protection (15 kV)
- IP67, REACH, and RoHS compliant

Benefits

- Ideal for triple-band RTK systems
- Great multipath rejection
- Increased system accuracy
- Great signal-to-noise ratio

About Calian: With global headquarters and manufacturing in Ottawa, Canada, Calian is a leading manufacturer of high-precision antennas and components for Global Navigation Satellite System (GNSS) applications. Calian's mission is to support the needs of a new generation of positioning systems by delivering unprecedented antenna precision at competitive prices. Learn more at www.calian.com

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Antenna - Measured with a 100 mm ground plane

Technology Dual-feed stacked RHCP ceramic patch

		Gain dBic typ. at Zenith	Axial Ratio dB at Zenith
GNSS			
GPS / QZSS	L1	4.0	< 1.0
	L2	4.0	< 1.5
	L5	-1.5	< 2.0
GLONASS	G1	3.0	< 1.5
	G2	2.5	< 2.0
	G3	2.5	-
Galileo	E1	4.0	< 1.0
	E5A	-1.5	< 2.0
	E5B	2.5	< 2.0
	E6	-	-
BeiDou	B1	4.0	-
	B2b	2.5	< 1.5
	B2a	-1.5	-
	B3	-	-
IRNSS / NavIC	L5	-1.5	< 2.0
QZSS	L6	-	-
L-Band Services (1525 MHz - 1559 MHz)		3.5	< 1.0
Satellite Communications			
Iridium		-	-
Globalstar		-	-
Other			
Axial Ratio at 10°	-	Efficiency	-
PC Variation	± 10 mm	-	-

Mechanicals

Size	69 mm (dia.) x 22 mm (h.)
Weight	180 g
Radome	LEXAN™ EXL9330, Base: Zamac Metal
Mount	Magnetic
Available Connectors	See Ordering Guide

Environmental

Operating Temperature	-40 °C to +85 °C
Storage Temperature	-55 °C to +95 °C
Vibration	MIL-STD-810-E - Test Method 514.5
Shock	MIL-STD-810G Method 516.6
Salt Fog	MIL-STD-810-F - Test Method 509.5
IP Rating	IP67
Compliance	IPC-A-610, FCC, RED / CE Mark, RoHS, REACH

Warranty

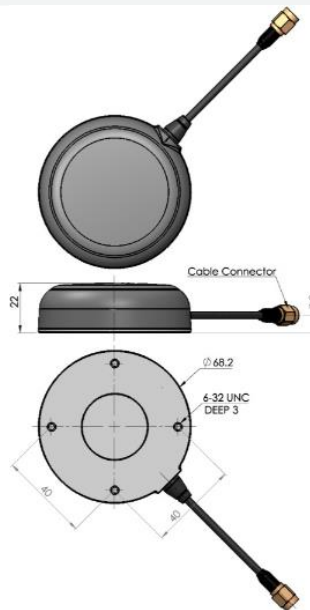
Parts and Labour	3-year standard warranty
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Low Noise Amplifier (LNA) - Measured at 3V and 25°C

Frequency Bandwidth		Out of Band Rejection
Lower Band	1164 - 1254 MHz	-
L-Band Corr.	1539 - 1559 MHz	-
Upper Band	1559 - 1606 MHz	

Architecture	Passive
Gain	-
Noise Figure	-
VSWR	< 1.5:1 typ., 1.8:1 max
Supply Voltage Range	-
Supply Current	-
ESD Circuit Protection	-
P 1dB Output	-
Group Delay	-
PCO	-

Mechanical Diagram



Ordering Information

Part Number 33-7900P-xx-yyyy

Where xx = connector type and yyyy = cable length in mm (where applicable)

Please refer to our **Ordering Guide** to review available radomes and connectors at:
<https://www.tallysman.com/resource/tallysman-ordering-guide/>