

## 6829300

6829300G 6829300N 6829300NG

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

**UltraLine**  
LTE Ready

- Dual band antenna, dual polarisation, 4 connectors
- Independent tilt on each band 0-14° / 0-12°
- UltraLine platform with multi-array capability
- 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 to control all tilt angles, fully inserted inside the antenna (field replaceable)

| PRODUCT OVERVIEW | Frequency Range (MHz)   | 698-960                               | 1695-2690                                |
|------------------|-------------------------|---------------------------------------|--|
|                  | Array                   | <span style="color: red;">■</span> R1 | <span style="color: yellow;">■</span> Y1 |
|                  | Connector               | 1-2                                   | 3-4                                      |
|                  | Polarization            | XPOL                                  | XPOL                                     |
|                  | Azimuth Beamwidth (avg) | 65°                                   | 65°                                      |
|                  | Electrical Downtilt     | 0-14°                                 | 0-12°                                    |
|                  | Dimensions              | 1394 x 305 x 163 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              | 6829300N             |
|  |                                  | 7/16-DIN Female, Long Neck | 6829300              |
| Remote Electrical Tilt (RET)<br>AISG v2.0 / 3GPP   | Multi-Device Control Unit (MDCU) | 4.3-10 Female              | 6829300NG            |
|  |                                  | 7/16-DIN Female, Long Neck | 6829300G             |
|  | Multi-Device Dual Unit (MDDU)    | 4.3-10 Female              | 6829300NDx*          |
|  |                                  | 7/16-DIN Female, Long Neck | 6829300Dx*           |

\*Pre-commissioned configuration; Contact Amphenol for further details.



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### ELECTRICAL SPECIFICATIONS Low Band

**R1**

| Frequency Range   |                     | MHz     | 698-960      |              |              |              |
|---|---------------------|---------|--------------|--------------|--------------|--------------|
|   |                     | MHz     | 698-806      | 790-862      | 824-894      | 880-960      |
| Polarization  |                     | ---     | ±45°         |              |              |              |
| Gain  | Over all Tilts      | dBi     | 13.4 ± 0.6   | 13.7 ± 0.6   | 13.8 ± 0.7   | 14.1 ± 0.6   |
| Azimuth Beamwidth   |                     | degrees | 70.5° ± 3.0° | 68.9° ± 3.3° | 67.8° ± 3.6° | 66.5° ± 5.5° |
| Elevation Beamwidth                                       |                     | degrees | 19.1° ± 1.4° | 17.1° ± 0.9° | 16.7° ± 1.3° | 15.7° ± 1.3° |
| Electrical Downtilt                                       |                     | degrees | 0°-14°       |              |              |              |
| Impedance   |                     | Ohms    | 50           |              |              |              |
| VSWR  |                     | ---     | < 1.5        |              |              |              |
| Passive Intermodulation<br>3rd Order for 2 x 20W Carriers |                     | dBm     | < -110       |              |              |              |
| Front-to-Back Ratio, Total Power, ±30°                    |                     | dB      | > 22.9       | > 24.5       | > 24.9       | > 24.3       |
| Upper Sidelobe Suppression, Peak to 20°                   |                     | dB      | > 25.0       | > 23.9       | > 22.2       | > 20.3       |
| Cross Polar Ratio   | Main Direction (0°) | dB      | > 14.0       | > 15.4       | > 17.6       | > 17.5       |
|   | Sector Edges (±60°) |         | > 8.2        | > 9.1        | > 8.8        | > 8.5        |
| Maximum Effective Power Per Port                          |                     | Watts   | 400 W        |              |              |              |
| Inter/Intra Band Isolation                                |                     | dB      | > 27         |              |              |              |

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

### 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     | 16.9 ± 0.3   | 17.0 ± 0.3   | 17.4 ± 0.7   | 18.3 ± 0.3   | 18.0 ± 0.4   |
| Azimuth Beamwidth   |                     | degrees | 66.3° ± 3.4° | 65.9° ± 3.5° | 62.9° ± 5.1° | 58.5° ± 3.2° | 59.9° ± 6.8° |
| Elevation Beamwidth                                       |                     | degrees | 7.3° ± 0.5°  | 6.8° ± 0.5°  | 6.3° ± 0.4°  | 5.5° ± 0.3°  | 5.1° ± 0.2°  |
| Electrical Downtilt                                       |                     | degrees | 0°-12°       |              |              |              |              |
| Impedance   |                     | Ohms    | 50           |              |              |              |              |
| VSWR  |                     | ---     | < 1.5        |              |              |              |              |
| Passive Intermodulation<br>3rd Order for 2 x 20W Carriers |                     | dBm     | < -110       |              |              |              |              |
| Front-to-Back Ratio, Total Power, ±30°                    |                     | dB      | > 30.2       | > 30.9       | > 29.4       | > 28.1       | > 28.5       |
| Upper Sidelobe Suppression, Peak to 20°                   |                     | dB      | > 16.9       | > 16.9       | > 17.0       | > 15.8       | > 14.2       |
| Cross Polar Ratio   | Main Direction (0°) | dB      | > 18.4       | > 19.0       | > 17.1       | > 17.9       | > 15.8       |
|   | Sector Edges (±60°) | dB      | > 11.6       | > 13.7       | > 11.1       | > 7.7        | > 7.4        |
| Maximum Effective Power Per Port                          |                     | Watts   | 250 W        |              |              |              |              |
| Inter/Intra Band Isolation                                |                     | dB      | > 28         |              |              |              |              |

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) or a Multi-Device Dual Unit (MDDU) 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.

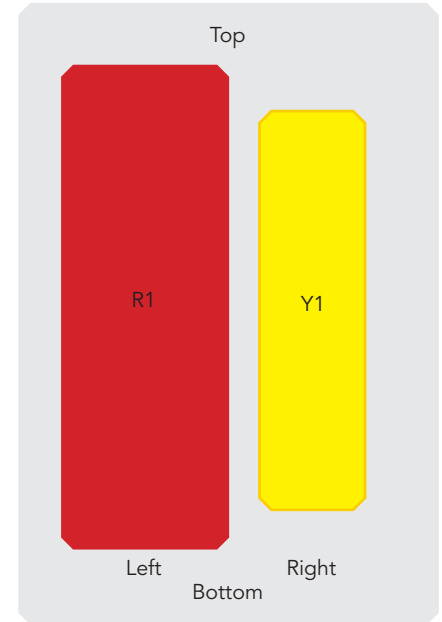
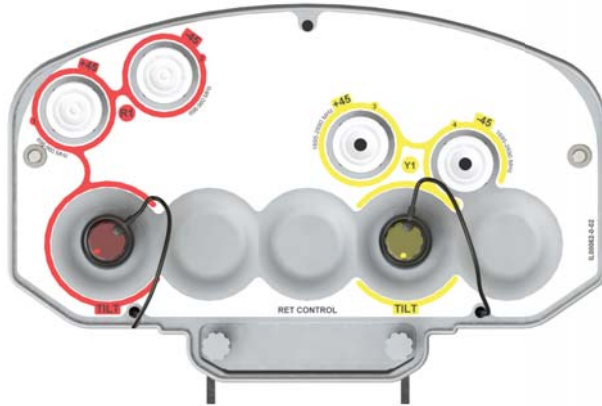
|                               |  |  |
|-------------------------------|--|--|
| RET-READY ACTUATORS           | <b>Multi-Device Control Unit (MDCU).</b> The MDCU is an electronic module that allows the remote control of the electrical downtilt (RET) in Amphenol antennas with factory embedded motors. The MDCU is factory installed. <i>Refer to the ORDERING OPTIONS for availability with this model</i>            |  |
|                               | <b>Multi-Device Dual Unit (MDDU).</b> The MDDU allows two separate RET Controllers to independently drive the RETs in antennas with factory embedded motors (for antenna sharing or two technologies). The MDDU 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   | 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                 | MDCU   | 1 pair of AISG Male and Female (type IEC60130-9)   |
|                               | MDDU   | Two male AISG 8 pin connectors (type IEC60130-9 Ed 3.0)                                    |
| Field Replaceable Unit        |  | Yes  |

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| ARRAY LAYOUT | ARRAY     | FREQUENCY | CONNECTOR   | CONNECTOR TYPE                                |
|--------------|-----------|-----------|---|---|
|              | ■ R1      | 698-960   | 1-2   | 7/16-DIN Female Long Neck<br>or 4.3-10 Female |
| ■ Y1         | 1695-2690 | 3-4       | 7/16-DIN Female Ultra Long Neck<br>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)                                      | 305 (12.0)                        |                                       |
| Depth  | mm (in)                                      | 163 (6.4)                         |                                       |
| Net Weight - Antenna Only  | kg (lbs)                                     | 19 (41.9)                         |                                       |
| Mechanical Distance Between Mounting Points                      | mm (in)                                      | Refer to Diagram                  |                                       |
| Windload<br>(EN 1991-1-4:2005 using<br>Wind Tunnel Coefficients) | Calculation                                  | km/h (mph)                        | 150 (93.2)                            |
|  | Frontal                                      | N (lbf)                           | 554.9 (124.7)                         |
|  | Lateral                                      | N (lbf)                           | 251.9 (56.6)                          |
|  | Rearside                                     | N (lbf)                           | 543.7 (122.2)                         |
| Operational Wind Speed   | km/h (mph)                                   | 160 (99.4)                        |                                       |
| Survival Wind Speed  | km/h (mph)                                   | 200 (124.3)                       |                                       |
| Radome Color   | ---  | Gray RAL7035                      |                                       |
| Radome Material  | ---  | Outdoor Plastic                   |                                       |
| Lightning Protection   | ---  | Direct Ground                     |                                       |
| <b>Shipping</b>  | Shipping Dimensions (Length x Width x Depth) | mm (in)                           | 1579 x 416 x 275 (62.2 x 16.4 x 10.8) |
|  | Shipping Weight                              | kg (lbs)                          | 29 (63.9)                             |
|  | Shipping Volume                              | m <sup>3</sup> (ft <sup>3</sup> ) | 0.18 (6.4)                            |

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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.

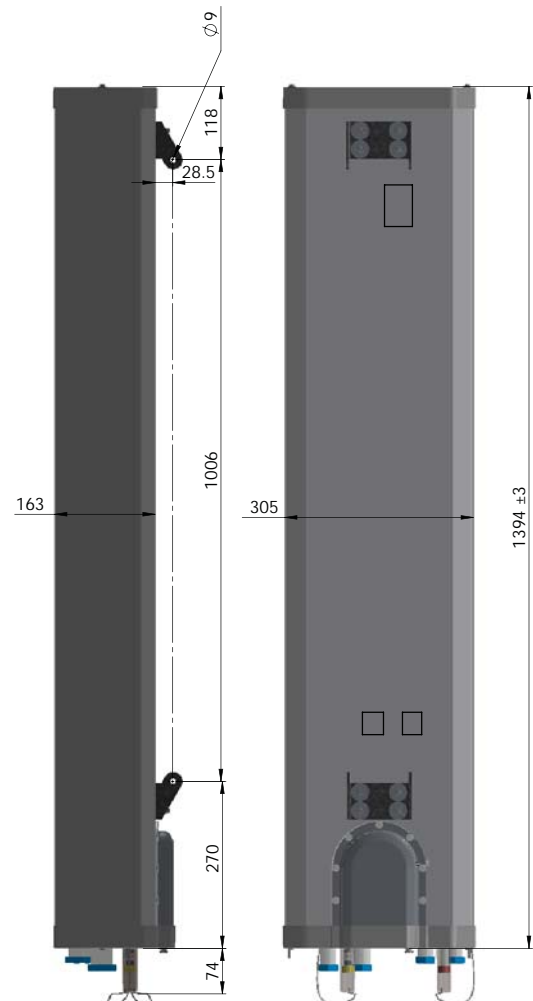


Always attach the antenna by all mounting points.

Do not install the antenna with the connectors facing upwards.

Do not cut the tethered transparent cap(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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