

## 6820302E

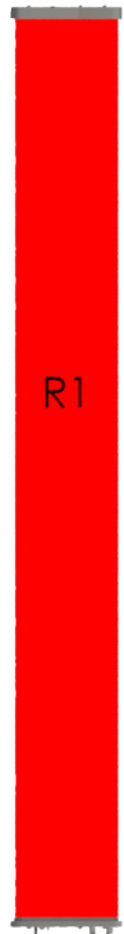
6820302EN 6820302EG 6820302ENG

1-Band, 2-Port, 65°, XPOL, Panel Antenna, Variable Tilt, UltraLine, 2689 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)

<b>PRODUCT OVERVIEW</b>	Frequency Range (MHz)	698-960
	Array	■ R1
	Connector	1-2
	Polarization	XPOL
	Azimuth Beamwidth (avg)	65°
	Electrical Downtilt	2-12°
	Dimensions	2689 x 314 x 193 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	6820302EN
		7/16 DIN Female	6820302E
Remote Electrical Tilt (RET) AISG v2.0 / 3GPP	Multi-Device Control Unit (MDCU)	4.3-10 Female	6820302ENG
		7/16 DIN Female	6820302EG



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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	16.2 ± 0.4	16.2 ± 0.6	16.5 ± 0.6	16.7 ± 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	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. The manual tilt 'override' function is always available with no need to remove the physical RET motor.
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.

### 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.

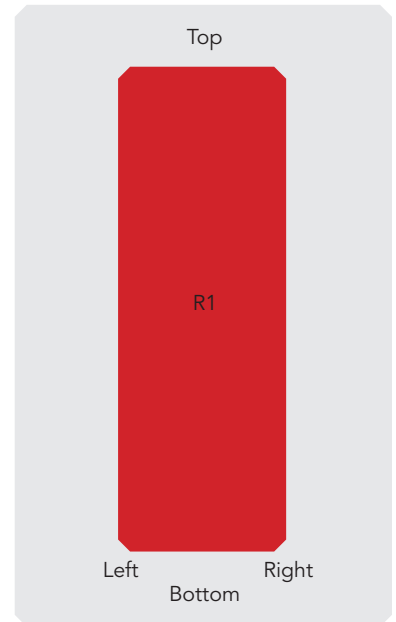
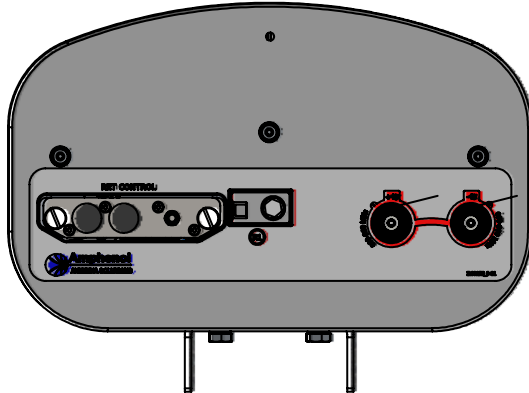
RET-READY ACTUATORS	Multi-Device Control Unit (MDCU). The MDCU is an electronic module that allows the remote control of the electrical downtilt (RET) in Amphenol antennas with factory embedded motors. The MDCU is factory installed. <i>Refer to the ORDERING OPTIONS for availability with this model.</i>	
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 or 7/16 DIN 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)	2689 (105.8)	
Width	mm (in)	314 (12.3)	
Depth	mm (in)	193 (7.6)	
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)	1091 (245)
	Lateral	N (lbf)	271 (60)
	Rearside	N (lbf)	831 (186)
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)	2783 x 419 x 359 (109.5 x 16.5 x 14.1)
	Shipping Weight	kg (lbs)	36 (79.4)
	Shipping Volume	m <sup>3</sup> (ft <sup>3</sup> )	0.418 (14.7)

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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)

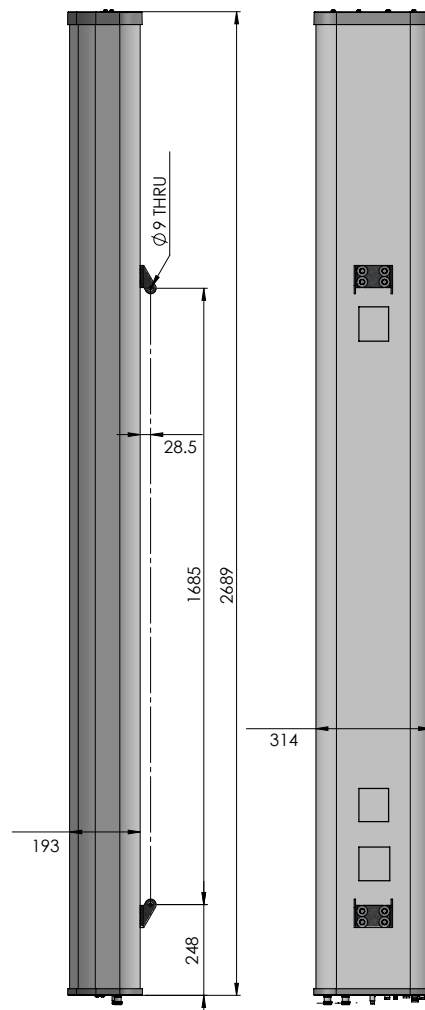
### INSTALLATION

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.



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