Amphenol ANTENNA SOLUTIONS

30-Port Antenna

698-960 | 698-960 | 1427-2690 | 1427-2690 | 1427-2690 MHz

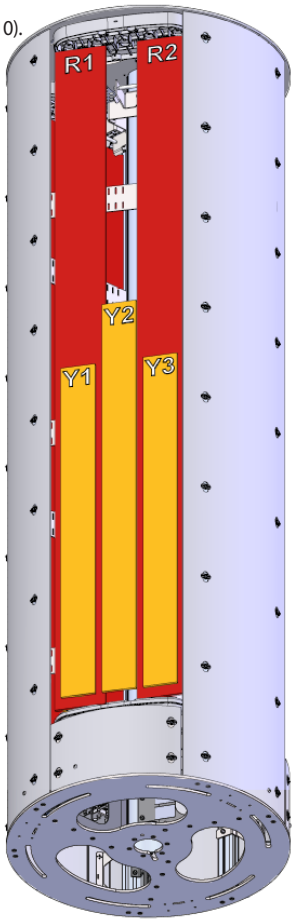
Integra compatible | 5G Ready | 65° | 3047 mm

5761400-3

5761400G-3 5761400Dx-3

Penta Band, 30-Port, 65°, XPOL, Tri-Sector Antenna, Variable Tilt, 3047 mm

- Penta band antenna, dual polarisation, 30 connectors
- Integra compatible - ability to upgrade and recycle, saving 50% carbon emission
- Independent tilt on each band 2-12° / 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 controlling all tilt angles, fully inserted inside the antenna (field replaceable).
- 5G optimal integration with optional mMIMO & 8T8R TRIO Hybrid Kits (compatibility list available on request).



PRODUCT OVERVIEW						
	Frequency Range (MHz)	698-960	698-960	1427-2690	1427-2690	1427-2690
	Array	R1	R2	Y1	Y2	Y3
	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	2-12°	2-12°	2-12°	2-12°	2-12°
	Dimensions	3047 x Ø970 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	5761400-3
Remote Electrical Tilt (RET) AISG v2.0 / 3GPP	Multi-Device Control Unit (MDCU)	4.3-10 Female	5761400G-3
	Multi-Device Dual Unit (MDDU)	4.3-10 Female	5761400Dx*-3

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

5761400-3

5761400G-3 5761400Dx-3

Penta Band, 30-Port, 65°, XPOL, Tri-Sector Antenna, Variable Tilt, 3047 mm

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	15.5 ± 0.5	16.1 ± 0.3	16.3 ± 0.5	16.6 ± 0.5
Azimuth Beamwidth		degrees	74.4° ± 2.1°	67.8° ± 3.4°	65.9° ± 2.7°	61.6° ± 3.6°
Elevation Beamwidth		degrees	8.3° ± 0.6°	7.5° ± 0.5°	7.2° ± 0.5°	6.7° ± 0.3°
Electrical Downtilt		degrees	2°-12°			
Impedance		Ohms	50			
VSWR (Return Loss)		--- (dB)	< 1.5 (>14)			
Passive Intermodulation 3rd Order for 2 x 20W Carriers		dBc	< -153			
Front-to-Back Ratio, Total Power, ±30°		dB	> 23.5	> 25.5	> 25.6	> 24.3
Upper Sidelobe Suppression, Peak to 20°		dB	> 15.2	> 16.1	> 15.6	> 14.3
Cross Polar Discrimination (XPD) Sector Edges (±60°)		dB	> 10.0	> 8.2	> 8.3	> 8.0
Maximum Effective Power Per Port		Watts	250 W			
Inter/Intra Cluster Isolation		dB	> 25			

All parameters are compliant with BASTA revision V11.1

ELECTRICAL SPECIFICATIONS Ultra Low Band — **R2**

Frequency Range		MHz	698-960			
		MHz	698-806	790-862	824-894	880-960
Polarization		---	±45°			
Gain	Over all Tilts	dBi	15.5 ± 0.5	16.2 ± 0.3	16.3 ± 0.5	16.5 ±0.5
Azimuth Beamwidth		degrees	74.9° ± 2.9°	69.8° ± 3.5°	67.3° ± 3.7°	63.2° ± 3.7°
Elevation Beamwidth		degrees	8.3° ± 0.6°	7.5° ± 0.4°	7.3° ± 0.5°	6.8° ± 0.3°
Electrical Downtilt		degrees	2°-12°			
Impedance		Ohms	50			
VSWR (Return Loss)		--- (dB)	< 1.5 (>14)			
Passive Intermodulation 3rd Order for 2 x 20W Carriers		dBc	< -153			
Front-to-Back Ratio, Total Power, ±30°		dB	> 24.3	> 24.4	> 24.3	> 24.5
Upper Sidelobe Suppression, Peak to 20°		dB	> 16.2	> 15.0	> 15.1	> 14.5
Cross Polar Discrimination (XPD) Sector Edges (±60°)		dB	> 10.2	> 7.7	> 7.7	> 7.8
Maximum Effective Power Per Port		Watts	250 W			
Inter/Intra Cluster Isolation		dB	> 25			

All parameters are compliant with BASTA revision V11.1

5761400-3

5761400G-3 5761400Dx-3

Penta Band, 30-Port, 65°, XPOL, Tri-Sector Antenna, Variable Tilt, 3047 mm

ELECTRICAL SPECIFICATIONS MEGA Wide Band — **Y1**

Frequency Range		MHz	1427-2690				
		MHz	1427-1518	1695-1880	1920-2180	2300-2500	2490-2690
Polarization		---	±45°				
Gain	Over all Tilts	dBi	15.8 ± 0.5	17.0 ± 0.3	17.2 ± 0.5	17.2 ± 0.5	17.5 ± 0.5
Azimuth Beamwidth		degrees	69.0° ± 4.5°	66.5° ± 3.8°	66.9° ± 3.6°	63.5° ± 4.0°	63.2° ± 5.4°
Elevation Beamwidth		degrees	8.8° ± 0.4°	7.3° ± 0.4°	6.3° ± 0.7°	5.5° ± 0.2°	5.1° ± 0.3°
Electrical Downtilt		degrees	2°-12°				
Impedance		Ohms	50				
VSWR (Return Loss)		--- (dB)	< 1.5 (>14)				
Passive Intermodulation 3rd Order for 2 x 20W Carriers		dBc	< -153				
Front-to-Back Ratio, Total Power, ±30°		dB	> 23.7	> 27.1	> 28.0	> 27.6	> 28.4
Upper Sidelobe Suppression, Peak to 20°		dB	>16.9	> 16.3	> 18.4	> 16.4	> 15.4
Cross Polar Discrimination (XPD) Sector Edges (±60°)		dB	> 9.8	> 7.0	> 9.0	> 6.9	> 6.6
Maximum Effective Power Per Port		Watts	200 W				
Inter/Intra Cluster Isolation		dB	> 25				

All parameters are compliant with BASTA revision V11.1

ELECTRICAL SPECIFICATIONS MEGA Wide Band — **Y2**

Frequency Range		MHz	1427-2690				
		MHz	1427-1518	1695-1880	1920-2180	2300-2500	2490-2690
Polarization		---	±45°				
Gain	Over all Tilts	dBi	15.7 ± 0.5	17.1 ± 0.4	17.4 ± 0.5	17.2 ± 0.3	17.6 ± 0.5
Azimuth Beamwidth		degrees	70.8° ± 3.4°	61.5° ± 3.8°	59.9° ± 4.3°	62.7° ± 2.8°	63.9° ± 4.2°
Elevation Beamwidth		degrees	7.2° ± 0.4°	6.1° ± 0.4°	5.5° ± 0.4°	4.9° ± 0.3°	4.4° ± 0.3°
Electrical Downtilt		degrees	2°-12°				
Impedance		Ohms	50				
VSWR (Return Loss)		--- (dB)	< 1.5 (>14)				
Passive Intermodulation 3rd Order for 2 x 20W Carriers		dBc	< -153				
Front-to-Back Ratio, Total Power, ±30°		dB	> 29.3	> 27.0	> 28.4	> 28.3	> 28.4
Upper Sidelobe Suppression, Peak to 20°		dB	> 14.1	> 15.1	> 15.0	> 15.9	> 15.4
Cross Polar Discrimination (XPD) Sector Edges (±60°)		dB	> 10.8	> 10.8	> 7.7	> 9.1	> 7.6
Maximum Effective Power Per Port		Watts	200 W				
Inter/Intra Cluster Isolation		dB	> 25				

All parameters are compliant with BASTA revision V11.1

5761400-3

5761400G-3 5761400Dx-3

Penta Band, 30-Port, 65°, XPOL, Tri-Sector Antenna, Variable Tilt, 3047 mm

ELECTRICAL SPECIFICATIONS MEGA Wide Band

Y3

Frequency Range		MHz	1427-2690				
		MHz	1427-1518	1695-1880	1920-2180	2300-2500	2490-2690
Polarization		---	±45°				
Gain	Over all Tilts	dBi	15.7 ± 0.4	17.0 ± 0.6	17.2 ± 0.4	17.3 ± 0.5	17.5 ± 0.4
Azimuth Beamwidth		degrees	70.5° ± 4.4°	68.7° ± 3.5°	67.8° ± 2.4°	64.2° ± 4.0°	62.2° ± 4.5°
Elevation Beamwidth		degrees	8.9° ± 0.4°	7.3° ± 0.5°	6.3° ± 0.6°	5.6° ± 0.3°	5.0° ± 0.3°
Electrical Downtilt		degrees	2°-12°				
Impedance		Ohms	50				
VSWR (Return Loss)		--- (dB)	< 1.5 (>14)				
Passive Intermodulation 3rd Order for 2 x 20W Carriers		dBc	< -153				
Front-to-Back Ratio, Total Power, ±30°		dB	> 24.9	> 25.8	> 28.1	> 28.4	> 26.8
Upper Sidelobe Suppression, Peak to 20°		dB	> 16.5	> 15.6	> 17.2	> 15.6	> 15.0
Cross Polar Discrimination (XPD) Sector Edges (±60°)		dB	> 7.0	> 6.7	> 7.7	> 7.3	> 6.2
Maximum Effective Power Per Port		Watts	200 W				
Inter/Intra Cluster Isolation		dB	> 25				

All parameters are compliant with BASTA revision V11.1

5761400-3

5761400G-3 5761400Dx-3

Penta Band, 30-Port, 65°, XPOL, Tri-Sector Antenna, Variable Tilt, 3047 mm

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) or a Multi-Device Dual Unit (MDDU) 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.**
	Multi-Device Dual Unit (MDDU). 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. **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)
	MDDU	Two male AISG 8 pin connectors (type IEC60130-9 Ed 3.0)
Field Replaceable Unit		Yes

5761400-3

5761400G-3 5761400Dx-3

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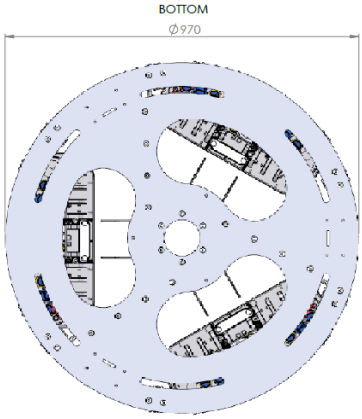
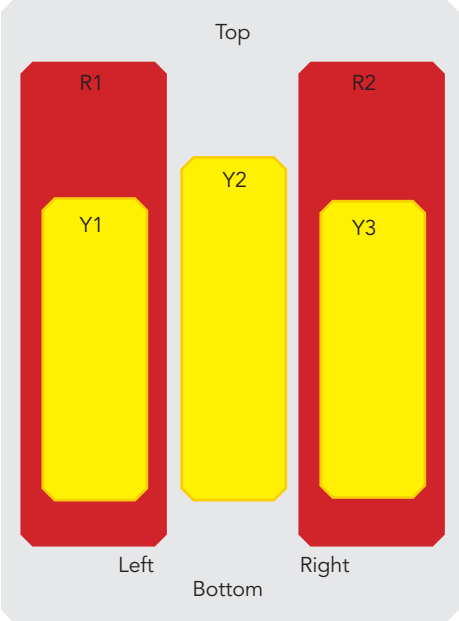


Interface drawing on request



ARRAY LAYOUT	ARRAY	FREQUENCY	CONNECTOR	CONNECTOR TYPE
	R1	698-960	1-2	4.3-10 Female
	R2	698-960	3-4	4.3-10 Female
	Y1	1427-2690	5-6	4.3-10 Female
	Y2	1427-2690	7-8	4.3-10 Female
	Y3	1427-2690	9-10	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)	3047 (120)
Diameter		mm (in)	970 (38.1)
Net Weight	Three Sectors	kg (lbs)	410 (904)
	Two Sectors	kg (lbs)	357 (787)
	One Sector	kg (lbs)	304 (670)
Windload (EN 1991-1-4:2005 using Wind Tunnel Coefficients)	Calculation	km/h (mph)	150 (93.2)
	Value	N (lbf)	2722 (612)
Operational Wind Speed		km/h (mph)	160 (99.4)
Survival Wind Speed		km/h (mph)	200 (124)
Radome Color		---	Gray RAL7035
Radome Material		---	Outdoor Fiberglass
Lightning Protection		---	Direct Ground
Shipping	Shipping Dimensions (Length x Width x Depth)	mm (in)	3160 x 1080 x 1080 (124.4 x 42.5 x 42.5)
	Shipping Weight	kg (lbs)	TBD
	Shipping Volume	m^3 (ft^3)	3.68 (106)

5761400-3

5761400G-3 5761400Dx-3

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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
Lightning Rod Kit for Trio Nodeline and Trio Hybrid Kit	TLX-LPN	2 kg (4.4 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.