

## 6177100

6177100N 6177100G 6177100NG

2-Band, 4-Port, 65°, XPOL, Panel Antenna, Variable Tilt, 1394 mm

- Twin band antenna, dual polarisation, 4 connectors
- Independent tilt on each band 0-12° / 0-12°
- MET and RET versions, 3GPP/AISG2.0
- Single RET module to control all tilt angles, fully inserted inside the antenna (field replaceable)

<b>PRODUCT OVERVIEW</b>	Frequency Range (MHz)	1695-2690	1695-2690
	Array	■ Y1	■ Y2
	Connector	1-2	3-4
	Polarization	XPOL	XPOL
	Azimuth Beamwidth (avg)	65°	65°
	Electrical Downtilt	0-12°	0-12°
	Dimensions	1394 x 265 x 114 mm	



### ORDERING OPTIONS

Select from the different options listed below

SELECT ELECTRICAL DOWNTILT CONTROL & AISG PROTOCOL	SELECT ACTUATOR	SELECT CONNECTOR TYPE	ANTENNA MODEL NUMBER
Manual Electrical Tilt (MET)	---	4.3-10 Female	6177100N
		7/16-DIN Female	6177100
Remote Electrical Tilt (RET) AISG v2.0 / 3GPP	Multi-Device Control Unit (MDCU)	4.3-10 Female	6177100NG
		7/16-DIN Female	6177100G



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### ELECTRICAL SPECIFICATIONS Ultra Wide Band

Y1

Frequency Range		MHz	1695-2690				
		MHz	1695-1880	1850-1990	1920-2180	2300-2500	2490-2690
Polarization		---	±45°				
Gain	Over all Tilts	dBi	16.6 ± 0.4	16.6 ± 0.5	16.5 ± 0.5	16.6 ± 0.3	17.0 ± 0.5
Azimuth Beamwidth		degrees	70.7 ± 3.8	70.0 ± 4.3	72.3 ± 7.2	68.5 ± 3.1	62.7 ± 3.9
Elevation Beamwidth		degrees	7.1 ± 0.4	6.5 ± 0.3	6.1 ± 0.5	5.4 ± 0.2	5.0 ± 0.3
Electrical Downtilt		degrees	0°-12°				
Impedance		Ohms	50				
VSWR		---	< 1.5				
Passive Intermodulation 3rd Order for 2 x 20W Carriers		dBm	< -110				
Front-to-Back Ratio, Total Power, ±30°		dB	> 32.0	> 30.7	> 28.0	> 27.8	> 25.7
Upper Sidelobe Suppression, Peak to 20°		dB	> 18.5	> 18.5	> 18.3	> 17.8	> 15.1
Cross Polar Ratio	Main Direction (0°)	dB	> 21.8	> 19.2	> 17.9	> 22.2	> 19.0
	Sector Edges (±60°)	dB	> 10.3	> 11.4	> 12.1	> 7.7	> 6.6
Maximum Effective Power Per Port		Watts	160 W				
Inter/Intra Band Isolation		dB	> 30				

Standard values based on NGMN-P-BASTA version 9.6 recommendation.

### ELECTRICAL SPECIFICATIONS Ultra Wide Band

Y2

Frequency Range		MHz	1695-2690				
		MHz	1695-1880	1850-1990	1920-2180	2300-2500	2490-2690
Polarization		---	±45°				
Gain	Over all Tilts	dBi	16.7 ± 0.4	16.7 ± 0.5	16.7 ± 0.4	17.1 ± 0.5	17.1 ± 0.6
Azimuth Beamwidth		degrees	71.5 ± 3.0	70.0 ± 3.1	72.9 ± 4.4	67.4 ± 4.0	62.7 ± 3.5
Elevation Beamwidth		degrees	7.1 ± 0.3	6.5 ± 0.4	6.0 ± 0.5	5.4 ± 0.2	5.0 ± 0.3
Electrical Downtilt		degrees	0°-12°				
Impedance		Ohms	50				
VSWR		---	< 1.5				
Passive Intermodulation 3rd Order for 2 x 20W Carriers		dBm	< -110				
Front-to-Back Ratio, Total Power, ±30°		dB	> 31.7	> 30.1	> 27.4	> 28.7	> 26.4
Upper Sidelobe Suppression, Peak to 20°		dB	> 17.6	> 17.2	> 16.1	> 16.8	> 15.7
Cross Polar Ratio	Main Direction (0°)	dB	> 21.5	> 19.9	> 19.2	> 21.8	> 19.6
	Sector Edges (±60°)	dB	> 9.0	> 9.5	> 10.9	> 8.2	> 7.1
Maximum Effective Power Per Port		Watts	160 W				
Inter/Intra Band Isolation		dB	> 30				

Standard values based on NGMN-P-BASTA version 9.6 recommendation.

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### ELECTRICAL DOWNTILT CONTROL

For multiband antennas, electrical downtilt for each band can be controlled separately. Tilt indicator(s) are covered by removable transparent cap(s).

Manual Electrical Tilt (MET) Control	A colored knob at the end of the tilt indicator allows change of the tilt without need of a tool. The knob color is identical to the corresponding connector color. To access the knob, remove the cap by turning it counter-clockwise. It is re-installed by opposite rotation. <b>Do not remove the transparent cap(s) from the antenna.</b>
Remote Electrical Tilt (RET) Control	The remote control of the electrical tilt is managed by a Multi-Device Control Unit (MDCU) inserted in the bottom of the antenna. <i>See details below and refer to the ordering options to see which actuators are available with this particular antenna.</i> A single actuator individually controls the tilt of each band (no need for daisy chain cables between the bands). This module does not add any additional length to the antenna. For RET control, the transparent caps must be in place and locked. The tilt angle indicators always remain visible and the antenna still has manual tilt control (manual override). <b>Do not remove the transparent cap(s) from the antenna.</b>

### RET ACTUATOR

Amphenol's **RET-READY** antennas are delivered with the RET Actuator already installed and pre-commissioned with all antenna parameters. Every RET device is factory configured and calibrated so the antenna is ready to be used once delivered to the site which means that there is no need for further installation of RET devices or for programming their configuration or for running a calibration process.

RET-READY ACTUATORS	<b>Multi-Device Control Unit (MDCU).</b> The MDCU is an electronic module that allows the remote control of the electrical downtilt (RET) in Amphenol antennas with factory embedded motors. The MDCU is factory installed. <i>Refer to the ORDERING OPTIONS for availability with this model</i>
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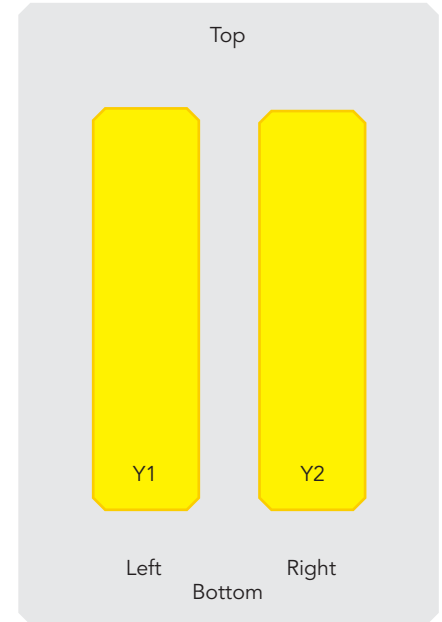
Number of RET-READY Actuators	One per antenna				
Input Voltage	+10 to +30 V				
Power Consumption	<table border="1"> <tr> <td data-bbox="329 1287 589 1333">Idle State</td> <td data-bbox="589 1287 1529 1333">0.5 W</td> </tr> <tr> <td data-bbox="329 1333 589 1381">Operating</td> <td data-bbox="589 1333 1529 1381">4 W typical / 10 W maximum</td> </tr> </table>	Idle State	0.5 W	Operating	4 W typical / 10 W maximum
Idle State	0.5 W				
Operating	4 W typical / 10 W maximum				
Protocol	3GPP/AISG 2.0				
Tilt Change Duration	Less than 15 seconds, typical (may vary dependent on antenna type and outdoor temperature)				
Precision	±0.5°				
Tilt Change Capability	50,000 minimum				
RET Interface	1 pair of AISG Male and Female (type IEC60130-9)				
Field Replaceable Unit	Yes				

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ARRAY LAYOUT	ARRAY	FREQUENCY	CONNECTOR	CONNECTOR TYPE
	■ Y1	1695-2690	1-2	7/16-DIN Female Long Neck or 4.3-10 Female
■ Y2	1695-2690	3-4	7/16-DIN Female Long Neck or 4.3-10 Female	

Diagram shown at right depicts the view from the front of the antenna. The illustration is not shown to scale.

### MECHANICAL SPECIFICATIONS

Length	mm (in)	1394 (54.9)	
Width	mm (in)	265 (10.4)	
Depth	mm (in)	114 (4.5)	
Net Weight - Antenna Only	kg (lbs)	13 (28.7)	
Mechanical Distance Between Mounting Points	mm (in)	Refer to Diagram	
Windload (Wind Tunnel Coefficients)	Calculation	km/h (mph)	150 (93.2)
	Frontal	N (lbf)	651 (146.4)
	Lateral	N (lbf)	260.4 (58.5)
	Rearside	N (lbf)	705.3 (158.6)
Operational Wind Speed	km/h (mph)	160 (99.4)	
Survival Wind Speed	km/h (mph)	200 (124)	
Radome Color	---	Gray RAL7035	
Radome Material	---	Outdoor Plastic	
Lightning Protection	---	Direct Ground	
Shipping	Shipping Dimensions (Length x Width x Depth)	mm (in)	1575 x 420 x 247 (62.0 x 16.5 x 9.7)
	Shipping Weight	kg (lbs)	22 (48.5)
	Shipping Volume	m <sup>3</sup> (ft <sup>3</sup> )	0.163 (5.76)

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### ENVIRONMENTAL SPECIFICATIONS

Environmental Standard	---	ETS 300 019
Operating Temperature	° C (° F)	-40° to +60° (-40° to 140°)
Product Environmental Compliance	---	Product is RoHs Compliant

### ACCESSORIES

All accessories are ordered separately unless otherwise indicated

ITEM	MODEL NUMBER	WEIGHT
Brackets for pole Ø48 to Ø115 mm (Ø1.9 to Ø4.5 in) <b>delivered as standard</b>	0900181/00	3.4 kg (7.5 lbs)
Brackets for pole Ø70 to Ø150 mm (Ø2.8-Ø5.9 in) <b>optional</b>	0900182/00	3.9 kg (8.6 lbs)
Kit to add mechanical tilt (0° to 10°) to above brackets <b>optional</b>	0900397/00	3.0 kg (6.6 lbs)

Wall mounting brackets are available upon request

### INSTALLATION

Please read all installation notes before installing this product.

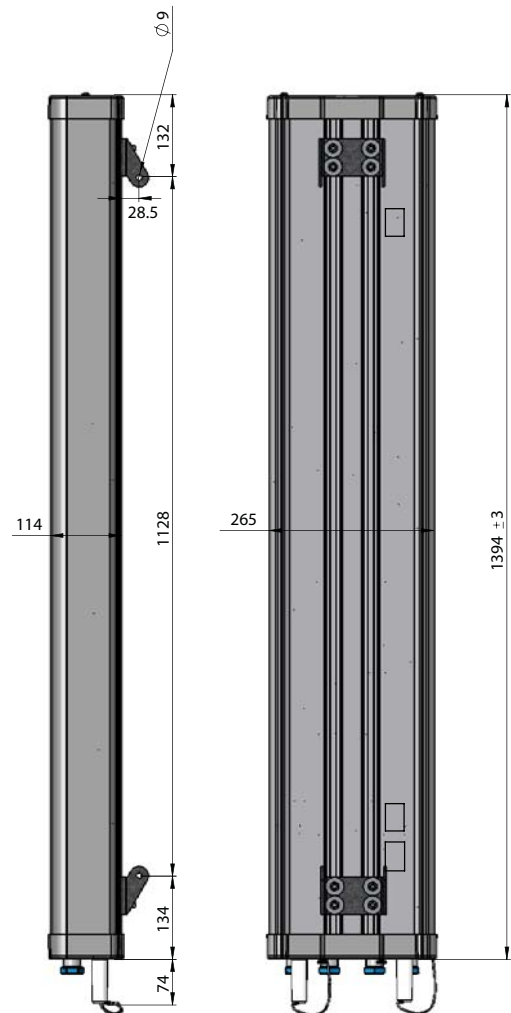


Always attach the antenna by all mounting points.

Do not install the antenna with the connectors facing upwards.

Do not cut the tethered transparent caps(s) that cover the antenna's tilt adjustment indicators.

In order to operate the RET control, the transparent caps covering the tilt adjustment indicators must be engaged and locked.



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