

## 6820312E


6820312EG

1-Band, 2-Port, 65°, XPOL, Panel Antenna, Variable Tilt, UltraLine, 2500 mm

### UltraLine

LTE Ready

- Single band antenna, Dual polarisation, 2 connectors,
- Simultaneous tilt 2-12°
- MET and RET versions, 3GPP/AISG2.0, in multiple single RET (multiple device type1) or in Multi-RET (device type 17, with firmware above MD3.10).
- Our patented, RET module controlling all tilt angles, fully inserted inside the antenna (field replaceable)

PRODUCT OVERVIEW	Frequency Range (MHz)	698-960
	Array	 R1
	Connector	1-2
	Polarization	XPOL
	Azimuth Beamwidth (avg)	65°
	Electrical Downtilt	2-12°
	Dimensions	2500 x 270 x 159 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	6820312EN
		7/16 DIN Female	6820312E
Remote Electrical Tilt (RET) AISG v2.0 / 3GPP	Multi-Device Control Unit (MDCU)	4.3-10 Female	6820312ENG
		7/16 DIN Female	6820312EG



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### ELECTRICAL SPECIFICATIONS Ultra Low Band

R1

Frequency Range		MHz	698-960			
		MHz	698-806	790-862	824-894	880-960
Polarization		---	±45°			
Gain	Over all Tilts	dBi	16.4 ± 0.4	16.4 ± 0.6	16.7 ± 0.6	16.9 ± 0.4
Azimuth Beamwidth		degrees	72.6° ± 1.0°	70.8° ± 1.6°	69.6° ± 2.6°	66.7° ± 1.8°
Elevation Beamwidth		degrees	8.1° ± 0.3°	7.4° ± 0.6°	7.1° ± 0.3°	6.8° ± 0.3°
Electrical Downtilt		degrees	2°-12°			
Impedance		Ohms	50			
VSWR		---	< 1.5			
Passive Intermodulation		dBc	< -153			
Front-to-Back Ratio, Total Power, ±30°		dB	> 28.2	> 25.5	> 25.6	> 26.2
Upper Sidelobe Suppression, Peak to 20°		dB	> 21.0	> 17.4	> 17.7	> 18.3
Cross Polar Ratio	Main Direction (0°)	dB	> 19.1	> 22.3	> 24.1	> 23.0
	Sector Edges (60°)	dB	> 11.2	> 11.8	> 11.3	> 9.7
Maximum Effective Power Per Port		Watts	300 W			
Intra Band Isolation		dB	> 27			

Standard values based on NGMN-P-BASTA version 10.0 recommendation.

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### ELECTRICAL DOWNTILT CONTROL

For multiband antennas, electrical downtilt for each band can be controlled separately.

#### Manual Electrical Tilt (MET) Control

The MET is a separate kit provided on the bottom of the antenna. This kit has colored knobs with a respective array identification indicated within it. This knob can be rotated to set an electrical downtilt as per the requirement. The tilt information of the respective arrays can be observed with an indicator provided near the knob.

#### 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. *See details below and refer to the ordering options to see which actuators are available with this particular antenna.* 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.

### 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

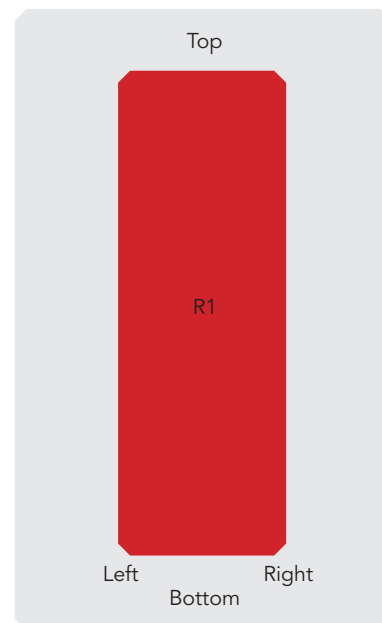
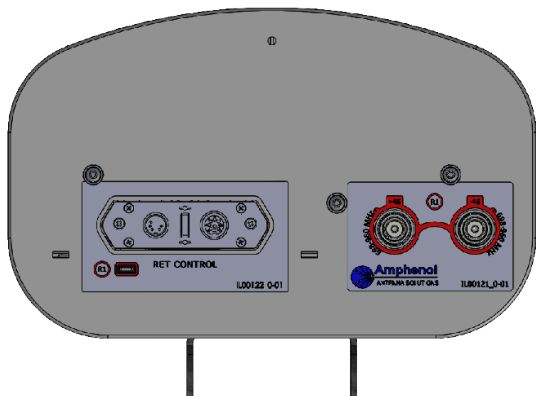
**Multi-Device Control Unit (MDCU).** The MDCU is an electronic module that allows the remote control of the electrical downtilt (RET) in Amphenol antennas with factory embedded motors. The MDCU is factory installed. *Refer to the ORDERING OPTIONS for availability with this model.*

Number of RET-READY Actuators		One per antenna
Input Voltage		+10 to +30 V
Power Consumption	Idle State (AISG P1)	0.5 W
	High Power Mode (AISG P2)	3 W
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	MDCU	One pair of AISG Male and Female (type IEC60130-9)
Field Replaceable Unit		Yes

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ARRAY LAYOUT	ARRAY	FREQUENCY	CONNECTOR	CONNECTOR TYPE
	 R1	698-960	1-2	4.3-10 Female Long Neck

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)	2500 (98.4)
Width		mm (in)	270 (10.6)
Depth		mm (in)	159 (6.2)
Net Weight - Antenna Only		kg (lbs)	21.5 (47.3)
Mechanical Distance Between Mounting Points		mm (in)	Refer to Diagram
Windload (Wind Tunnel Coefficients)	Calculation	km/h (mph)	150 (93.2)
	Frontal	N (lbf)	981 (220.5)
	Lateral	N (lbf)	357 (80.2)
	Rearside	N (lbf)	884 (198.7)
Operational Wind Speed		km/h (mph)	160 (99.4)
Survival Wind Speed		km/h (mph)	200 (124)
Radome Color		---	Gray RAL7035
Radome Material		---	FRP
Lightning Protection		---	Direct Ground
Shipping	Shipping Dimensions (Length x Width x Depth)	mm (in)	2650 x 369 x 285 (104.3 x 14.5 x 11.2)
	Shipping Weight	kg (lbs)	36 (79.4)
	Shipping Volume	m <sup>3</sup> (ft <sup>3</sup> )	0.439 (15.5)

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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>	IA00181	3.4 kg (7.5 lbs)
Kit to add mechanical tilt (0° to 10°) to above brackets <b>delivered as standard</b>	0900397/00	3.0 kg (6.6 lbs)

### 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.

