

HEX456CW0000x

TRI BAND | 6-PORT PANEL | XPOL | 45° | 1780 MM (70.1 IN)

- AWS-3 Ready
- 4x4 MIMO high band compatible
- Patented internal RET actuator adds no additional length to the antenna
- Can be ordered with a Multi-Device Dual Unit (MDDU) with two separate inputs for independent control of each band

PRODUCT OVERVIEW	Frequency Range (MHz)	696-960	1695-2180	1695-2180
	Array	■ R1	■ B1	■ B2
	Connector	1-2	3-4	5-6
	Connector Type	7/16-DIN Female	7/16-DIN Female	7/16-DIN Female
	Polarization	XPOL	XPOL	XPOL
	Azimuth Beamwidth (avg)	45°	45°	45°
	Electrical Downtilt	0-12°	0-10°	0-10°
	Dimensions	1780 x 397 x 187 mm (70.1 x 15.6 x 7.4 in)		



ELECTRICAL SPECIFICATIONS Low Band

■ R1

Frequency Range	MHz	696-960	
Frequency Sub-Range	MHz	696-806	806-960
Polarization	---	±45°	
Gain	dBi	15.3	16.2
Azimuth Beamwidth	degrees	45.0	40.0
Elevation Beamwidth	degrees	15.6	13.7
Electrical Downtilt	degrees	0-12	
Impedance	Ohms	50	
VSWR	---	< 1.5:1	
Passive Intermodulation 3rd Order for 2x20 W Carriers	dBm (dBc)	< -110 (< -153)	
Front-to-Back Ratio	dB	> 27	> 27
Upper Sidelobe Suppression	dB	> 17 (Typical)	> 17 (Typical)
Maximum Power Per Port	Watts	500	
In-Band Isolation	dB	> 25	> 25
Isolation Between Ports	dB	> 30	> 30

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ELECTRICAL SPECIFICATIONS Mid Band

■ B1, ■ B2

Parameter	Unit	Frequency Range		
Frequency Range	MHz	1695-2180		
Frequency Sub-Range	MHz	1695-1850	1850-1990	2100-2180
Polarization	---	±45°		
Gain	dBi	17.4	18.0	18.3
Azimuth Beamwidth	degrees	48.0	45.0	40.0
Elevation Beamwidth	degrees	6.4	6.0	5.3
Electrical Downtilt	degrees	0-10		
Impedance	Ohms	50		
VSWR	---	< 1.5:1		
Passive Intermodulation 3rd Order for 2x20 W Carriers	dBm (dBc)	< -110 (< -153)		
Front-to-Back Ratio	dB	> 28	> 28	> 28
Upper Sidelobe Suppression	dB	> 17 (Typical)	> 17 (Typical)	> 17 (Typical)
Maximum Power Per Port	Watts	250		
In-Band Isolation	dB	> 25	> 25	> 25
Isolation Between Ports	dB	> 30	> 30	> 30

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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 ring color. To access the knob, remove the cap by turning it counter-clockwise. It is re-installed by opposite rotation. Do not remove the transparent cap(s) from the antenna.
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). Do not remove the transparent cap(s) from the antenna.

RET ACTUATOR

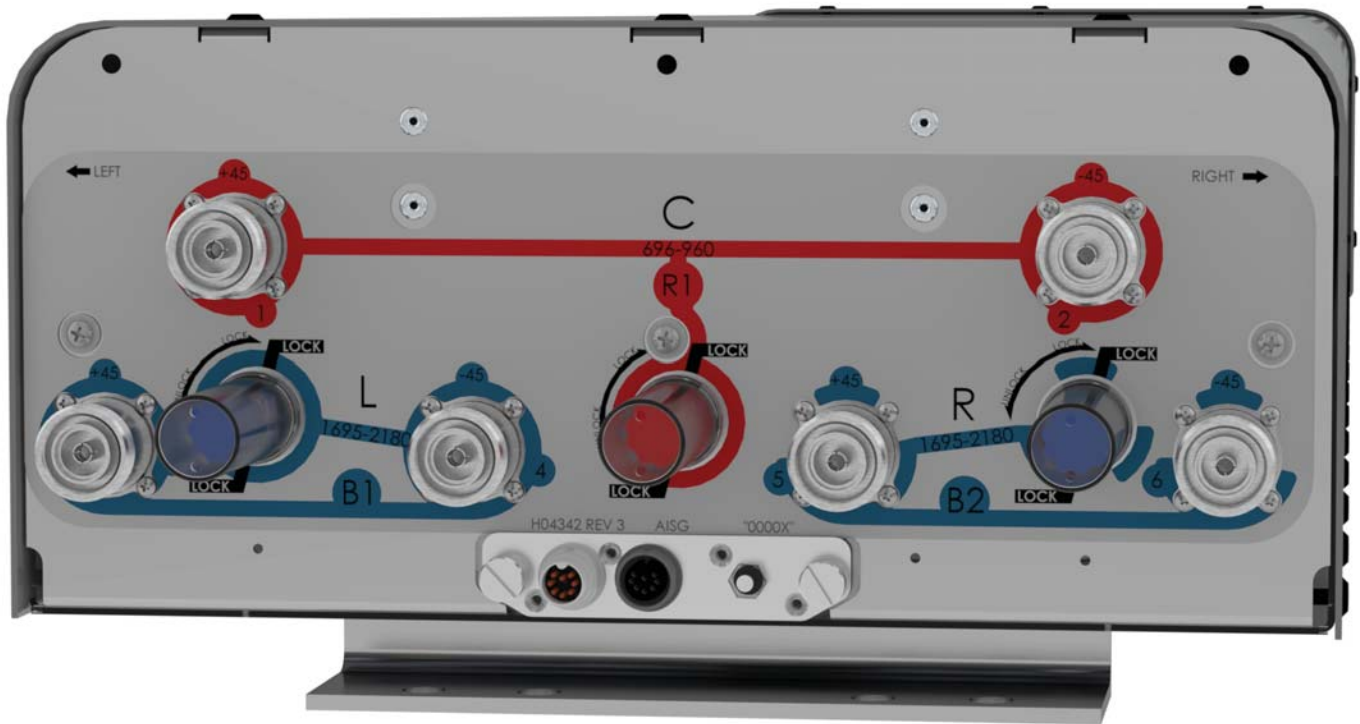
Amphenol's **RET-READY** antennas are delivered with the RET Actuator already installed and pre-commissioned with all antenna parameters. Every RET device is factory configured and calibrated so the antenna is ready to be used once delivered to the site which means that there is no need for further installation 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 and has one pair of AISG Male and Female connectors (type IEC60130-9). <i>Refer to the ORDERING OPTIONS for availability with this model.</i>	
	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 and has two male AISG 8 pin connectors (type IEC60130-9 Ed 3.0). <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	
Field Replaceable Unit	Yes	

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ARRAY LAYOUT	ARRAY	FREQUENCY	CONNECTOR	CONNECTOR TYPE
	■ R1	696-960	1-2	7/16-DIN Female
	■ B1	1695-2180	3-4	7/16-DIN Female
	■ B2	1695-2180	5-6	7/16-DIN Female

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MECHANICAL SPECIFICATIONS

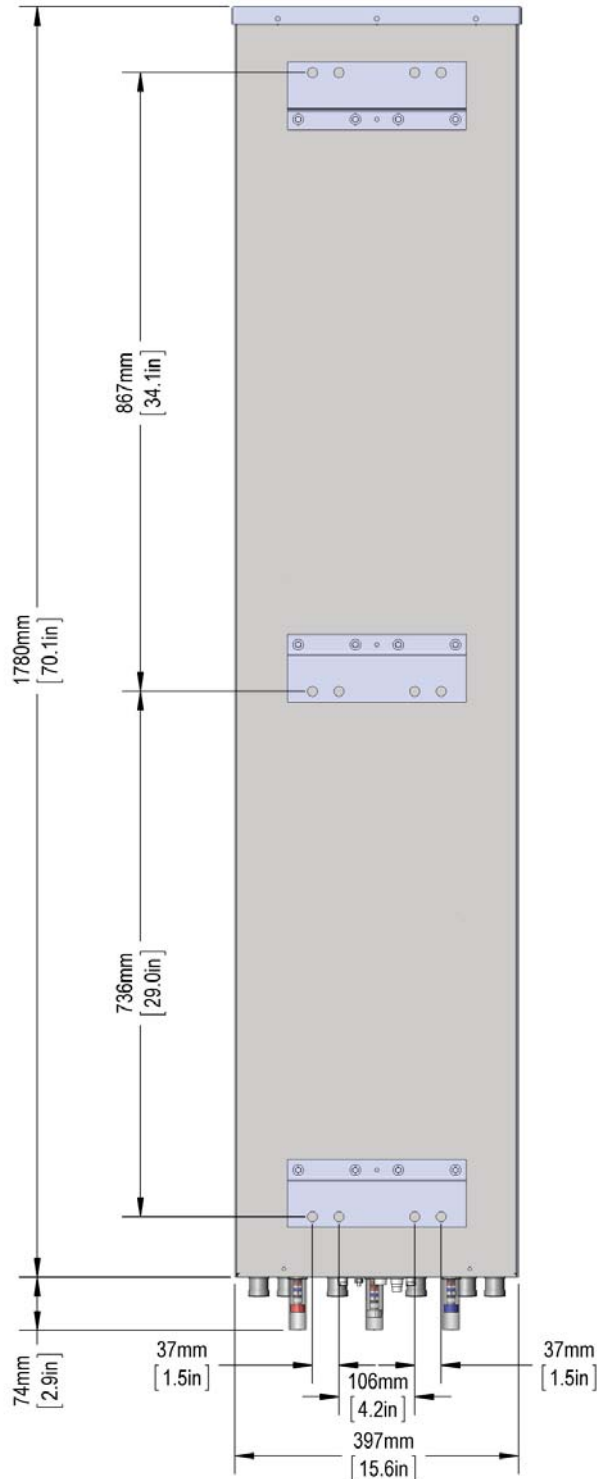
Antenna	Length	mm (in)	1780 (70.1)
	Width	mm (in)	397 (15.6)
	Depth	mm (in)	187 (7.4)
Net Weight - Antenna Only		kg (lbs)	22.2 (49)
Windload	Calculation	km/h (mph)	161 (100)
	Frontal	N (lbf)	907 (204)
	Lateral	N (lbf)	420 (94)
Survival Wind Speed		km/h (mph)	241 (150)
Connector	Type	---	7/16-DIN Female
	Quantity	---	6
	Position	---	Bottom
Lightning Protection (Grounding Type)		---	Direct Ground

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	° C (° F)	-40° to +60° (-40° to +140°)
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ORDERING OPTIONS Select from the different options listed below

SELECT ELECTRICAL DOWNTILT CONTROL & AISG PROTOCOL	SELECT ACTUATOR	SELECT RET ACTUATOR PORT CONFIGURATION		ANTENNA MODEL NUMBER
		PORT A	PORT B	
Manual Electrical Tilt (MET)	---	---	---	HEX456CW0000M
Remote Electrical Tilt (RET) AISG v2.0 / 3GPP	Multi-Device Control Unit (MDCU)	---	---	HEX456CW0000G
	Multi-Device Dual Unit (MDDU)	■ R1	■ B1 / ■ B2	HEX456CW0000L
		■ B1	■ B2 / ■ R1	HEX456CW0000L1
		■ B2	■ B1 / ■ R1	HEX456CW0000L2

ACCESSORIES All accessories are ordered separately unless otherwise indicated

MODEL NUMBER	DESCRIPTION	FITS PIPE DIAMETER	WEIGHT
36210008	3-point pole mounting and downtilt bracket kit	Ø40 to Ø115 mm (Ø1.6 to Ø4.5 in)	6.9 kg (15.2 lbs)

INSTALLATION Please read all installation notes before installing this product.



Always attach the antenna using 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.