DATA SHEET

Ten Port Multi-Band Antenna

DPA-65R-BUUUU-H8B

- Eight High Broadband ports simultaneously covering PCS, AWS / AWS-3 and WCS bands
- Eight High Broadband ports with two Low Band ports in one antenna
- Excellent elevation side-lobe performance
- Excellent MIMO performance due to array spacing
- Supports up to 8x8 MIMO in high band
- Excellent PIM Performance
- A multi-network solution in one radome
- RET System allows Independent Tilt of each band specific paired port
- Reduces tower loading
- Frees up space for tower mounted Remote Radio Heads
- All Band design simplifies radio assignments
- Single radome with ten ports
- Sharp elevation beam eases network planning
- Equipped with new 4.3-10 connector, which is 40% smaller than traditional 7/16 DIN connector

Overview

The CCI 10-port Multi-Band Antenna Array is a 10-port antenna with eight high band ports that simultaneously cover the full PCS, AWS / AWS-3 and WCS bands. In addition to the eight high band ports (1695-2360 MHz), the antenna includes two low band ports covering 698-896 MHz. The 10-port antenna is ready for 8x8 MIMO or dual 4x4 MIMO in high band.
Modern networks demand high performance, consequently CCI has incorporated several new and innovative design techniques to provide an antenna with excellent side-lobe performance, sharp elevation beams, and high front to back ratio.
Multiple networks can now be connected to a single antenna, reducing tower loading and leasing expense, while decreasing deployment time and installation cost.
Full band capability for 700 MHz , Cellular 850 MHz, PCS 1900 MHz, AWS 1695/2180 MHz and WCS 2300 MHz coverage in a single enclosure.

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

Applications

- 8x8 MIMO or Dual 4x4 MIMO on High Band
- 2x2 MIMO on Low Band
- Adding additional capacity without adding additional antennas

MultiPort Series

SPECIFICATIONS

Ten Port Multi-Band Antenna

DPA-65R-BUUUU-H8B

Electrical

Ports	2 Low Band Ports for 698-896 MHz		8 High Band Ports for 1695-2360 MHz			
Frequency Range	698-806 MHz	824-896 MHz	1850-1990 MHz	1695-1780 / 2110-2180 MHz		2305-2360 MHz
Gain Peak	15.6 dBi	16.1 dBi	16.6 dBi	16.1 dBi	16.9 dBi	17.2 dBi
Gain Average*	15.3 dBi	15.8 dBi	16.1 dBi	15.6 dBi	16.6 dBi	16.8 dBi
Azimuth Beamwidth (-3dB)	66°	67°	68°	69°	62°	59°
Elevation Beamwidth (-3dB)	9.3°	7.9°	6.9°	8.1°	6.4°	6.1°
Electrical Downtilt	2° to 10°	2° to 10°	0° to 10°	0° to 10°	0° to 10°	0° to 10°
Elevation Sidelobes (1st Upper)	< -16 dB	< -17 dB	< -17 dB	< -18 dB	< -17 dB	< -17 dB
Front-to-Back Ratio @180°	> 30 dB	> 30 dB	> 30 dB	> 30 dB	> 30 dB	> 30 dB
Front-to-Back Ratio over ± 20°	> 30 dB	> 30 dB	> 27 dB	> 27 dB	> 27 dB	> 27 dB
Cross-Polar Discrimination (at Peak)	> 22 dB	> 25 dB	> 24 dB	> 26 dB	> 22 dB	> 26 dB
Cross-Polar Discrimination (at ± 60°)	> 18 dB	> 19 dB	> 17 dB	> 17 dB	> 17 dB	> 16 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)	≤ -150 dBc	≤ -150 dBc	≤ -150 dBc	≤ -150 dBc	≤ -150 dBc	≤ -150 dBc
Input Power Continuous Wave (CW)	500 watts	500 watts	300 watts	300 watts	300 watts	300 watts
Polarization	Dual Pol 45°	Dual Pol 45°	Dual Pol 45°	Dual Pol 45°	Dual Pol 45°	Dual Pol 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

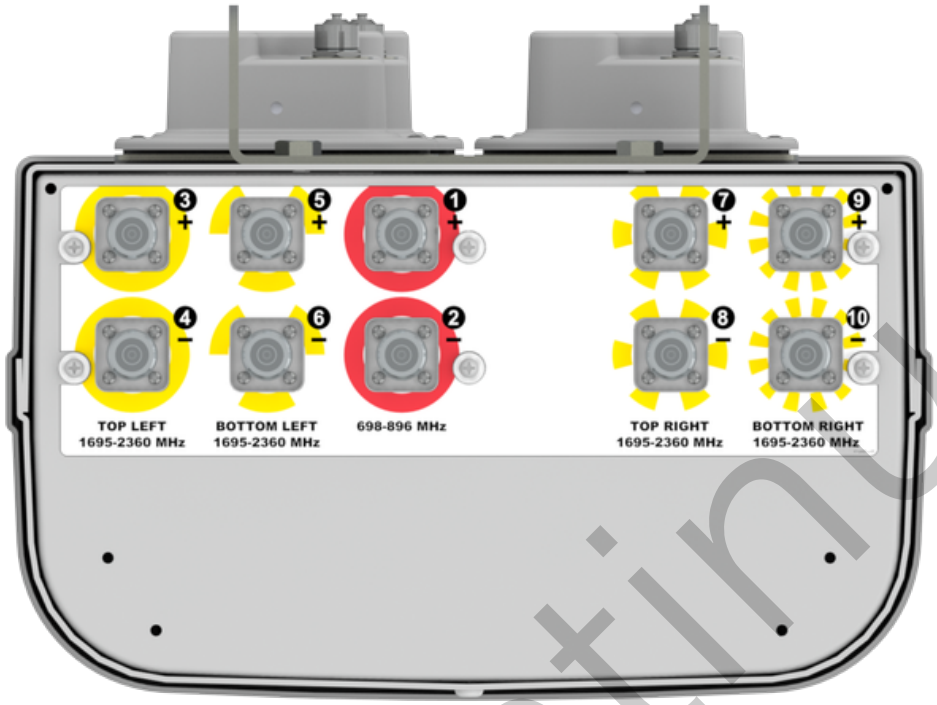
**Per BASTA specification of Gain over all Tilts*
All specifications are subject to change without notice.

Mechanical

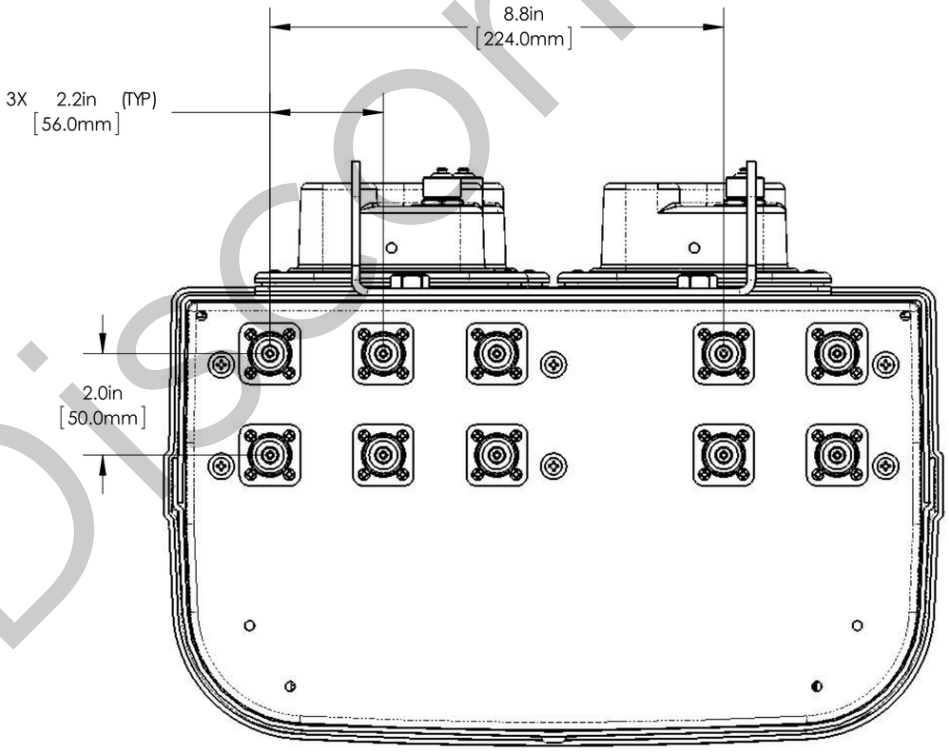
Dimensions (LxWxD)	95.9x14.4x8.6 in (2437x366x218 mm)
Survival Wind Speed	> 150 mph (> 241 kph)
Front Wind Load	340 lbs (1514 N) @ 100 mph (161 kph)
Side Wind Load	225 lbs (1001 N) @ 100 mph (161 kph)
Equivalent Flat Plate Area	13.3 ft^2 (1.2 m^2)
Weight *	66.1 lbs (30.0 kg)
RET System Weight	5.0 lbs (2.3 kg)
Connector	10 x 4.3-10 Female
Mounting Pole	2 to 5 in (5 to 12 cm)

** Weight excludes mounting and RET*

Bottom View

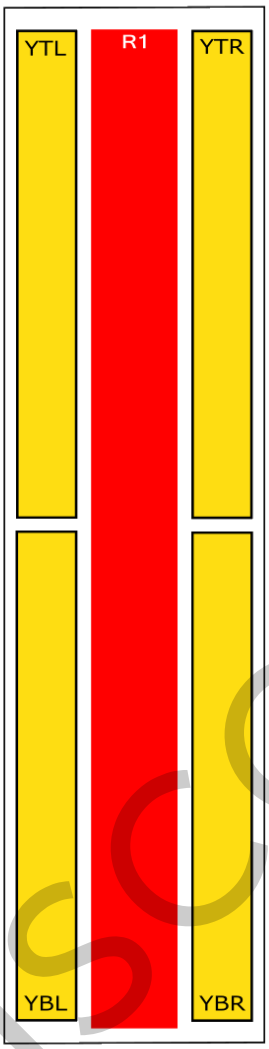


Connector Spacing



RET/Element Configuration

Top of antenna
Viewed from rear

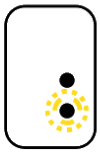


RET placement as view from rear of antenna

Top of antenna

TOP
1695-2360
Ports 3, 4, 7, 8
(YTL & YTR)

698-896
698-896
Ports 1, 2
(R1)

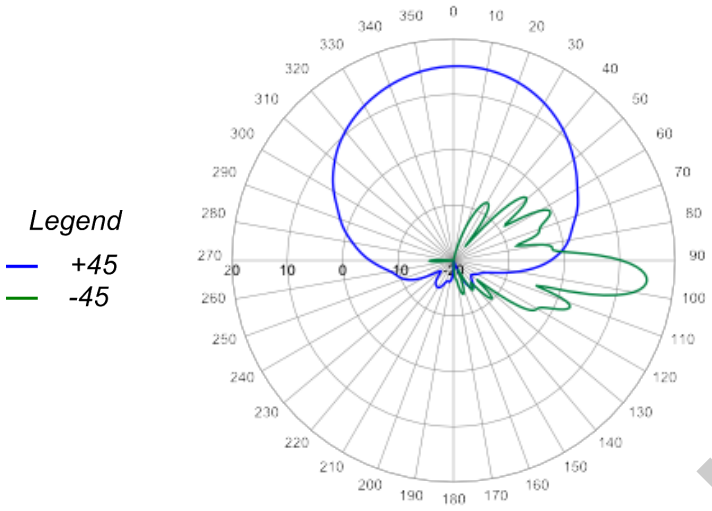


BOTTOM
1695-2360
Ports 5, 6, 9,10
(YBL & YBR)

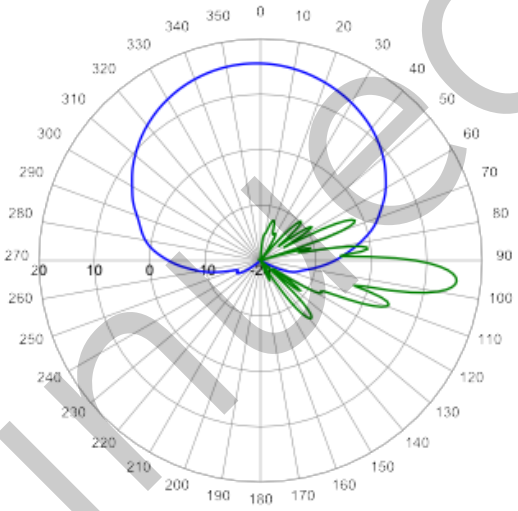
Array	Ports	Freq (MHz)	Ports controlled by common RET
R1	1, 2	698-896	1, 2
YTL	3, 4	1695-2360	3, 4, 7,8
YTR	7, 8	1695-2360	
YBL	5, 6	1695-2360	5, 6, 9, 10
YBR	9, 10	1695-2360	

Typical Antenna Patterns

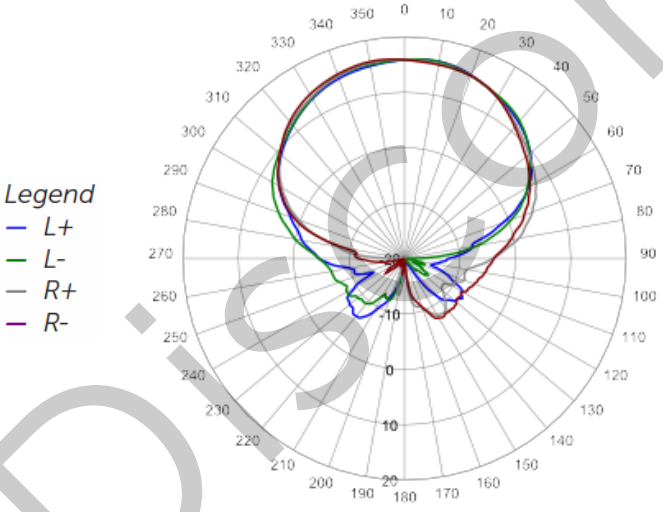
For detailed information on additional antenna patterns, contact customer support at support@cciproducts.com



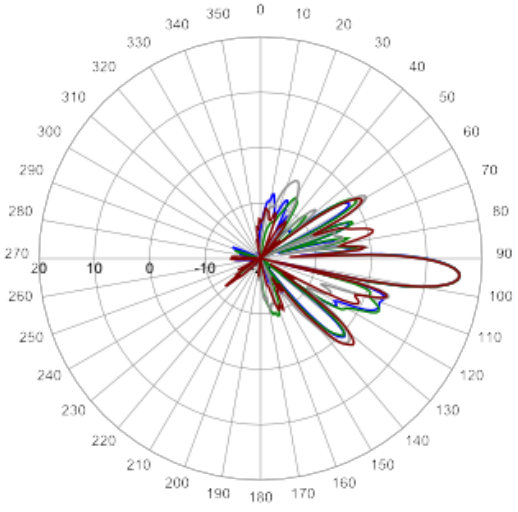
737 MHz Azimuth with Elevation 6°



862 MHz Azimuth with Elevation 6°



1920 MHz Azimuth



1920 MHz Elevation 5°

ORDERING

Ten Port Multi-Band Antenna

DPA-65R-BUUUU-H8B

Parts & Accessories

DPA-65R-BUUUU-H8B-K	8 foot (2.4 m) Ten Port antenna with 65° azimuth beamwidth, 4.3-10 female connectors, 3 factory installed BSA-RET200 RET actuators and MBK-01 mounting kit
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	HexPort antenna to RRU AISG cable kit
HPA-CBK-RA-AG-RRU	HexPort antenna to RRU AISG right angle cable kit

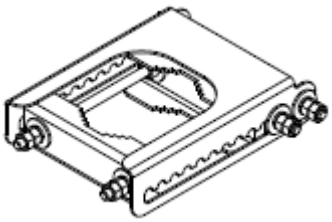
ACCESSORIES

Mounting Bracket Kit

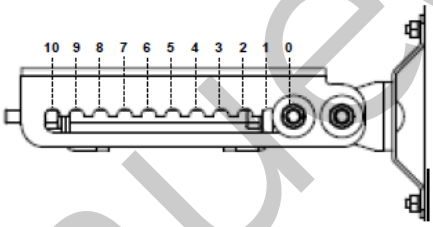
MBK-01

Mechanical

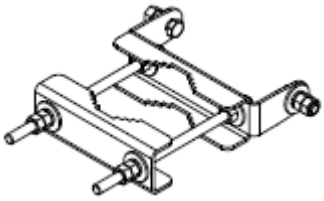
Weight	12.6 lbs (5.7 kg)
Hinge Pitch	47.25 in (1200 mm)
Mounting Pole Dimension	2 to 5 in (5 to 12 cm)
Fastener Size	M12
Installation Torque	40 ft·lb (54 N·m)
Mechanical Tilt Adjustment	0° - 10°



MBK-01 Top Adjustable Bracket



MBK-01 Top Adjustable Bracket Side View



MBK-01 Bottom Fixed Bracket

MultiPort Series

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

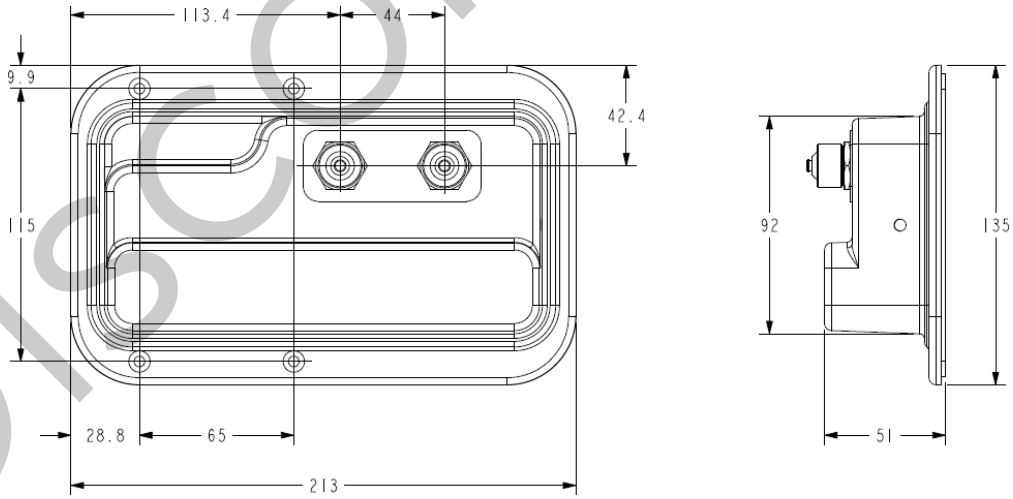
Electrical

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 x 8 pin Daisy Chain
Output Connector	Female 1 x 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=Acrylanitrile Butadiene Styrene



AISG Cable Kit

HPA-CBK-AG-RRU

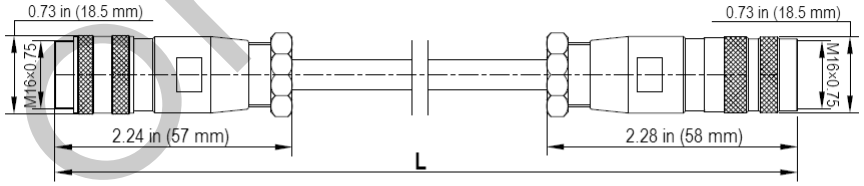
MultiPort Series

Electrical Specifications

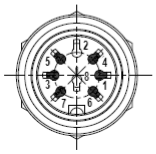
Individual Cable Part Number	AISGC-M-F-18	AISGC-M-F-10FT
Cable style	UL2464	UL2464
Protocol	AISG 1.1 and AISG 2.0	AISG 1.1 and AISG 2.0
Maximum voltage	300 V	300 V
Rated current	5 A at 104° F (40° C)	5 A at 104° F (40° C)

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)

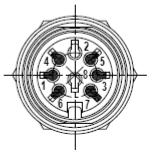


Male Connector



AISG 2.0 Pin Assignments	AISG Standard
1	+12 V DC nominal (optional)
2	No conductor
3	RS485 B
4	RS 485 Ground
5	RS485 A
6	10 - 30 V DC
7	DC Return (not DC power ground)
8	No conductor

Female Connector



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

MultiPort Series

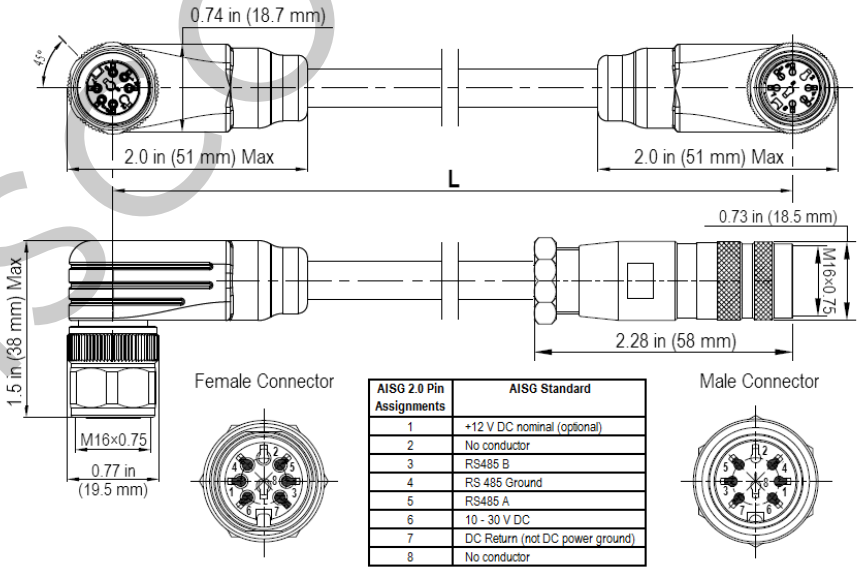
AISG Cable Kit

HPA-CBK-RA-AG-RRU

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



AISG 2.0 Pin Assignments	AISG Standard
1	+12 V DC nominal (optional)
2	No conductor
3	RS485 B
4	RS 485 Ground
5	RS485 A
6	10 - 30 V DC
7	DC Return (not DC power ground)
8	No conductor

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

STANDARDS & CERTIFICATIONS

Ten Port Multi-Band Antenna

DPA-65R-BUUUU-H8B

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