



Antennas

MultiPort
Series

DATA SHEET

OctoPort Multi-Band Antenna

OPA65R-OH5A



Overview

- Five foot (1.4 m), Multiband, Eight port antenna with a 65° azimuth beamwidth, covering 1427-2690 MHz and 3100-4200 MHz frequencies
- Four wide band ports covering 1427-2690 MHz and four wide band ports covering 3100-4200 MHz, all within in a low weight and low profile antenna
- The Low weight and Low profile of this panel antenna, makes this an ideal solution for Small Cell/C-RAN Densification deployments in difficult jurisdictional urban, suburban and rural environments
- LTE Optimized FBR and SPR performance, providing for an efficient use of valuable radio capacity
- LTE Optimized FBR and SPR performance, providing for an efficient use of valuable radio capacityLTE Optimized Boresight and Sector XPD and USL performance, essential for LTE Performance
- Equipped with Two Field Replaceable, Type 17 integrated AISG 2.0 compliant Remote Electrical Tilt (RET) controllers
- Equipped 4.3-10 connectors

The CCI Multiband 65° array is an Eight (8) port antenna panel antenna, with four wide band ports covering 1427-2690 MHz and four wide band ports covering 3100-4200 MHz. The CCI Multiband Antenna provides two independent sets of 4x4 Multiple-input-Multiple-output (MIMO) functionality across the 1427-2690 MHz and 3100-4200 MHz ports.

CCI antennas are designed and produced to ISO 9001 certification standards for reliability and quality in our state-of-the-art manufacturing facilities.

Applications

- 4x4 MIMO on the Mid-Band ports and 4x4 MIMO on the High-Band ports
- Ready for Network Standardization on 4.3-10 connectors
- With CCI's MultiBand antennas, wireless providers can connect multiple platforms to a single antenna, reducing tower load, lease expense, deployment time and installation costs



OctoPort Multi-Band Antenna

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SPECIFICATIONS

Electrical

Ports	4 x Mid Band Ports for 1427-2690 MHz					
Frequency Range	1427-1518 MHz	1695-1880 MHz	1850-1990 MHz	1920-2180 MHz	2300-2400 MHz	2496-2690 MHz
Gain	16.3 dBi	17.0 dBi	17.5 dBi	17.7 dBi	17.7 dBi	17.2 dBi
Azimuth Beamwidth (-3dB)	69°	64°	65°	66°	68°	68°
Elevation Beamwidth (-3dB)	8.6°	7.1°	6.5°	5.7°	5.0°	4.7°
Electrical Downtilt	2° to 12°	2° to 12°	2° to 12°	2° to 12°	2° to 12°	2° to 12°
Elevation Sidelobes (1st Upper)	< -17 dB	< -21 dB	< -19 dB	< -16 dB	< -15 dB	< -15 dB
Front-to-Back Ratio @180°	< 32 dB	< 32 dB	< 35 dB	< 35 dB	< 35 dB	< 35 dB
Cross-Polar Discrimination at Peak	< 16 dB	< 19 dB	< 22 dB	< 24 dB	< 24 dB	< 24 dB
Cross-Polar Port-to-Port Isolation	< 25 dB	< 25 dB	< 25 dB	< 25 dB	< 25 dB	< 25 dB
Voltage Standing Wave Ratio (VSWR)	< 1.5:1	< 1.5:1	< 1.5:1	< 1.5:1	< 1.5:1	< 1.5:1
Passive Intermodulation (2x20W)	≤ -153 dBc	≤ -153 dBc	≤ -153 dBc	≤ -153 dBc	≤ -153 dBc	≤ -153 dBc
Input Power Continuous Wave (CW)	300 watts	300 watts	300 watts	300 watts	300 watts	300 watts
Polarization	Dual Linear 45°	Dual Linear 45°	Dual Linear 45°	Dual Linear 45°	Dual Linear 45°	Dual Linear 45°
Input Impedance	50 ohms	50 ohms	50 ohms	50 ohms	50 ohms	50 ohms
Lightning Protection	DC Ground	DC Ground	DC Ground	DC Ground	DC Ground	DC Ground

All specifications are subject to change without notice.

BASTA Electrical Specifications						
Frequency Range	1427-1518 MHz	1695-1880 MHz	1850-1990 MHz	1920-2180 MHz	2300-2400 MHz	2496-2690 MHz
Gain over all Tilts (dBi)	15.8	16.7	16.9	17.1	16.8	15.9
Gain over all Tilts Tolerance (dB)	0.3	0.3	0.3	0.6	0.9	0.9
Gain at Low-Tilt (dBi)	16.0	16.7	16.8	17.2	17.4	16.0
Gain at Mid-Tilt (dBi)	15.9	16.8	17.0	17.4	17.0	16.4
Gain at High-Tilt (dBi)	15.6	16.5	16.8	16.8	16.1	15.3
Azimuth Beamwidth Tolerance (°)	3.8	2.2	2.1	2.8	3.8	4.6
Elevation Beamwidth Tolerance (°)	0.4	0.5	0.4	0.7	0.3	0.3
Electrical Downtilt Deviation (°)	0.4	0.2	0.3	0.3	0.3	0.3
First Upper Sidelobe Suppression (dB)	13.7	15.4	14.8	14.1	13.8	10.7
Upper Sidelobe Suppression Peak to 20°	13.8	15.8	15.8	14.5	14.5	11.2
Front-to-Back Ratio over ±20° (dB)	22.4	25.0	28.0	30.3	31.2	29.5
Cross-polar Discrimination at ±60° (dB)	8.3	4.9	5.7	8.0	8.3	8.2

* Electrical specifications follow document "Recommendation on Base Station Antenna Standards" (BASTA) V11.1.
All specifications are subject to change without notice.



SPECIFICATIONS

OctoPort Multi-Band Antenna

OPA65R-OH5A

Electrical

Ports	4 x High Band Ports for 3100-4200 MHz
Frequency Range	3100-4200 MHz
Gain	16.0 dBi
Azimuth Beamwidth (-3dB)	69°
Elevation Beamwidth (-3dB)	6.6°
Electrical Downtilt	2° to 12°
Elevation Sidelobes (1st Upper)	< -14 dB
Front-to-Back Ratio @180°	> 35 dB
Cross-Polar Discrimination at Peak	> 20 dB
Cross-Polar Port-to-Port Isolation	> 25 dB
Voltage Standing Wave Ratio (VSWR)	< 1.5:1
Passive Intermodulation (2x20W)	≤ -153 dBc
Input Power Continuous Wave (CW)	100 watts
Polarization	Dual Linear 45°
Input Impedance	50 ohms
Lightning Protection	DC Ground

BASTA Electrical Specifications	
Frequency Range	3100-4200 MHz
Gain over all Tilts (dBi)	14.5
Gain over all Tilts Tolerance (dB)	1.2
Gain at Low-Tilt (dBi)	15.0
Gain at Mid-Tilt (dBi)	14.6
Gain at High-Tilt (dBi)	13.8
Azimuth Beamwidth Tolerance (°)	15.5
Elevation Beamwidth Tolerance (°)	1.1
Electrical Downtilt Deviation (°)	0.8
First Upper Sidelobes Suppression (dB)	10.1
Upper Sidelobe Suppression Peak to 20°(dB)	10.9
Front-to-Back Ratio over ±20° (dB)	29.3
Cross-polar Discrimination at ±60° (dB)	6.8

* Electrical specifications follow document "Recommendation on Base Station Antenna Standards" (BASTA) V11.1.
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Mechanical

Dimensions (LxWxD)	55.1x13.7x7.5 in (1400x349x190 mm)
Survival Wind Speed	> 150 mph (> 241 kph)
Front Wind Load	171 lbs (759 N) @ 100 mph (161 kph)
Side Wind Load	104 lbs (460 N) @ 100 mph (161 kph)
Equivalent Flat Plate Area	6.7 ft ² (0.6 m ²)
Weight *	42.5 lbs (19.3 kg)
Connector	8 x 4.3-10 female
Mounting Pole	2 to 5 in (5 to 12 cm)

* Weight excludes mounting

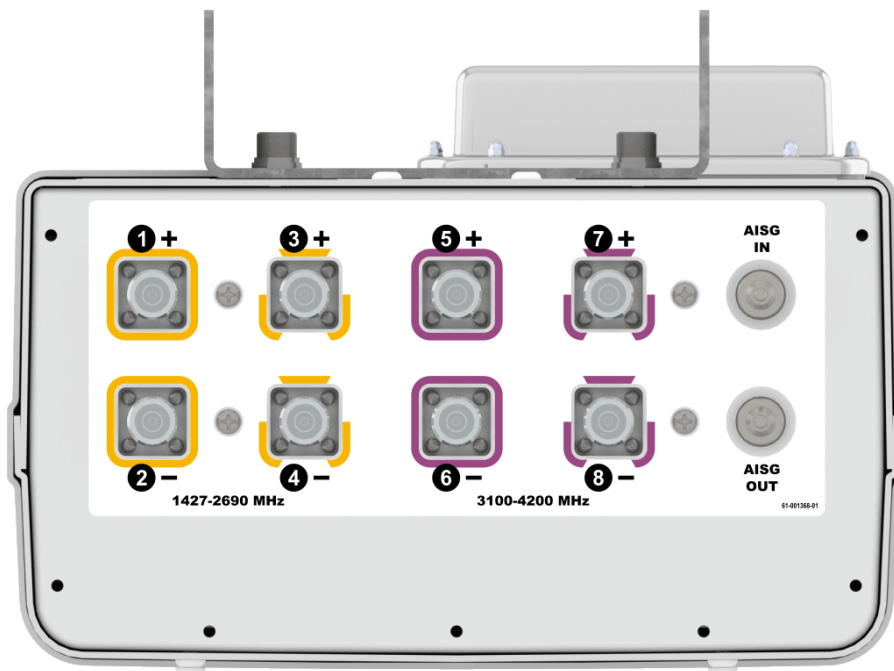
SPECIFICATIONS

OctoPort Multi-Band Antenna

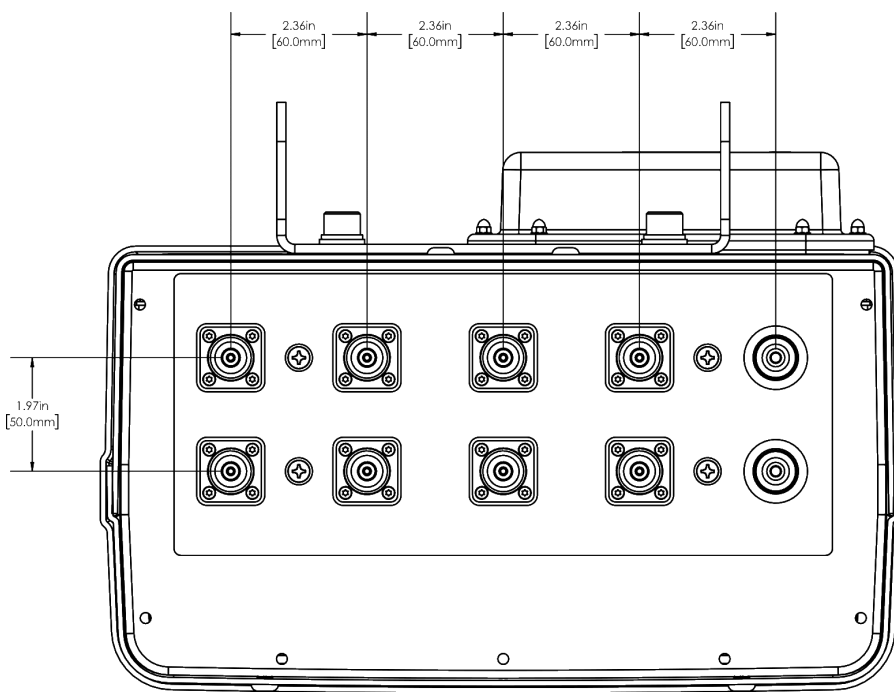
OPA65R-OH5A

Mechanical

Bottom View



Connector Spacing





SPECIFICATIONS

OctoPort Multi-Band Antenna

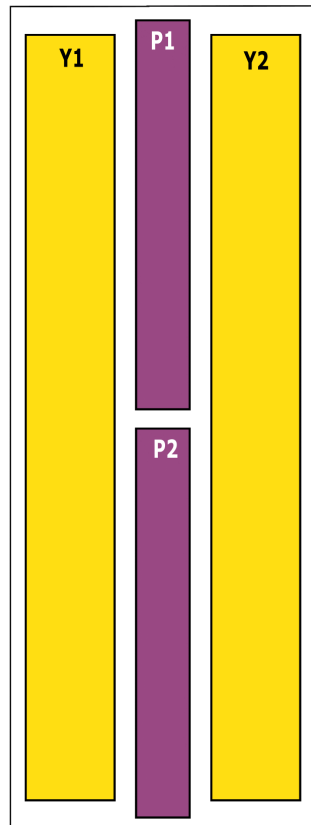
OPA65R-OH5A

Mechanical

RET to Element Configuration

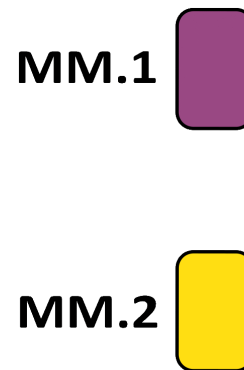
OPA65R-OH5A Element and RET configuration (Type 17 Internal RET)

Top of antenna Viewed from rear



RET placement as viewed from rear of antenna

Top of antenna



Array	Ports	Freq (MHz)	Ports controlled by common RET	AISG RET UID
Y1	1, 2	1427-2690	1, 2, 3, 4	C1xxxxxMM.2
Y2	3, 4	1427-2690		
P1	5, 6	3100-4200	5, 6, 7, 8	C1xxxxxMM.1
P2	7, 8	3100-4200		



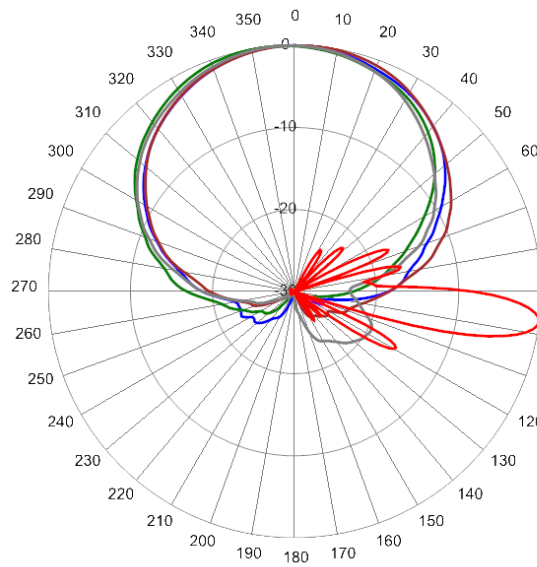
SPECIFICATIONS

OctoPort Multi-Band Antenna

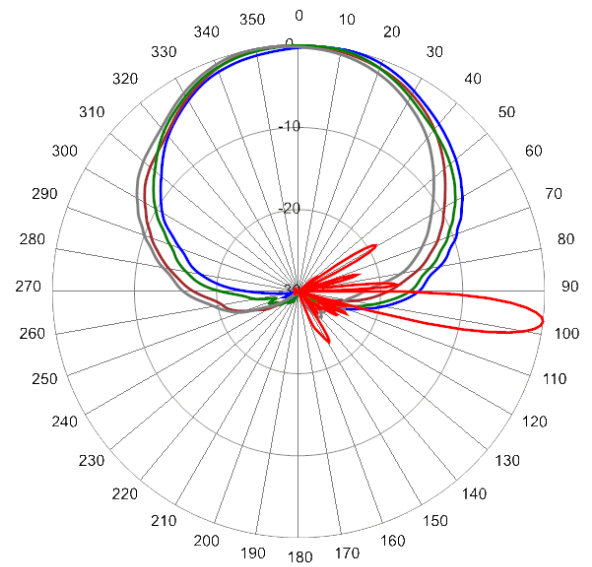
OPA65R-OH5A

Typical Antenna Patterns

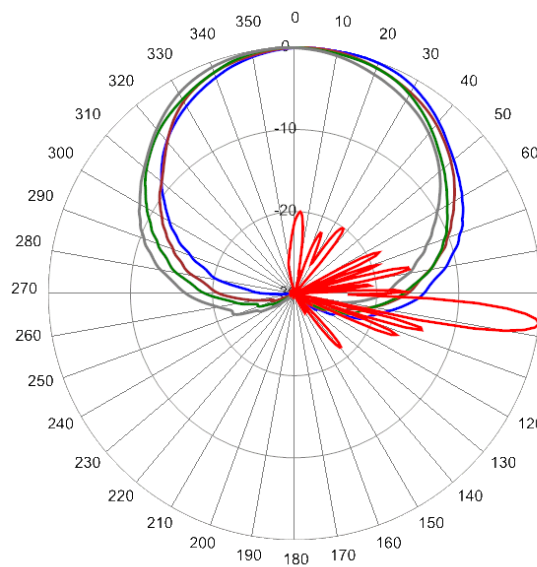
For detailed information on additional antenna patterns, contact customer support at support@cciprducts.com



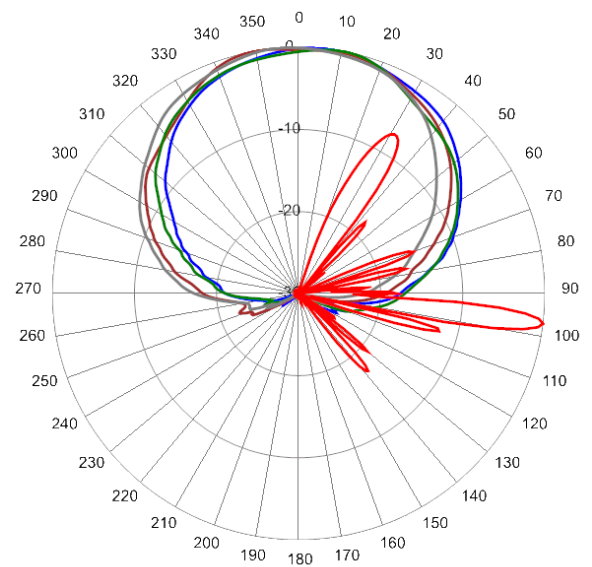
1455 MHz Azimuth with Elevation 7°



1850 MHz Azimuth with Elevation 7°



2180 MHz Azimuth with Elevation 7°



2650 MHz Azimuth with Elevation 7°

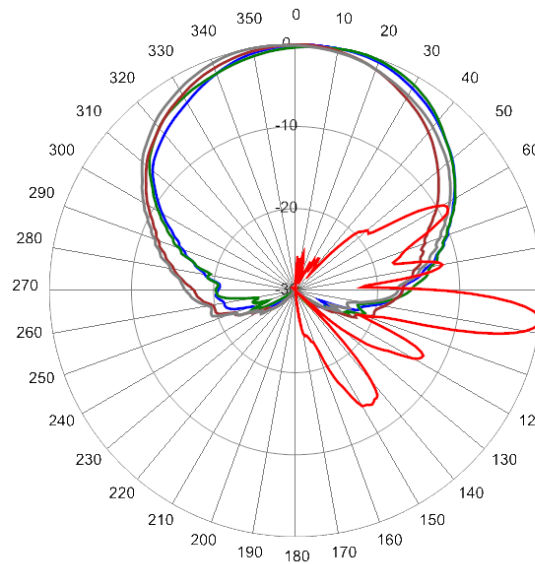


SPECIFICATIONS

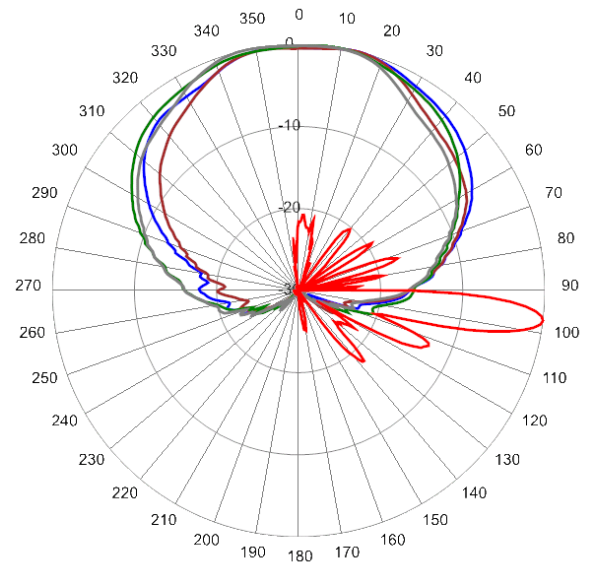
OctoPort Multi-Band Antenna

OPA65R-OH5A

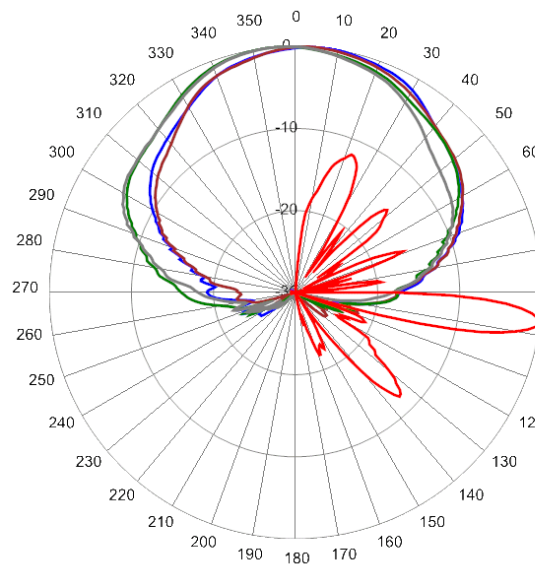
Typical Antenna Patterns



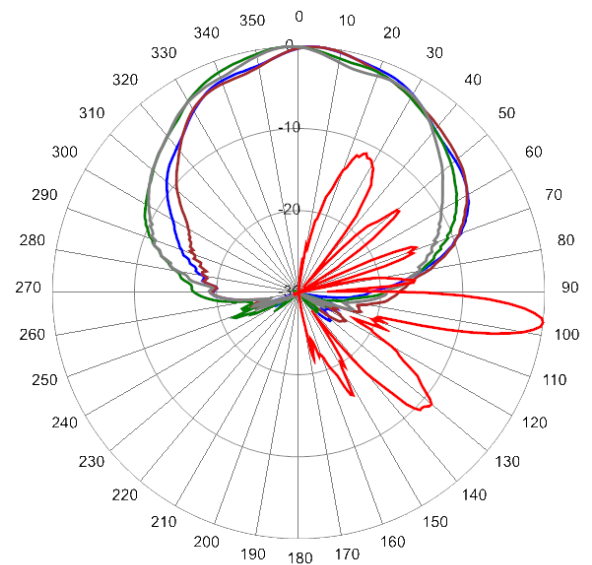
3300 MHz Azimuth with Elevation 7°



3600 MHz Azimuth with Elevation 7°



4000 MHz Azimuth with Elevation 7°



4200 MHz Azimuth with Elevation 7°



ORDERING

OctoPort Multi-Band Antenna

OPA65R-OH5A

Parts & Accessories

OPA65R-OH5AA-K	Five foot (1.4 m) DualBand antenna with 65° azimuth beamwidth, 4.3-10 female connectors, 2 factory installed BSA-RET400 RET actuators (Type 17 Internal) and MBK-01 mounting bracket
MBK-01	MBK-01 Mounting Kit with 0° - 10° mechanical tilt
BSA-RET400	Type 17 remote electrical tilt actuator
AISGC-M-F-10FT	10 Ft (3 m) Male/Female RRU to Antenna AISG cable



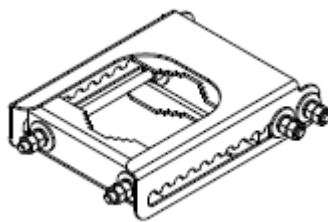
ACCESSORIES

Mounting Bracket Kit

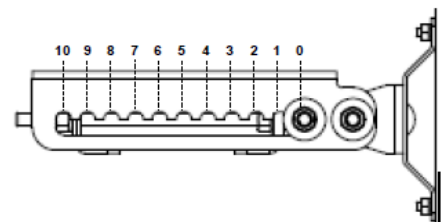
MBK-01

Mechanical

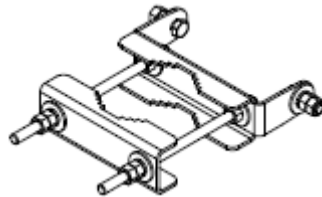
Weight	12.6 lbs (5.7 kg)
Hinge Pitch	47.25 in (1200 mm)
Mounting Pole Dimension	2 to 5 in (5 to 12 cm)
Fastener Size	M12
Installation Torque	40 ft·lb (54 N·m)
Mechanical Tilt Adjustment	0° - 10°



MBK-01 Top Adjustable Bracket



MBK-01 Top Adjustable Bracket Side View



MBK-01 Bottom Fixed Bracket



ACCESSORIES

Internal Remote Electrical Tilt (iRET)

BSA-RET400

General Specifications

Part Number	BSA-RET400
Protocols	AISG 2.0
RET Type	Type 17
Adjustment Cycles	>10,000 cycles
Tilt Accuracy	$\pm 0.1^\circ$
Temperature Range	-40° C to 70° C

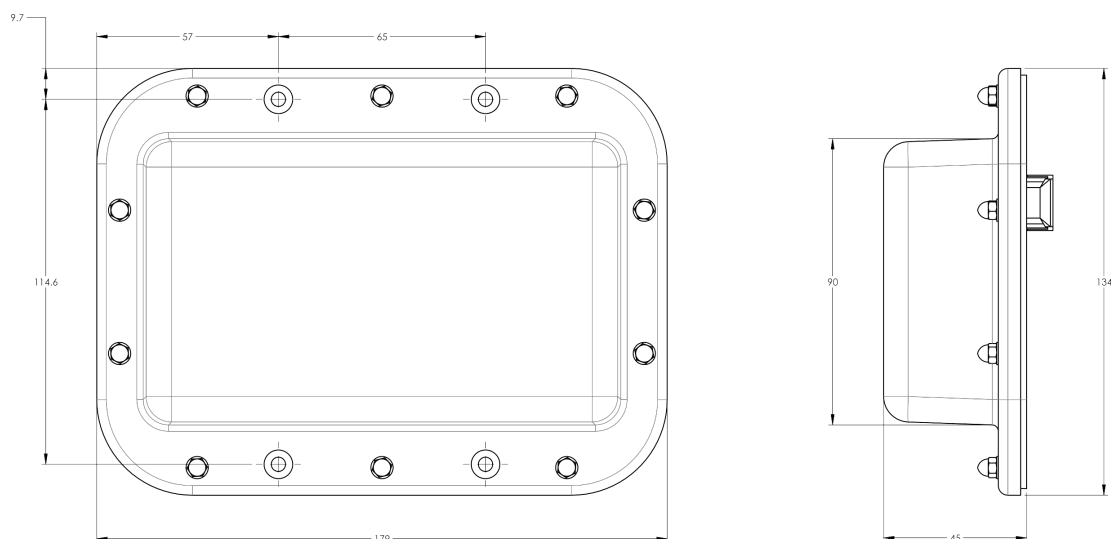
Electrical

Data Interface Signal	DC
Input Voltage	10-30 Vdc
Current Consumption Tilt	100 mA at $V_{in}=24$ (500 mA MAX)
Current Consumption Idle	10 mA at $V_{in}=24$

Mechanical

Dimensions (LxWxD)	7.0x5.3x1.8 in. (179x134x45 mm)
Housing	ASA/ABS/Aluminum
Weight	1.3 lbs (0.6 kg)

ASA= Acrylic Styrene Acrylonitrile
ABS=Acrylonitrile Butadiene Styrene





ACCESSORIES

AISG Cable

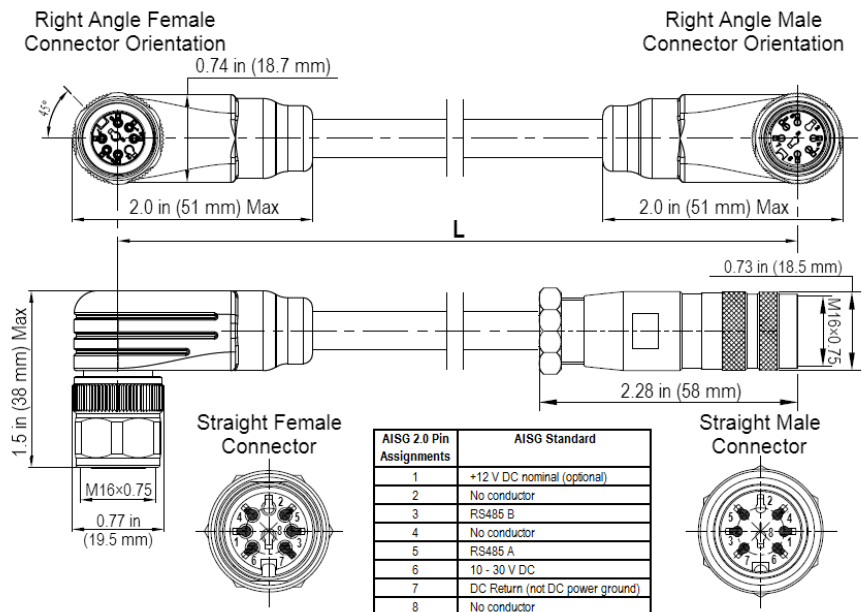
AISGC-M-F-xFT

Electrical Specifications

Individual Cable Part Number	AISGC-M-F-x(FT)
Cable style	UL2464
Protocol	AISG 1.1 and AISG 2.0
Maximum voltage	300 V
Rated current	5 A at 104° F (40° C)

Mechanical Specifications

Individual Cable Part Number	AISGC-M-F-x(FT)
Cables per kit	1
Connectors	2 x 8 pin IEC 60130-9 Straight male/straight female
Tightening torque	Hand tighten only ≈ 1.84 ft-lbs (2.5 Nm)
Construction	Shielded (Tinned Copper Braid)
Braid coverage	85%
Jacket Material	Matte Polyurethane (Black)
Conductors	1 twisted pair - 24 AWG 3 conductors - 19 AWG AWM style 2464
Cable Diameter	0.307 in (7.8 mm)
Length	See order details
Minimum bend radius	3.15 in (80 mm)



AISG-Male to AISG-Female Jumper Cable



Environmental Specifications

Individual Cable Part Number	AISGC-M-F-xFT
Temperature Range	-40° to 80° C
Flammability	UL 1581 VW-1
Ingress Protection	IEC 60529:2001, IP67



STANDARDS & CERTIFICATIONS

OctoPort Multi-Band Antenna

OPA65R-OH5A

Standards & Compliance

Safety	EN 60950-1, UL 60950-1
Emission	EN 55022
Immunity	EN 55024
Environmental	IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-5, IEC 60068-2-6, IEC-60068-2-11, IEC 60068-2-14, IEC 60068-2-18, IEC 60068-2-27, IEC 60068-2-29, IEC 60068-02-30, IEC 60068-2-52, IEC 60068-2-64, GR-63-CORE 4.3.1, EN 60529, IP 24

Certifications

Antenna Interface Standards Group (AISG), Federal Communication
Commission (FCC) Part 15 Class B, CE, CSA US, ISO 9001



CCI Communication Components Inc.
EXTENDING WIRELESS PERFORMANCE