

PN-A5



High-end Geodetic Antenna

The PN-A5 antenna combines the Topcon TA-5 full spectrum GNSS antenna element with an innovative convex impedance ground plane.

The TA-5 antenna element utilizes an array of vertical dipoles to provide highly sensitive and stable Full Wave signal tracking for all existing and planned GNSS signals. Topcon's convex impedance ground plane provides improved multipath mitigation while providing minimum signal loss for satellites tracked to the horizon.

- High-end Geodetic Antenna
- Topcon's TA-5 vertical convex dipole antenna element for full spectrum GNSS signal tracking
- Semi-hemispherical convex impedance groundplane
- Environmentally sealed
- Minimized phase center offset variations in vertical within GNSS frequency band
- Significant increase of low elevated satellites tracking

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www.topconpositioning.com/pn-a5

OUT OF BAND REJECTION Lower band (1232 MHz ± 100 MHz) -30 dBc (typical) (1232 MHz ± 100 MHz) -30 dBc (typical) (1568.5 MHz ± 150 MHz) -30 dBc (typical) (1568.5 MHz ± 160				
OUT OF BAND REJECTION Lower band (1232 MHz ± 100 MHz) -30 dBc (typical) (1232 MHz ± 150 MHz) -30 dBc (typical) (1568.5 MHz ± 150 MHz) -30 dBc (typical) -80 dBc (typical) -	OPERATING FRE	QUENCY RANGE		
OUT OF BAND REJECTION Lower band (1232 MHz ± 150 MHz) -30 dBc (typical) (1258.5 MHz ±100 MHz) -30 dBc (typical) (1568.5 MHz ±150 MHz (1568.5 MHz ±150 MHz (1568.5 MHz ±150 MHz (1568.5 MHz (Lower band	1230 MHz ±70 MHz (L5, E5B, E3, L2, G2, E4, E6)		
Lower band (1232 MHz ± 100 MHz) -30 dBc (typical) (1232 MHz ± 150 MHz) -30 dBc (typical) (1568.5 MHz ±150 MHz ±150 MHz (1568.5 MHz (15	Upper band	1565 MHz ±50 MHz (E2, L1, E1, G1, OmniStar, SBAS, CDGPS)		
(1232 MHz ± 150 MHz) -30 dBc (typical) (1568.5 MHz ±100 MHz) -30 dBc (typical) (1568.5 MHz ±150 MHz) -30 dBc (typical) f < 1000 MHz -80 dBc (typical) f > 1750 MHz -80 dBc (typical) GAIN, NOISE FIGURE AND VSWR LNA Gain -43 dB (typical) Gain at Zenith (90°) Gain Roll-Off (from Zenith to Horizon) Noise Figure -1.0 dB (typical) Upper band: -10 dB (typical) Upper	OUT OF BAND REJECTION			
(1568.5 MHz ±150 MHz) -30 dBc (typical)	Lower band	, ,	(31)	
GAIN, NOISE FIGURE AND VSWR LNA Gain Gain at Zenith (90°) Gain Roll-Off (from Zenith to Horizon) Noise Figure 1.0 dB (typical) Lower band: -12 dB (typical) Upper band: -10 dB (typical) 1.0 dB (typical) 1.5 : 1 Lower band: 3 ns (maximum) Upper band: 3 ns (maximum) Poper band: 3 ns (maximum) Upper band: -10 dB (typical) Upper band: -10 dB (ty	Upper band	(,	
GAIN, NOISE FIGURE AND VSWR LNA Gain Gain at Zenith (90°) Gain Roll-Off (from Zenith to Horizon) Noise Figure 1.0 dB (typical) Lower band: -12 dB (typical) Upper band: -10 dB (typical) Upper band: -10 dB (typical) Upper band: -10 dB (typical) 1.0 dB (typical) 1.5 : 1 Lower band: 3 ns (maximum) Delay (typical) Nominal Impedance ENVIRONMENTAL Enclosure Temperature (Methods 501.5, 502.5) Water / Dust Rating Vibration Method 514.6, Broad band noise (random vibration), along each of 3 axes, Category 4, table 514.6C-IV Humidity 95% (Method 507.5) Shock Method 516.6-I, Fig. 516.6-B, accelerative forces up to 40 Drop Test Repeated drops from the height of 1 m on concrete surface. All sides – top, bottom and border. (with Topcon or SCIGN Don POWER Input Voltage 3 to 12 VDC	f < 1000 MHz	-80 dBc (typical)		
LNA Gain Gain at Zenith (90°) Lower band: +6 dB (typical) Lower band: +10 dB (typical) Lower band: +10 dB (typical) Lower band: -10	f > 1750 MHz	-80 dBc (typical)		
Gain at Zenith (90°) Gain Roll-Off (from Zenith to Horizon) Noise Figure 1.0 dB (typical) Lower band: -12 dB (typical) Upper band: -10 dB (typical) Upp	GAIN, NOISE FIGURE AND VSWR			
Gain at Zenith (90°) Gain Roll-Off (from Zenith to Horizon) Noise Figure VSWR 1.5:1 Differential Propagation Delay (typical) Nominal Impedance ENVIRONMENTAL Enclosure (Methods 501.5, 502.5) Water / Dust Rating Vibration Method 514.6, Broad band noise (random vibration), along each of 3 axes, Category 4, table 514.6C-IV Humidity Shock Method 516.6, along each of 3 axes. Procedure I - Functional Shock, Table 516.6-I, Fig. 516.6-8, accelerative forces up to 40 Royals and Shock Source All sides – top, bottom and border. (with Topcon or SCIGN Don RoWER Input Voltage Jupper band: +4.7 dB (typical) Upper band: -10 dB (t	LNA Gain	43 dB (typical)		
Gain Roll-Off (from Zenith to Horizon) Noise Figure VSWR 1.5:1 Differential Propagation Delay (typical) Nominal Impedance ENVIRONMENTAL Enclosure Temperature (Methods 501.5, 502.5) Water / Dust Rating Vibration Method 514.6, Broad band noise (random vibration), along each of 3 axes, Category 4, table 514.6C-IV Humidity Shock Method 516.6, along each of 3 axes. Procedure I - Functional Shock, Table 516.6-I, Fig. 516.6-8, accelerative forces up to 40 Repeated drops from the height of 1 m on concrete surface. All sides – top, bottom and border. (with Topcon or SCIGN Don Rolls) POWER Input Voltage 3 to 12 VDC	Gain at Zenith (90°)	1.5.1	Upper band: +4.7 dB (typical)	
VSWR Differential Propagation Delay (typical) Nominal Impedance 50 Ohm ENVIRONMENTAL Enclosure Temperature (Methods 501.5, 502.5) Water / Dust Rating Vibration Method 514.6, Broad band noise (random vibration), along each of 3 axes, Category 4, table 514.6C-IV Humidity 95% (Method 507.5) Shock Method 516.6, along each of 3 axes. Procedure I - Functional Shock, Table 516.6-I, Fig. 516.6-8, accelerative forces up to 40 Drop Test Repeated drops from the height of 1 m on concrete surface. All sides – top, bottom and border. (with Topcon or SCIGN Don Powers POWER Input Voltage 3 to 12 VDC	Gain Roll-Off	(31 /		
Differential Propagation Delay (typical) Nominal Impedance 50 Ohm ENVIRONMENTAL Enclosure Temperature (Methods 501.5, 502.5) Water / Dust Rating Vibration Method 514.6, Broad band noise (random vibration), along each of 3 axes, Category 4, table 514.6C-IV Humidity 95% (Method 507.5) Shock Method 516.6, along each of 3 axes. Procedure I - Functional Shock, Table 516.6-I, Fig. 516.6-8, accelerative forces up to 40 Repeated drops from the height of 1 m on concrete surface. All sides – top, bottom and border. (with Topcon or SCIGN Don Powers POWER Input Voltage 3 to 12 VDC	Noise Figure	1.0 dB (typical)		
Delay (typical) Nominal Impedance ENVIRONMENTAL Enclosure Temperature (Methods 501.5, 502.5) Water / Dust Rating Vibration MIL-STD-810G Operating: -50°C to 70°C Storage: -55°C to 85°C (Methods 501.5, 502.5) Water / Dust Rating Vibration Method 514.6, Broad band noise (random vibration), along each of 3 axes, Category 4, table 514.6C-IV Humidity 95% (Method 507.5) Shock Method 516.6, along each of 3 axes. Procedure I - Functional Shock, Table 516.6-I, Fig. 516.6-8, accelerative forces up to 40 Drop Test Repeated drops from the height of 1 m on concrete surface. All sides – top, bottom and border. (with Topcon or SCIGN Don Yes POWER Input Voltage 3 to 12 VDC	VSWR	1.5 : 1		
ENVIRONMENTAL Enclosure		Lower band: 3 ns (maximum)	Upper band: 3 ns (maximum)	
Enclosure Temperature (Methods 501.5, 502.5) Water / Dust Rating Vibration MIL-STD-810G Departing: -50°C to 70°C Storage: -55°C to 85°C Storage: -55°C to 85°C Storage: -55°C to 85°C Method 514.6, Broad band noise (random vibration), along each of 3 axes, Category 4, table 514.6C-IV Humidity 95% (Method 507.5) Shock Method 516.6, along each of 3 axes. Procedure I - Functional Shock, Table 516.6-I, Fig. 516.6-8, accelerative forces up to 40 Repeated drops from the height of 1 m on concrete surface. All sides – top, bottom and border. (with Topcon or SCIGN Don Yes POWER Input Voltage 3 to 12 VDC	Nominal Impedance	50 Ohm		
Temperature (Methods 501.5, 502.5) Water / Dust Rating Vibration Method 514.6, Broad band noise (random vibration), along each of 3 axes, Category 4, table 514.6C-IV 95% (Method 507.5) Shock Method 516.6, along each of 3 axes. Procedure I - Functional Shock, Table 516.6-I, Fig. 516.6-8, accelerative forces up to 40 Prop Test Repeated drops from the height of 1 m on concrete surface. All sides – top, bottom and border. (with Topcon or SCIGN Don RoHS Compliant POWER Input Voltage 3 to 12 VDC	ENVIRONMENTAL			
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Vibration Method 514.6, Broad band noise (random vibration), along each of 3 axes, Category 4, table 514.6C-IV Humidity 95% (Method 507.5) Shock Method 516.6, along each of 3 axes. Procedure I - Functional Shock, Table 516.6-I, Fig. 516.6-8, accelerative forces up to 40 Repeated drops from the height of 1 m on concrete surface. All sides – top, bottom and border. (with Topcon or SCIGN Don Yes POWER Input Voltage 3 to 12 VDC	'	Operating: -50°C to 70°C	Storage: -55°C to 85°C	
along each of 3 axes, Category 4, table 514.6C-IV Humidity 95% (Method 507.5) Method 516.6, along each of 3 axes. Procedure I - Functional Shock, Table 516.6-I, Fig. 516.6-8, accelerative forces up to 40 Repeated drops from the height of 1 m on concrete surface. All sides – top, bottom and border. (with Topcon or SCIGN Don Yes POWER Input Voltage 3 to 12 VDC	Water / Dust Rating			
Shock Method 516.6, along each of 3 axes. Procedure I - Functional Shock, Table 516.6-I, Fig. 516.6-8, accelerative forces up to 40 Repeated drops from the height of 1 m on concrete surface. All sides – top, bottom and border. (with Topcon or SCIGN Don Yes POWER Input Voltage 3 to 12 VDC		along each of 3 axes, Category 4, table 514.6C-IV		
Shock, Table 516.6-I, Fig. 516.6-8, accelerative forces up to 40 Repeated drops from the height of 1 m on concrete surface. All sides – top, bottom and border. (with Topcon or SCIGN Don Yes POWER Input Voltage 3 to 12 VDC	-	,		
All sides – top, bottom and border. (with Topcon or SCIGN Don RoHS Compliant Yes POWER Input Voltage 3 to 12 VDC		Shock, Table 516.6-I, Fig. 516.6-8, accelerative forces up to 40 g		
POWER Input Voltage 3 to 12 VDC	Drop Test	All sides – top, bottom and border. (with Topcon or SCIGN Dome)		
Input Voltage 3 to 12 VDC	RoHS Compliant	Yes		
	POWER			
Power Consumption 100 mA (typical)	Input Voltage	3 to 12 VDC		
	Power Consumption	100 mA (typical)		
PHYSICAL	PHYSICAL			
Dimensions (d x h) 380 x 262 mm (antenna without anti-snow dome) 380 x 292 mm (with Topcon anti-snow spherical dome) 415 x 287 mm (with SCIGN anti-snow short dome)	Dimensions (d x h)	380 x 292 mm (with Topcon anti-snow spherical dome)		
Weight 6.7 kg (antenna) 1.1 kg (Topcon anti-snow spherical dome) 7.8 kg (antenna with Topcon anti-snow spherical dome)	Weight	1.1 kg (Topcon anti-snow spherical dome)7.8 kg (antenna with Topcon anti-snow spherical dome)		
Centering < 1 mm, micro-centered	Centering	•		
Connector N-type	Connector	N-type		