



- Eight foot (2.4 m) multiband, eight port antenna with a 65° azimuth beamwidth covering 698-798, 824-896 MHz and 1695-2400 MHz frequencies
- Four wide high band ports covering 1695-2400 MHz and four frequency specific low band ports covering 698-798 MHz and 824-896 MHz (over a distributed duplexers) in a single antenna
- New enclosure with <12" (305 mm) width, narrowest enclosure in the industry
- Full Spectrum Compliance for WCS and AWS-3 frequencies and upcoming Band 14 Operations
- LTE Optimized FBR and SPR performance, providing for an efficient use of valuable radio capacity
- LTE Optimized Boresight and Sector XPD and USL performance, essential for LTE Performance
- Exceeds minimum PIM performance requirements
- Equipped with new 4.3-10 connector, which is 40% smaller than traditional 7/16 DIN connector

Overview

The CCI OctoPort multiband array is an eight port antenna, with four wide high band ports covering 1695-2400 MHz and four frequency specific low band ports covering 698-798 MHz and 824-896 MHz. The antenna provides the capability to deploy 4x4 Multiple-input Multiple-output (MIMO) in the high band and 2x2 Multiple-input Multiple-output (MIMO) across each of the paired low band ports.

The CCI OctoPort allows independent tilt control between the low band ports and high band ports, in a three RET Controller (Type 1 External) configuration. The 1st RET is dedicated for the 700 MHz Low Band ports and the 2nd RET is dedicated for the 850 MHz Low Band ports. The 3rd RET is dedicated for the High Band ports. With the use of a single RET in the High Band, equal tilt is achieved across all four High Band ports, which ensures optimal 4x4 MIMO performance.

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 for the high band and 2x2 MIMO for the low band
- Ready for Network Standardization on 4.3-10 DIN 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



SPECIFICATIONS

OctoPort Multi-Band Antenna

OPA65R-BU8B

Electrical

| Ports | 2 x Low Band Ports for 698-798 MHz | 2 x Low Band Ports for 824-896 MHz |
|---|------------------------------------|------------------------------------|
| Frequency Range | 698-798 MHz | 824-896 MHz |
| Gain ¹ | 15.3 dBi | 15.8 dBi |
| Gain (Average) ² | 14.8 dBi | 15.2 dBi |
| Azimuth Beamwidth (-3dB) | 67° | 66° |
| Elevation Beamwidth (-3dB) | 9.7° | 8.1° |
| Electrical Downtilt | 0° to 10° | 0° to 10° |
| Elevation Sidelobes (1st Upper) | <-18 dB | <-20 dB |
| Front-to-Back Ratio @180° | > 35 dB | > 35 dB |
| Cross-Polar Discrimination at Peak | > 25 dB | > 25 dB |
| Cross-Polar Discrimination at Sector ² | > 13 dB | > 14 dB |
| Cross-Polar Port-to-Port Isolation | > 25 dB | > 25 dB |
| Voltage Standing Wave Ratio (VSWR) | < 1.5:1 | < 1.5:1 |
| Passive Intermodulation (2x20W) | ≤ -150 dBc | ≤ -150 dBc |
| Input Power Continuous Wave (CW) | 500 watts | 500 watts |
| Polarization | Dual Linear 45° | Dual Linear 45° |
| Input Impedance | 50 ohms | 50 ohms |
| Lightning Protection | DC Ground | DC Ground |

¹Peak gain across sub-bands.

²Electrical specifications follow document "Recommendation on Base Station Antenna Standards" (BASTA) V9.6.

| Ports | 4 x High Band Ports for 1695-2400 MHz | | | |
|---|---------------------------------------|-----------------|-----------------|-----------------|
| Frequency Range | 1695-1880 MHz | 1850-1990 MHz | 1920-2180 MHz | 2300-2400 MHz |
| Gain ¹ | 18.0 dBi | 18.2 dBi | 18.4 dBi | 18.0 dBi |
| Gain (Average) ² | 17.1 dBi | 17.5 dBi | 17.7 dBi | 17.2 dBi |
| Azimuth Beamwidth (-3dB) | 62° | 62° | 62° | 59° |
| Elevation Beamwidth (-3dB) | 5.6° | 5.1° | 4.7° | 4.0° |
| Electrical Downtilt | 0° to 8° | 0° to 8° | 0° to 8° | 0° to 8° |
| Elevation Sidelobes (1st Upper) | <-18 dB | <-19 dB | <-18 dB | <-16 dB |
| Front-to-Back Ratio @180° | > 35 dB | > 35 dB | > 35 dB | > 35 dB |
| Cross-Polar Discrimination at Peak | > 18 dB | > 17 dB | > 18 dB | > 17 dB |
| Cross-Polar Discrimination at Sector ² | > 11 dB | > 9 dB | > 9 dB | > 7 dB |
| Cross-Polar Port-to-Port Isolation | > 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 |
| Passive Intermodulation (2x20W) | ≤ -150 dBc | ≤ -150 dBc | ≤ -150 dBc | ≤ -150 dBc |
| Input Power Continuous Wave (CW) | 300 watts | 300 watts | 300 watts | 300 watts |
| Polarization | Dual Linear 45° | Dual Linear 45° | Dual Linear 45° | Dual Linear 45° |
| Input Impedance | 50 ohms | 50 ohms | 50 ohms | 50 ohms |
| Lightning Protection | DC Ground | DC Ground | DC Ground | DC Ground |

¹Peak gain across sub-bands.

²Electrical specifications follow document "Recommendation on Base Station Antenna Standards" (BASTA) V9.6.



SPECIFICATIONS

OctoPort Multi-Band Antenna

OPA65R-BU8B

Mechanical

| | |
|-----------------------------------|--|
| Dimensions (LxWxD) | 95.9x11.7x8.4 in (2437x297x214 mm) |
| Survival Wind Speed | > 150 mph (> 241 kph) |
| Front Wind Load | 287 lbs (1278 N) @ 100 mph (161 kph) |
| Side Wind Load | 229 lbs (1018 N) @ 100 mph (161 kph) |
| Equivalent Flat Plate Area | 11.2 ft ² (1.0 m ²) |
| Weight * | 69.0 lbs (31.3 kg) |
| RET Weight | 5.0 lbs (2.3 kg) |
| Connector | 8 x 4.3-10 female |
| Mounting Pole | 2 to 5 in (5 to 12 cm) |

* Weight excludes mounting and RET



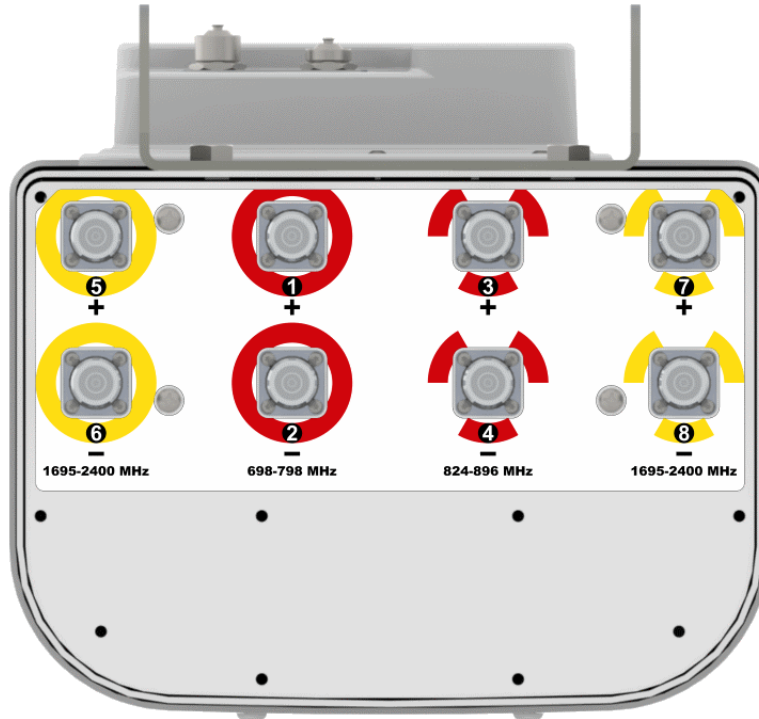
SPECIFICATIONS

OctoPort Multi-Band Antenna

OPA65R-BU8B

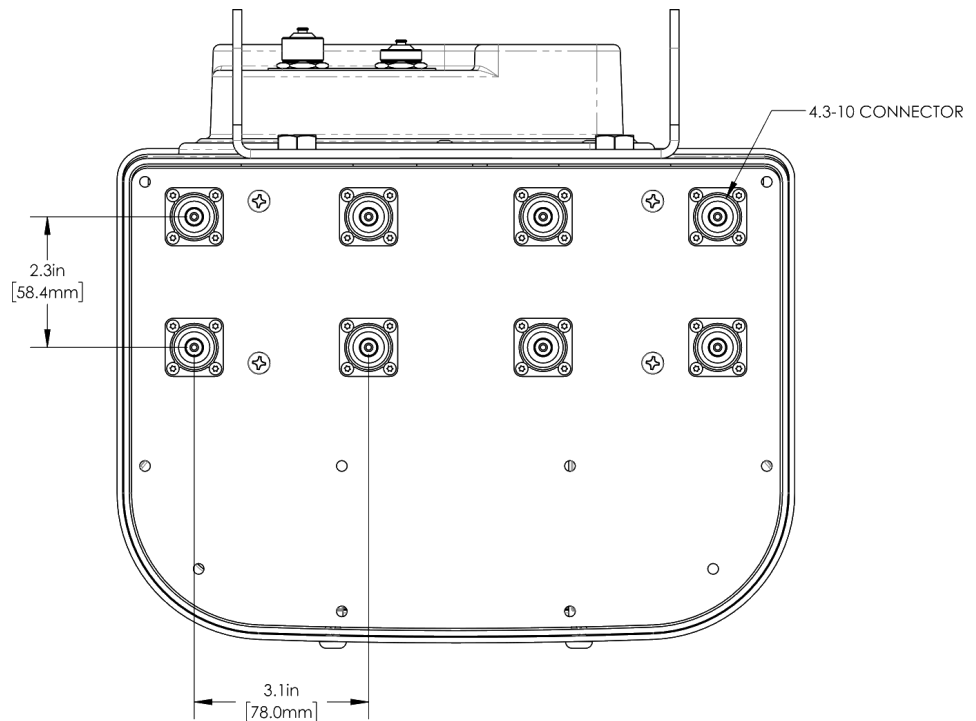
Bottom View

OPA65R-BU8B



Connection Spacing Diagram

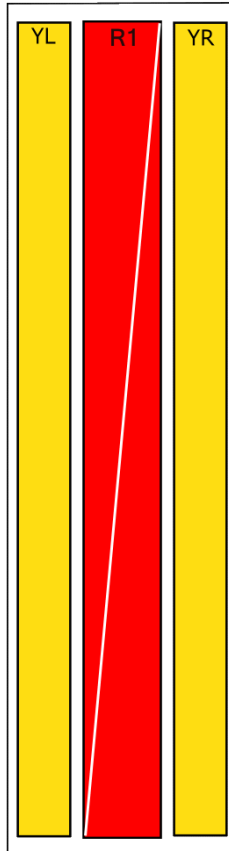
OPA65R-BU8B



RET to Element Configuration

OPA65R-BU8BA Element and RET configuration

Element arrays as viewed from rear of antenna



RET placement as viewed from rear of antenna

Top of antenna



698-798
Ports 1 & 2
(R1)



1695-2400
Ports 5, 6, 7 & 8
(YL & YR)



824-896
Ports 3 & 4
(R1)

| Array | Ports | Freq (MHz) | Ports controlled by common RET |
|-------|-------|------------|--------------------------------|
| R1 | 1, 2 | 698-798 | 1, 2 |
| R1 | 3, 4 | 824-896 | 3, 4 |
| YL | 5, 6 | 1695-2400 | 5, 6, 7, 8 |
| YR | 7, 8 | 1695-2400 | |



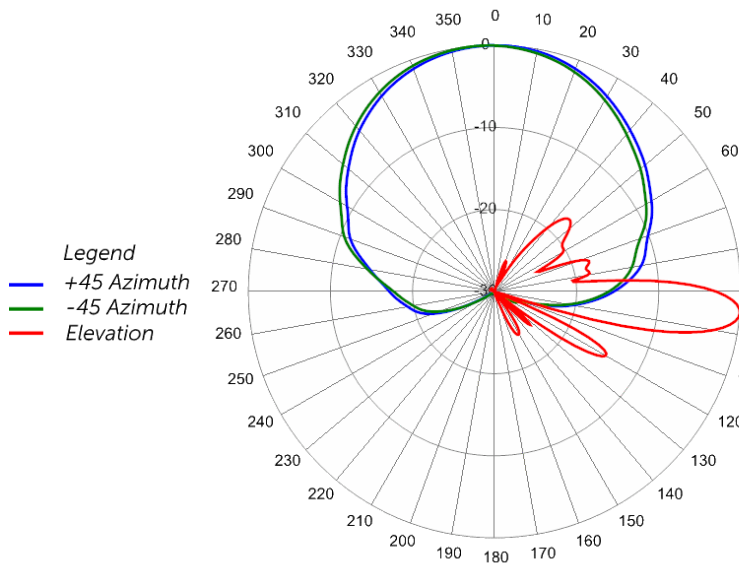
SPECIFICATIONS

OctoPort Multi-Band Antenna

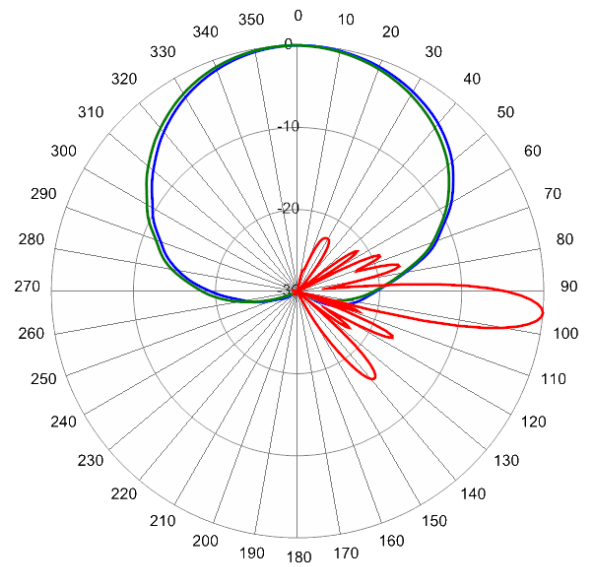
OPA65R-BU8B

Typical Antenna Patterns

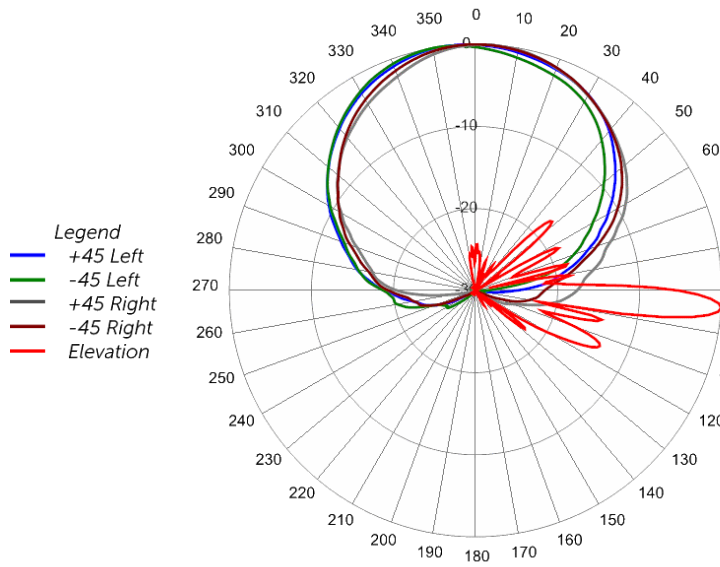
For detailed information on additional antenna patterns, contact customer support at support@cciproducts.com



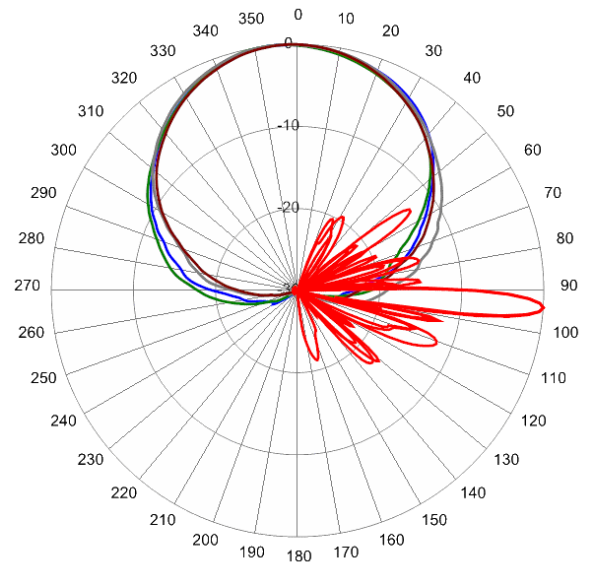
704 MHz Azimuth with Elevation 5°



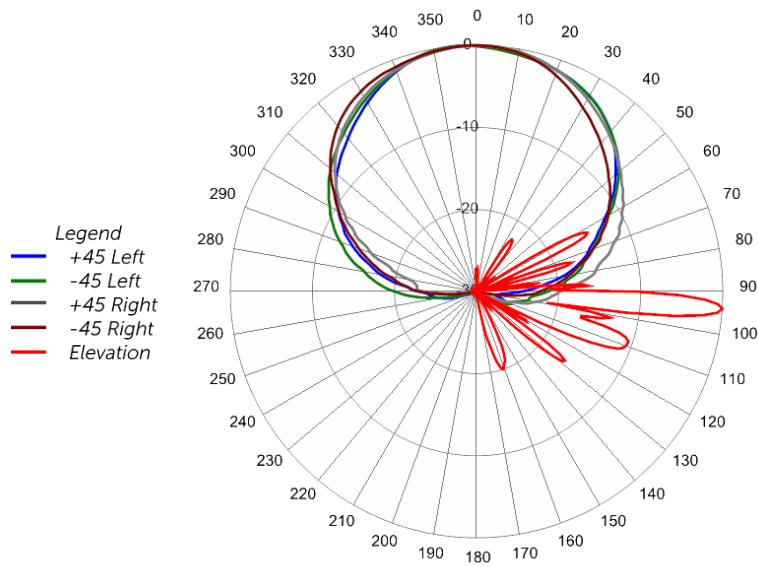
840 MHz Azimuth with Elevation 5°



1740 MHz Azimuth with Elevation 4°



1970 MHz Azimuth with Elevation 4°



2155 MHz Azimuth with Elevation 4°



OctoPort Multi-Band Antenna

OPA65R-BU8B

Parts & Accessories

| | |
|--------------------------|--|
| OPA65R-BU8BA-K | Eight foot (2.4 m) OctoPort antenna with 65° azimuth beamwidth, 4.3-10 female connectors, three factory installed BSA-RET200 RET actuators (Type 1 external) and MBK-01 mounting bracket |
| OPA65R-BU8BB-K | (Future Development) Eight foot (2.4 m) OctoPort antenna with 65° azimuth beamwidth, 4.3-10 female connectors, three factory installed BSA-RET400 RET actuators (Type 17 internal) and MBK-02 mounting bracket |
| MBK-01 | Mounting bracket kit (top and bottom) with 0° to 10° mechanical tilt adjustment |
| BSA-RET200 | Remote electrical tilt actuator |
| HPA-CBK-AG-RRU | RRU AISG cable kit for three RET antenna |
| HPA-CBK-RA-AG-RRU | RRU AISG right angle cable kit for three RET antenna |

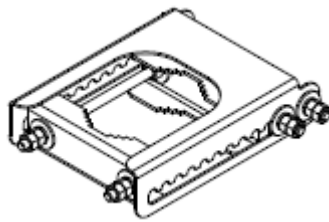


Mounting Bracket Kit

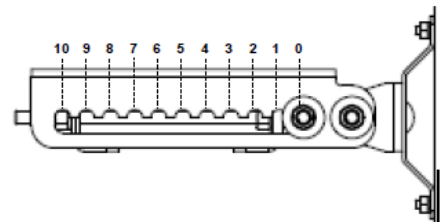
MBK-01

Mechanical

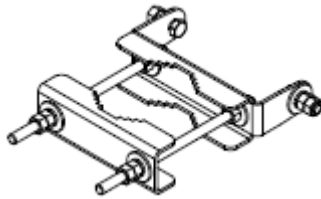
| | |
|-----------------------------------|------------------------|
| Weight | 12.6 lbs (5.7 kg) |
| Hinge Pitch | 47.25 in (1200 mm) |
| Mounting Pole Dimension | 2 to 5 in (5 to 12 cm) |
| Fastener Size | M12 |
| Installation Torque | 40 ft·lb (54 N·m) |
| Mechanical Tilt Adjustment | 0° - 10° |



MBK-01 Top Adjustable Bracket



MBK-01 Top Adjustable Bracket Side View



MBK-01 Bottom Fixed Bracket



Remote Electrical Tilt Actuator (RET)

BSA-RET200

General Specifications

| | |
|-------------------|-----------------|
| Part Number | BSA-RET200 |
| Protocols | AISG 2.0 |
| RET Type | Type 1 |
| Adjustment Cycles | >10,000 cycles |
| Tilt Accuracy | ±0.1° |
| Temperature Range | -40° C to 70° C |

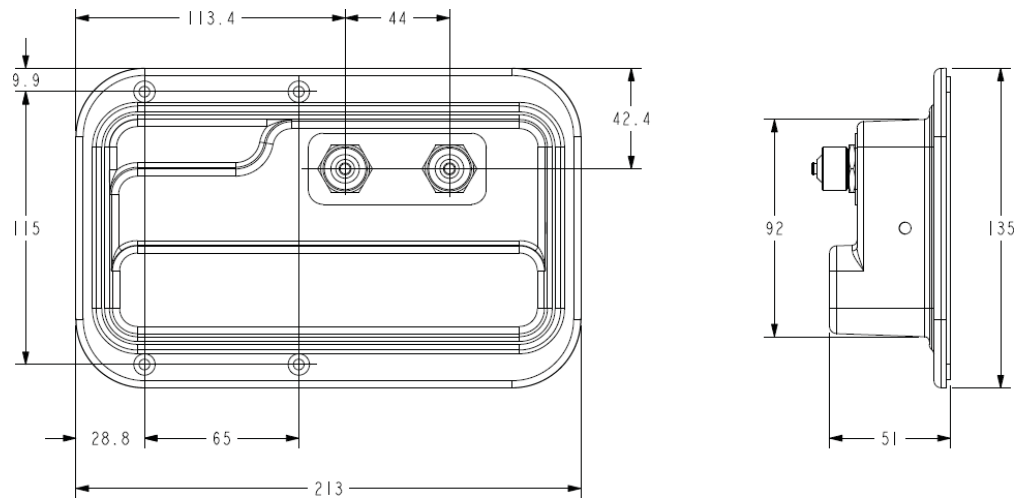
Electrical

| | |
|--------------------------|------------------------------|
| Data Interface Signal | DC |
| Input Voltage | 10-30 Vdc |
| Current Consumption Tilt | 120 mA at $V_{in}=24$ |
| Current Consumption Idle | 55 mA at $V_{in}=24$ |
| Hardware Interface | AISG-RS 485 A/B |
| Input Connector | Male 1 × 8 pin Daisy Chain |
| Output Connector | Female 1 × 8 pin Daisy Chain |

Mechanical

| | |
|--------------------|---------------------------------|
| Dimensions (LxWxD) | 8.0x5.0x2.0 in. (213x135x51 mm) |
| Housing | ASA/ABS/Aluminum |
| Weight | 1.7 lbs (0.75 kg) |

ASA= Acrylic Styrene Acrylonitrile
ABS=Acrylonitrile Butadiene Styrene



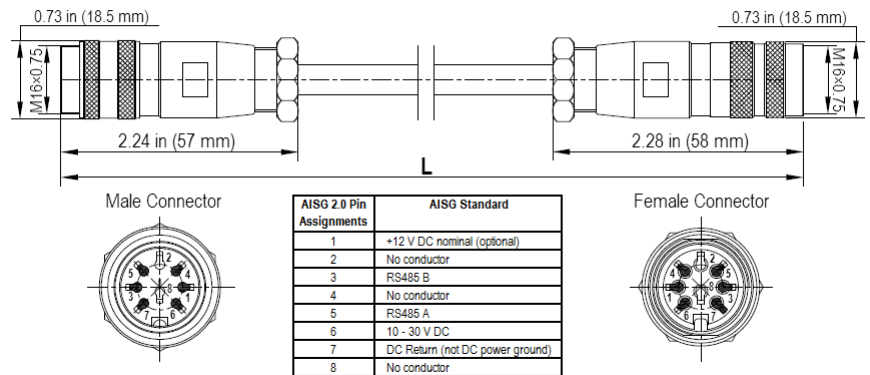


Electrical Specifications

| | | |
|-------------------------------------|-----------------------|-----------------------|
| Individual Cable Part Number | AISGC-M-F-18 | AISGC-M-F-10FT |
| Cable style | UL2464 | UL2464 |
| Protocol | AISG 1.1 and AISG 2.0 | AISG 1.1 and AISG 2.0 |
| Maximum voltage | 300 V | 300 V |
| Rated current | 5 A at 104° F (40° C) | 5 A at 104° F (40° C) |

Mechanical Specifications

| | | |
|-------------------------------------|--|--|
| Individual Cable Part Number | AISGC-M-F-18 | AISGC-M-F-10FT |
| Cables per kit | 2 | 2 |
| Connectors | 2 x 8 pin IEC 60130-9 Straight male/straight female | 2 x 8 pin IEC 60130-9 Straight male/straight female |
| Tightening torque | Hand tighten only ≈ 1.84 ft-lbs (2.5 N-m) | Hand tighten only ≈ 1.84 ft-lbs (2.5 N-m) |
| Construction | Shielded (Tinned Copper Braid) | Shielded (Tinned Copper Braid) |
| Braid coverage | 85% | 85% |
| Jacket Material | Matte Polyurethane (Black) | Matte Polyurethane (Black) |
| Conductors | 1 twisted pair - 24 AWG 3 conductors - 19 AWG AWM style 2464 | 1 twisted pair - 24 AWG 3 conductors - 19 AWG AWM style 2464 |
| Cable Diameter | 0.307 in (7.8 mm) | 0.307 in (7.8 mm) |
| Length | 18 - 20 in (457 - 508 mm) | 120 in (3048 mm) |
| Weight | 0.27 lbs (0.12 kg) | 0.69 lbs (.31 kg) |
| Minimum bend radius | 3.9 in (100 mm) | 3.9 in (100 mm) |



AISG-Male to AISG-Female Jumper Cable

Environmental Specifications

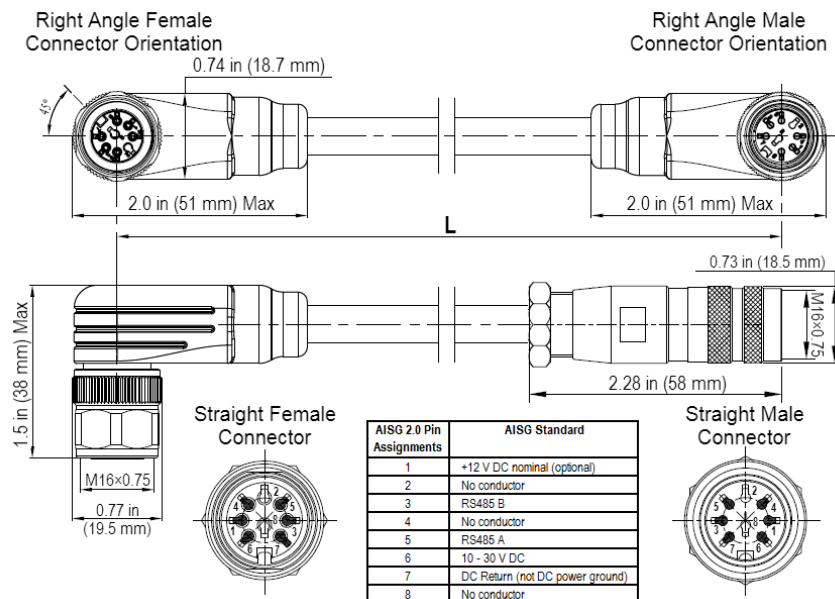
| | | |
|-------------------------------------|----------------------|----------------------|
| Individual Cable Part Number | AISGC-M-F-18 | AISGC-M-F-10FT |
| Temperature Range | -40° to 80° C | -40° to 80° C |
| Flammability | UL 1581 VW-1 | UL 1581 VW-1 |
| Ingress Protection | IEC 60529:2001, IP67 | IEC 60529:2001, IP67 |



Electrical/Mechanical/Environmental Specifications

| | RET to RET Cables | RRU to Antenna Cables |
|------------------------------|--|---|
| Individual Cable Part Number | AISGC-MRA-FRA-20 | AISGC-M-FRA-10FT |
| Cable style | UL2464 | |
| Protocol | AISG 1.1 and AISG 2.0 | |
| Maximum voltage | 300 V | |
| Rated current | 5 A at 104° F (40° C) | |
| Temperature Range | -40° to 80° C | |
| Flammability | UL 1581 VW-1 | |
| Ingress Protection | IEC 60529:2001, IP67 | |
| Tightening torque | Hand tighten only ≈ 1.84 ft-lbs (2.5 N·m) | |
| 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) | |
| Minimum bend radius | 3.9 in (100 mm) | |
| Connectors | 2 x 8 pin IEC 60130-9 Right angle male/right angle female | 2 x 8 pin IEC 60130-9 Straight male/right angle female |
| Length | 20 in (508 mm) | 120 in (3048 mm) |
| Weight | 0.23 lbs (0.10 kg) | 0.77 lbs (0.35 kg) |
| Cables per kit | 2 | 2 |

Mechanical Specifications



Right Angle to Right Angle and Right Angle to Straight Jumper Cable



STANDARDS & CERTIFICATIONS

OctoPort Multi-Band Antenna

OPA65R-BU8B

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

