

5G Ready

65°

<u>30</u>47 mm

5761400-3

5761400G-3 5761400Dx-3

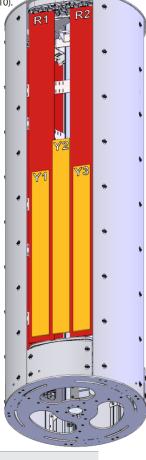
Penta Band, 30-Port, 65°, XPOL, Tri-Sector Antenna, Variable Tilt, 3047 mm





- 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).

	Frequency Range (MHz)	698-960	698-960	1427-2690	1427-2690	1427-2690
	Array	■ R1	■ R2	<u> </u>	Y2	Y3
RVIEW	Connector	1-2	3-4	5-6	7-8	9-10
PRODUCT OVERVIEW	Polarization	XPOL	XPOL	XPOL	XPOL	XPOL
PRODU	Azimuth Beamwidth (avg)	65°	65°	65°	65°	65°
	Electrical Downtilt	2-12°	2-12°	2-12°	2-12°	2-12°
	Dimensions		30	47 x Ø970 m	nm	



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)	Multi-Device Control Unit (MDCU)	4.3-10 Female	5761400G-3
AISG v2.0 / 3GPP	Multi-Device Dual Unit (MDDU)	4.3-10 Female	5761400Dx*-3

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









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ELECTRICA	AL SPECIFICATIONS Ulti	ra Low Band	■ R1					
Frequency Range		MHz	698-960					
		MHz	698-806	880-960				
Polarization				±45	0			
Gain	Over all Tilts	dBi	15.5 ± 0.5	16.1 ± 0.3	16.3 ± 0.5	16.6 ± 0.5		
Azimuth Bea	mwidth	degrees	74.4° ± 2.1°	67.8° ± 3.4°	65.9° ± 2.7°	61.6° ± 3.6°		
Elevation Be	amwidth	degrees	8.3° ± 0.6°	7.5° ± 0.5°	7.2° ± 0.5°	6.7° ± 0.3°		
Electrical Do	wntilt	degrees	2°-12°					
Impedance		Ohms	50					
VSWR (Return Loss) (dB)			< 1.5 (>14)					
Passive Inter 3rd Order fo	modulation r 2 x 20W Carriers	dBc		< -15	23			
Front-to-Bac	k Ratio, Total Power, ±30°	dB	> 23.5	> 25.5	> 25.6	> 24.3		
Upper Sidelo	be 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 Cl	uster Isolation	dB		> 2!	5			

All parameters are compliant with BASTA revision V11.1

ELECTRICAL SPECIFICATIONS Ultra Low Band

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	2°		
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 Po	rt Watts	250 W				
Inter/Intra Cluster Isolation	dB		> 25	5		

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Frequency Ra	ange	MHz			1427-2690			
		MHz	1427-1518	1695-1880	1920-2180	2300-2500	2490-2690	
Polarization					±45°	I		
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 Bea	amwidth	degrees	8.8° ± 0.4°	7.3° ± 0.4°	6.3° ± 0.7°	5.5° ± 0.2°	5.1° ± 0.3°	
Electrical Dov	wntilt	degrees			2°-12°	I		
mpedance		Ohms			50			
/SWR (Returi	n Loss)	(dB)			< 1.5 (>14)			
Passive Interr Brd Order for	modulation r 2 x 20W Carriers	dBc			< -153			
Front-to-Back Ratio, Total Power, ±30°		dB	> 23.7	> 27.1	> 28.0	> 27.6	> 28.4	
Jpper Sidelo 20°	be Suppression, Peak to	dB	>16.9	> 16.3	> 18.4	> 16.4	> 15.4	
Cross Polar D Sector Edges	Discrimination (XPD) s (±60°)	dB	> 9.8	> 7.0	> 9.0	> 6.9	> 6.6	
Maximum Effective Power Per Port		Watts	200 W					
VIGXIIIIGIII EII	ective i owei i ei i oit	vvatts			200 VV			
nter/Intra Cl	uster Isolation	dB			> 25 All para	meters are compliant w	ith BASTA revision \	
nter/Intra Cl	uster Isolation AL SPECIFICATIONS ME	dB			> 25	meters are compliant w	ith BASTA revision \	
nter/Intra Cli ELECTRICA Band	uster Isolation AL SPECIFICATIONS ME	dB GA Wide	1427-1518	1695-1880	> 25 All para Y2	meters are compliant w		
nter/Intra Clu ELECTRICA Band Frequency Ra	uster Isolation AL SPECIFICATIONS ME	dB GA Wide	1427-1518	1695-1880	> 25 All para Y2 1427-2690			
nter/Intra Clu ELECTRICA Band Frequency Ra Polarization	uster Isolation AL SPECIFICATIONS ME	dB GA Wide MHz MHz	1427-1518 15.7 ± 0.5	1695-1880 17.1 ± 0.4	> 25 All para Y2 1427-2690 1920-2180		2490-2690	
ELECTRICA Band Frequency Ra Polarization Gain	uster Isolation AL SPECIFICATIONS ME ange Over all Tilts	dB GA Wide MHz MHz			> 25 All para Y2 1427-2690 1920-2180 ±45°	2300-2500	2490-2690 17.6 ± 0.5	
electrica Band Frequency Ra Polarization Gain	AL SPECIFICATIONS MEange Over all Tilts	dB GA Wide MHz MHz GBi	15.7 ± 0.5	17.1 ± 0.4	> 25 All para Y2 1427-2690 1920-2180 ±45° 17.4 ± 0.5	2300-2500 17.2 ± 0.3	2490-2690 17.6 \pm 0.5 63.9° \pm 4.2 4.4° \pm 0.3°	
ELECTRICA Band Frequency Ra Polarization Gain Azimuth Bear	AL SPECIFICATIONS ME ange Over all Tilts mwidth amwidth	dB GA Wide MHz MHz dBi degrees	15.7 ± 0.5 70.8° ± 3.4°	17.1 ± 0.4 61.5° ± 3.8°	> 25 All para Y2 1427-2690 1920-2180 ±45° 17.4 ± 0.5 59.9° ± 4.3°	2300-2500 17.2 ± 0.3 62.7° ± 2.8°	2490-2690 17.6 ± 0.5 63.9° ± 4.2	
ELECTRICA Band Frequency Ra Polarization Gain Azimuth Bear Elevation Bear	AL SPECIFICATIONS ME ange Over all Tilts mwidth amwidth	dB GA Wide MHz MHz dBi degrees degrees	15.7 ± 0.5 70.8° ± 3.4°	17.1 ± 0.4 61.5° ± 3.8°	> 25 All para Y2 1427-2690 1920-2180 ±45° 17.4 ± 0.5 59.9° ± 4.3° 5.5° ± 0.4°	2300-2500 17.2 ± 0.3 62.7° ± 2.8°	2490-2690 17.6 ± 0.5 63.9° ± 4.2	
nter/Intra Cli ELECTRICA Band	AL SPECIFICATIONS ME ange Over all Tilts mwidth amwidth wntilt	dB GA Wide MHz MHz dBi degrees degrees degrees	15.7 ± 0.5 70.8° ± 3.4°	17.1 ± 0.4 61.5° ± 3.8°	> 25 All para Y2 1427-2690 1920-2180 ±45° 17.4 ± 0.5 59.9° ± 4.3° 5.5° ± 0.4° 2°-12°	2300-2500 17.2 ± 0.3 62.7° ± 2.8°	2490-2690 17.6 ± 0.5 63.9° ± 4.2	
ELECTRICA Band Frequency Ra Polarization Gain Azimuth Bear Elevation Bear Electrical Door	Over all Tilts mwidth amwidth wntilt n Loss)	dB GA Wide MHz MHz dBi degrees degrees degrees Ohms	15.7 ± 0.5 70.8° ± 3.4°	17.1 ± 0.4 61.5° ± 3.8°	> 25 All para Y2 1427-2690 1920-2180 ±45° 17.4 ± 0.5 59.9° ± 4.3° 5.5° ± 0.4° 2°-12° 50	2300-2500 17.2 ± 0.3 62.7° ± 2.8°	2490-2690 17.6 ± 0.5 63.9° ± 4.2	
ELECTRICA Band Frequency Ra Polarization Gain Azimuth Bear Elevation Bear Electrical Downpedance /SWR (Return Passive Interred	Over all Tilts mwidth amwidth wntilt n Loss) modulation	dB GA Wide MHz HHz HHz GBi Gegrees	15.7 ± 0.5 70.8° ± 3.4°	17.1 ± 0.4 61.5° ± 3.8°	> 25 All para Y2 1427-2690 1920-2180 ±45° 17.4 ± 0.5 59.9° ± 4.3° 5.5° ± 0.4° 2°-12° 50 < 1.5 (>14)	2300-2500 17.2 ± 0.3 62.7° ± 2.8°	2490-2690 17.6 ± 0.5 63.9° ± 4.2	
ELECTRICA Band Frequency Ra Polarization Gain Azimuth Bear Elevation Bear Electrical Downpedance /SWR (Return Passive Interra Brd Order for Front-to-Back	Over all Tilts mwidth amwidth wntilt n Loss) modulation r 2 x 20W Carriers	dB GA Wide MHz MHz dBi degrees degrees degrees Chms (dB) dBc	15.7 ± 0.5 70.8° ± 3.4° 7.2° ± 0.4°	17.1 ± 0.4 61.5° ± 3.8° 6.1° ± 0.4°	> 25 All para Y2 1427-2690 1920-2180 ±45° 17.4 ± 0.5 59.9° ± 4.3° 5.5° ± 0.4° 2°-12° 50 < 1.5 (>14) < -153	2300-2500 17.2 ± 0.3 62.7° ± 2.8° 4.9° ± 0.3°	2490-2690 17.6 ± 0.5 63.9° ± 4.2 4.4° ± 0.3°	
ELECTRICA Band Frequency Ra Polarization Gain Azimuth Bear Elevation Bear Electrical Downpedance /SWR (Return Passive Interred Order for Front-to-Back Upper Sidelo	Over all Tilts mwidth amwidth wntilt n Loss) modulation r 2 x 20W Carriers k Ratio, Total Power, ±30° obe Suppression, Peak to	dB GA Wide MHz MHz dBi degrees	15.7 ± 0.5 70.8° ± 3.4° 7.2° ± 0.4° > 29.3	17.1 ± 0.4 61.5° ± 3.8° 6.1° ± 0.4°	> 25 All para Y2 1427-2690 1920-2180 ±45° 17.4 ± 0.5 59.9° ± 4.3° 5.5° ± 0.4° 2°-12° 50 < 1.5 (>14) < -153 > 28.4	2300-2500 17.2 ± 0.3 62.7° ± 2.8° 4.9° ± 0.3°	$2490-2690$ 17.6 ± 0.5 $63.9^{\circ} \pm 4.2$ $4.4^{\circ} \pm 0.3^{\circ}$ > 28.4	
ELECTRICA Band Frequency Ra Polarization Gain Azimuth Bear Elevation Bear Electrical Downpedance VSWR (Return Passive Interr Brd Order for Front-to-Back Upper Sidelo 20° Cross Polar D Sector Edges	Over all Tilts mwidth amwidth wntilt n Loss) modulation r 2 x 20W Carriers k Ratio, Total Power, ±30° obe Suppression, Peak to	dB GA Wide MHz MHz dBi degrees degrees	15.7 ± 0.5 70.8° ± 3.4° 7.2° ± 0.4° > 29.3 > 14.1	17.1 ± 0.4 61.5° ± 3.8° 6.1° ± 0.4° > 27.0 > 15.1	> 25 All para Y2 1427-2690 1920-2180 ±45° 17.4 ± 0.5 59.9° ± 4.3° 5.5° ± 0.4° 2°-12° 50 < 1.5 (>14) < -153 > 28.4 > 15.0	2300-2500 17.2 ± 0.3 62.7° ± 2.8° 4.9° ± 0.3° > 28.3 > 15.9	$2490-2690$ 17.6 ± 0.5 $63.9^{\circ} \pm 4.2$ $4.4^{\circ} \pm 0.3^{\circ}$ > 28.4 > 15.4	

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ELECTRICAL SPECIFICATIONS MEGA Wide Band					Y3			
Frequency Range		MHz	1427-2690					
		MHz	1427-1518	1695-1880	1920-2180	2300-2500	2490-2690	
Polarization					±45°	1		
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 Be	eamwidth	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 (Retu	ırn Loss)	(dB)	< 1.5 (>14)					
	rmodulation or 2 x 20W Carriers	dBc	< -153					
Front-to-Ba	ck 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 C	Cluster Isolation	dB			> 25			

All parameters are compliant with BASTA revision V11.1 $\,$



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

Integra compatible

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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) 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	ut 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			
MDCU		One pair of AISG Male and Female (type IEC60130-9)			
RET Interface MDDU		Two male AISG 8 pin connectors (type IEC60130-9 Ed 3.0)			
Field Replaceable Uni	t	Yes			



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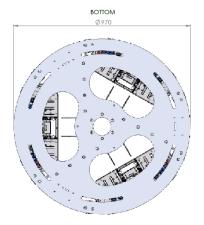
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Interface drawing on request

	ARRAY	FREQUENCY	CONNECTOR	CONNECTOR TYPE
Σ	■ R1	698-960	1-2	4.3-10 Female
AYO	■ R2	698-960	3-4	4.3-10 Female
¥≺L	Y1	1427-2690	5-6	4.3-10 Female
ARRAY	□ Y2	1427-2690	7-8	4.3-10 Female
•	□ Y3	1427-2690	9-10	4.3-10 Female

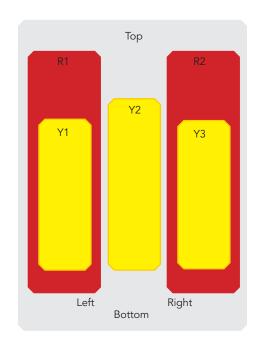


Diagram shown at right depicts the view from the front of the antenna.

The illustration is not shown to scale.

MECHANICAL SPECIFICATIONS

Length		mm (in)	3047 (120)	
Diameter		mm (in)	970 (38.1)	
		Three Sectors	kg (lbs)	410 (904)
Net W	'eight	Two Sectors	kg (lbs)	357 (787)
	J	One Sector	kg (lbs)	304 (670)
Windle		Calculation	km/h (mph)	150 (93.2)
	(EN 1991-1-4:2005 using Wind Tunnel Coefficients) Value		N (lbf)	2722 (612)
Opera	Operational Wind Speed		km/h (mph)	160 (99.4)
Surviva	al Wind Speed		km/h (mph)	200 (124)
Radon	ne Color			Gray RAL7035
Radon	ne Material			Outdoor Fiberglass
Lightning Protection			Direct Ground	
Shipping Dimensions (Length x Width x Depth)		mm (in)	3160 x 1080 x 1080 (124.4 x 42.5 x 42.5)	
Shipping	Shipping Weight		kg (lbs)	TBD
Sh	Shipping Volume		m³ (ft³)	3.68 (106)



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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

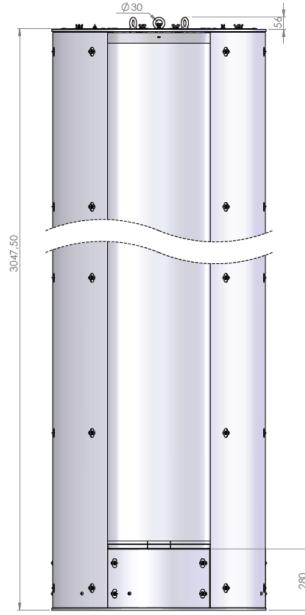
ITEM	MODEL NUMBER	WEIGHT
Lightning Rod Kit for Trio Nodeline and Trio Hybrid Kit	TLX-LPN	2 kg (4.4 lbs)

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.



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.