

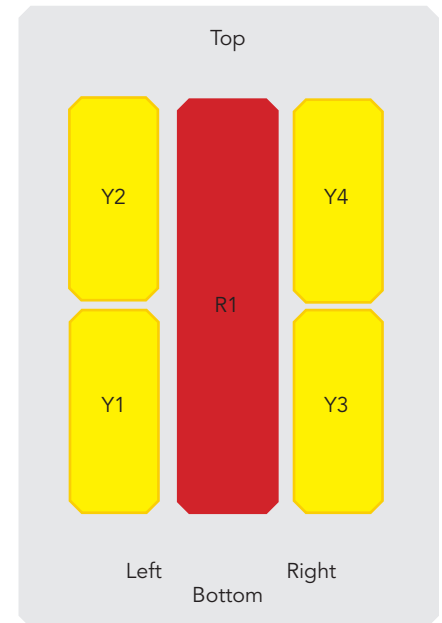
6896312E

6896312EN 6896312ENG

10-Port, 65°, XPOL, Panel Antenna, Variable Tilt, 1394 mm

- Penta band antenna, dual polarisation, 10 connectors
- Independent tilt on each band 2-14° / 2-12° / 2-12° / 2-12° / 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 to control all tilt angles, fully inserted inside the antenna (field replaceable)

PRODUCT OVERVIEW	Frequency Range (MHz)	698-960	1695-2690	1695-2690	1695-2690	1695-2690
	Array	■ R1	■ Y1	■ Y2	■ Y3	■ Y4
	Connector	1-2	3-4	5-6	7-8	9-10
	Polarization	XPOL	XPOL	XPOL	XPOL	XPOL
	Azimuth Beamwidth (avg)	65°	65°	65°	65°	65°
	Electrical Downtilt	2-14°	2-12°	2-12°	2-12°	2-12°
	Dimensions	1394 x 368 x 159 mm				



ORDERING OPTIONS

Select from the different options listed below

SELECT ELECTRICAL DOWNTILT CONTROL & AISG PROTOCOL	SELECT CONNECTOR TYPE	ANTENNA MODEL NUMBER
Manual Electrical Tilt (MET)	4.3-10 Female	6896312EN
Remote Electrical Tilt (RET) AISG v2.0 / 3GPP	4.3-10 Female	6896312ENG

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



Quoted performance parameters are provided to offer typical, peak or range values only and may vary as a result of normal testing, manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to products may be made without notice.

6896312E

6896312EN 6896312ENG

10-Port, 65°, XPOL, Panel Antenna, Variable Tilt, 1394 mm

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	13.1 ± 0.4	13.4 ± 0.3	13.5 ± 0.4	14.0 ± 0.2
Azimuth Beamwidth		degrees	69.8 ± 1.8	68.1 ± 1.7	68.3 ± 2.3	70.3 ± 1.7
Elevation Beamwidth		degrees	18.4 ± 1.2	16.8 ± 1.0	16.2 ± 0.8	14.8 ± 0.8
Electrical Downtilt		degrees	2-14			
Impedance		Ohms	50			
VSWR		---	< 1.5			
Passive Intermodulation 3rd Order for 2 x 20W Carriers		dBc	< -153			
Front-to-Back Ratio, Total Power, ±30°		dB	> 26.3	> 27.8	> 27.9	> 28.0
Upper Sidelobe Suppression, Peak to 20°		dB	> 20.0	> 20.2	> 19.8	> 19.0
Cross Polar Ratio	Main Direction (0°)	dB	> 19.3	> 21.8	> 20.6	> 21.2
	Sector Edges (60°)	dB	> 14.0	> 11.6	> 10.2	> 8.8
Maximum Effective Power Per Port		Watts	300			
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	13.4 ± 0.4	13.8 ± 0.4	14.2 ± 0.6	15.4 ± 0.3	15.7 ± 0.3
Azimuth Beamwidth		degrees	63.4 ± 6.6	66.5 ± 2.3	67.0 ± 2.4	65.7 ± 2.9	62.8 ± 2.5
Elevation Beamwidth		degrees	15.2 ± 1.1	13.8 ± 1.3	12.5 ± 1.1	10.1 ± 0.7	9.3 ± 0.5
Electrical Downtilt		degrees	2-12				
Impedance		Ohms	50				
VSWR		---	< 1.5				
Passive Intermodulation 3rd Order for 2 x 20W Carriers		dBc	< -153				
Front-to-Back Ratio, Total Power, ±30°		dB	> 26.4	> 27.0	> 26.5	> 28.3	> 26.5
Upper Sidelobe Suppression, Peak to 20°		dB	> 17.4	> 17.1	> 16.7	> 16.3	> 16.3
Cross Polar Ratio	Main Direction (0°)	dB	> 21.4	> 23.3	> 24.0	> 23.2	> 20.5
	Sector Edges (60°)	dB	> 8.2	> 7.8	> 7.3	> 7.4	> 7.2
Maximum Effective Power Per Port		Watts	150 W				
Inter/Intra Band Isolation		dB	> 27				

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

Quoted performance parameters are provided to offer typical, peak or range values only and may vary as a result of normal testing, manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to products may be made without notice.

6896312E

6896312EN 6896312ENG

10-Port, 65°, XPOL, Panel Antenna, Variable Tilt, 1394 mm

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	13.2 ± 0.4	13.4 ± 0.3	13.7 ± 0.7	15.1 ± 0.3	15.3 ± 0.4
Azimuth Beamwidth		degrees	61.4 ± 8.7	67.9 ± 2.2	67.8 ± 2.4	65.2 ± 2.0	64.0 ± 3.4
Elevation Beamwidth		degrees	15.0 ± 1.0	14.0 ± 1.5	12.6 ± 1.0	10.4 ± 0.6	9.7 ± 0.5
Electrical Downtilt		degrees	2-12				
Impedance		Ohms	50				
VSWR		---	< 1.5				
Passive Intermodulation 3rd Order for 2 x 20W Carriers		dBc	< -153				
Front-to-Back Ratio, Total Power, ±30°		dB	> 27.6	> 27.4	> 26.3	> 26.9	> 26.1
Upper Sidelobe Suppression, Peak to 20°		dB	> 16.0	> 14.6	> 14.9	> 15.4	> 15.3
Cross Polar Ratio	Main Direction (0°)	dB	> 18.7	> 21.4	> 20.9	> 18.6	> 21.1
	Sector Edges (60°)	dB	> 8.0	> 7.5	> 7.8	> 7.2	> 7.5
Maximum Effective Power Per Port		Watts	150				
Inter/Intra Band Isolation		dB	> 27				

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

ELECTRICAL SPECIFICATIONS Ultra Wide Band

■ Y3

Frequency Range		MHz	1695-2690				
		MHz	1695-1880	1850-1990	1920-2180	2300-2500	2490-2690
Polarization		---	± 45°				
Gain	Over all Tilts	dBi	13.3 ± 0.4	13.9 ± 0.4	14.4 ± 0.6	15.5 ± 0.3	15.9 ± 0.4
Azimuth Beamwidth		degrees	66.4 ± 5.6	65.4 ± 5.0	65.5 ± 3.1	65.2 ± 3.4	59.1 ± 2.8
Elevation Beamwidth		degrees	15.8 ± 1.5	13.9 ± 0.8	12.9 ± 1.1	10.7 ± 0.6	9.8 ± 0.5
Electrical Downtilt		degrees	2-12				
Impedance		Ohms	50				
VSWR		---	< 1.5				
Passive Intermodulation 3rd Order for 2 x 20W Carriers		dBc	< -153				
Front-to-Back Ratio, Total Power, ±30°		dB	> 25.3	> 25.4	> 25.7	> 27.2	> 26.8
Upper Sidelobe Suppression, Peak to 20°		dB	> 15.7	> 14.3	> 14.2	> 15.4	> 14.4
Cross Polar Ratio	Main Direction (0°)	dB	> 20.6	> 22.5	> 23.2	> 23.2	> 21.1
	Sector Edges (60°)	dB	> 11.2	> 7.5	> 7.1	> 7.6	> 7.2
Maximum Effective Power Per Port		Watts	150				
Inter/Intra Band Isolation		dB	> 27				

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

Quoted performance parameters are provided to offer typical, peak or range values only and may vary as a result of normal testing, manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to products may be made without notice.

6896312E

6896312EN 6896312ENG

10-Port, 65°, XPOL, Panel Antenna, Variable Tilt, 1394 mm

ELECTRICAL SPECIFICATIONS Ultra Wide Band

Y4

Frequency Range		MHz	1695-2690				
		MHz	1695-1880	1850-1990	1920-2180	2300-2500	2490-2690
Polarization		---	± 45°				
Gain	Over all Tilts	dBi	13.4 ± 0.4	13.8 ± 0.3	14.2 ± 0.6	15.4 ± 0.3	15.7 ± 0.4
Azimuth Beamwidth		degrees	64.0 ± 6.9	66.9 ± 3.2	66.9 ± 2.8	65.3 ± 2.9	61.5 ± 3.0
Elevation Beamwidth		degrees	15.3 ± 1.2	13.9° ± 1.1	12.7 ± 1.0	10.4 ± 0.6	9.6 ± 0.5
Electrical Downtilt		degrees	2-12				
Impedance		Ohms	50				
VSWR		---	< 1.5				
Passive Intermodulation 3rd Order for 2 x 20W Carriers		dBc	< -110				
Front-to-Back Ratio, Total Power, ±30°		dB	> 25.4	> 26.3	> 26.3	> 27.1	> 25.3
Upper Sidelobe Suppression, Peak to 20°		dB	> 16.3	> 15.3	> 15.3	> 16.0	> 15.5
Cross Polar Ratio	Main Direction (0°)	dB	> 20.5	> 21.7	> 22.5	> 22.7	> 20.8
	Sector Edges (60°)	dB	> 10.3	> 7.8	> 7.6	> 7.2	> 7.5
Maximum Effective Power Per Port		Watts	150 W				
Inter/Intra Band Isolation		dB	> 27				

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

Quoted performance parameters are provided to offer typical, peak or range values only and may vary as a result of normal testing, manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to products may be made without notice.

6896312E

6896312EN 6896312ENG

10-Port, 65°, XPOL, Panel Antenna, Variable Tilt, 1394 mm

ELECTRICAL DOWNTILT CONTROL

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

Manual Electrical Tilt (MET) Control	The manual tilt 'override' function is always available
Remote Electrical Tilt (RET) Control	The remote control of the electrical tilt is managed by single RET unit 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.

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	1 pair of AISG Male and Female (type IEC60130-9)	
Field Replaceable Unit	Yes	

Quoted performance parameters are provided to offer typical, peak or range values only and may vary as a result of normal testing, manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to products may be made without notice.

6896312E

6896312EN 6896312ENG

10-Port, 65°, XPOL, Panel Antenna, Variable Tilt, 1394 mm

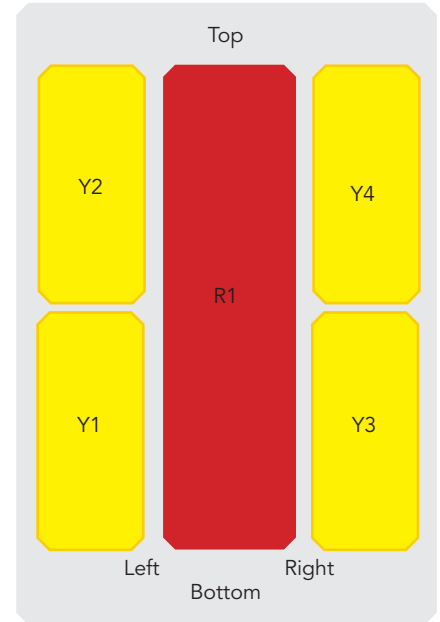
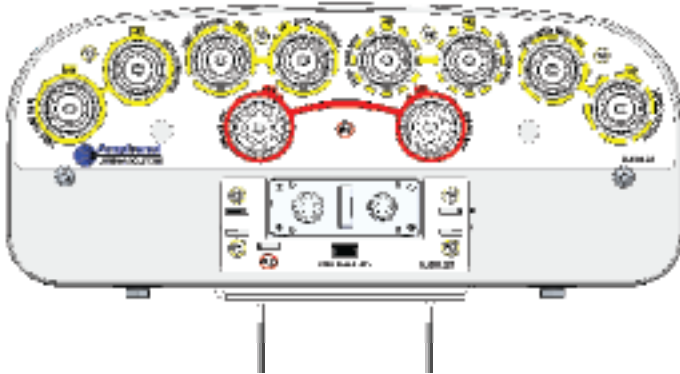


Diagram shown above depicts the view from the front of the antenna. The illustration is not shown to scale.

ARRAY LAYOUT	ARRAY	FREQUENCY	CONNECTOR	CONNECTOR TYPE
	■ R1	698-960	1-2	4.3-10 Female Long Neck
	■ Y1	1695-2690	3-4	4.3-10 Female Long Neck
	■ Y2	1695-2690	5-6	4.3-10 Female Long Neck
	■ Y3	1695-2690	7-8	4.3-10 Female Long Neck
	■ Y4	1695-2690	9-10	4.3-10 Female Long Neck

MECHANICAL SPECIFICATIONS

Length	mm (in)	1394 (54.9)
Width	mm (in)	368 (14.4)
Depth	mm (in)	159 (6.2)
Net Weight - Antenna Only	kg (lbs)	24 (52.9)
Mechanical Distance Between Mounting Points	mm (in)	TBD
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 (unless otherwise noted)

Quoted performance parameters are provided to offer typical, peak or range values only and may vary as a result of normal testing, manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to products may be made without notice.

6896312E

6896312EN 6896312ENG

10-Port, 65°, XPOL, Panel Antenna, Variable Tilt, 1394 mm

ENVIRONMENTAL SPECIFICATIONS

Environmental	---	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) delivered as standard	0900181/00	3.4 kg (7.5 lbs)
Kit to add mechanical tilt (0° to 10°) to above brackets optional	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.