



- Eight foot (2.4 m), ten port antenna with a 65° azimuth beamwidth covering 698-894 MHz, 1710-2360 MHz and 2300-2690 MHz
- Eight High Band ports with two Low Band ports in one antenna
- Sharp elevation beam
- Excellent elevation side-lobe performance
- Excellent MIMO performance due to array spacing
- Excellent PIM Performance
- A multi-network solution in one radome
- Reduces tower loading
- Frees up space for tower mounted Remote Radio Heads
- Single radome with ten ports
- All Band design simplifies radio assignments
- Sharp elevation beam eases network planning

Overview

The CCI Ten-port 65° Multi-Band Antenna Array is a 10-port antenna with full high band capability. With eight high band ports and two low band ports, our ten-port antenna is ready for 4X4 high band MIMO in PCS / AWS / WCS bands as well as additional 4x4 MIMO in WCS / 2.6 GHz bands.

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 1710/2170 MHz and WCS 2300 & 2600 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

- 4x4 MIMO (x2) on High Band and 2x2 MIMO on Low Band
- Adding additional capacity without adding additional antennas
- Adding WCS & 2600 MHz Bands without increasing antenna count



TenPort Multi-Band Antenna

DPA-65R-BUUVV-H8

SPECIFICATIONS

Electrical

Ports	2 × Low Band Ports for 698-894 MHz	
Frequency Range	698-806 MHz	824-894 MHz
Gain	15.0 dBi	15.9 dBi
Azimuth Beamwidth (-3dB)	68°	63°
Elevation Beamwidth (-3dB)	10.2°	8.7°
Electrical Downtilt	2° to 10°	2° to 10°
Elevation Sidelobes (1st Upper)	< -18 dB	< -18 dB
Front-to-Back Ratio @180°	> 29 dB	> 28 dB
Front-to-Back Ratio over ± 20°	> 28 dB	> 27 dB
Cross-Polar Discrimination (at Peak)	> 24 dB	> 22 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 Pol 45°	Dual Pol 45°
Input Impedance	50 ohms	50 ohms
Lightning Protection	DC Ground	DC Ground

Ports	4 × High Band Ports for 1710-2360 MHz			4 × High Band Ports for 2300-2690 MHz		
Frequency Range	1850-1990 MHz	1710-1755/2110-2170 MHz	2305-2360 MHz	2305-2360 MHz	2496-2690 MHz	
Gain	15.0 dBi	14.3 dBi	15.8 dBi	16.3 dBi	16.4 dBi	16.7 dBi
Azimuth Beamwidth (-3dB)	64°	70°	65°	60°	63°	59°
Elevation Beamwidth (-3dB)	8.9°	9.9°	7.7°	6.8°	6.3°	6.0°
Electrical Downtilt	0° to 8°	0° to 8°	0° to 8°	0° to 8°	0° to 8°	0° to 8°
Elevation Sidelobes (1st Upper)	<-20 dB	<-20 dB	<-20 dB	<-20 dB	<-15 dB	<-16 dB
Front-to-Back Ratio @180°	>32 dB	>32 dB	>32 dB	>32 dB	>32 dB	>32 dB
Front-to-Back Ratio over ± 20°	>27 dB	>27 dB	>27 dB	>27 dB	>26 dB	>26 dB
Cross-Polar Discrimination (at Peak)	>27 dB	>27 dB	>27 dB	>27 dB	>25 dB	>25 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)	300 watts	300 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



SPECIFICATIONS

TenPort Multi-Band Antenna

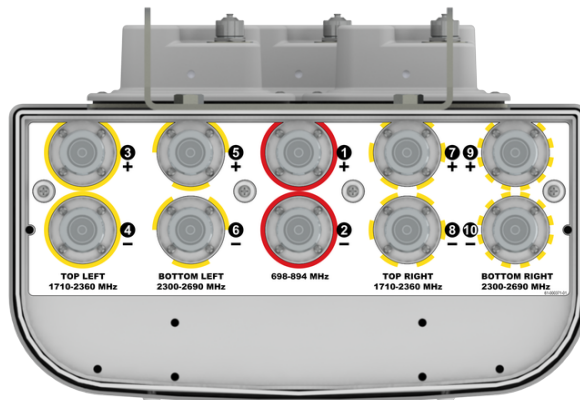
DPA-65R-BUUVV-H8

Mechanical

Dimensions (LxWxD)	92.7x14.4x7.3 in (2355x366x185 mm)
Survival Wind Speed	> 150 mph (> 241 kph)
Front Wind Load	327 lbs (1453 N) @ 100 mph (161 kph)
Side Wind Load	191 lbs (848 N) @ 100 mph (161 kph)
Equivalent Flat Plate Area	12.8 ft ² (1.2 m ²)
Weight *	57.0 lbs (25.9 kg)
RET System Weight	5.1 lbs (2.3 kg)
Connector	10 x 7-16 DIN female long neck
Mounting Pole	2 to 5 in (5 to 12 cm)

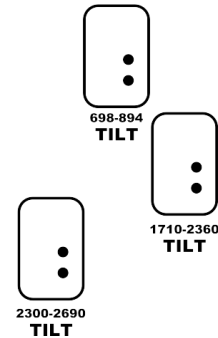
* Weight excludes mounting and RET

Bottom View

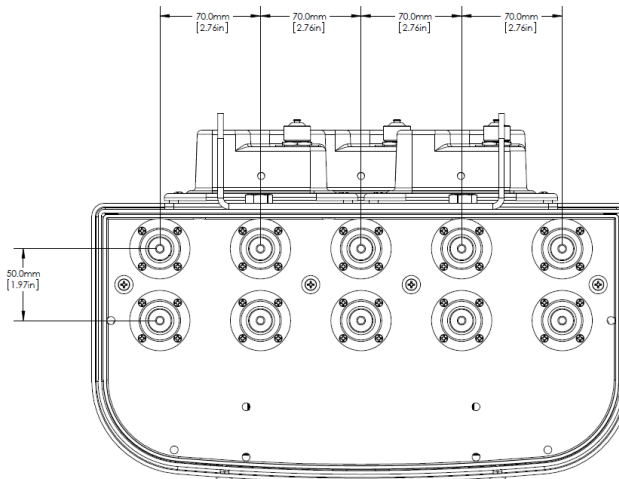


RET Connection Diagram

CONNECT RET ACTUATORS AS SHOWN BELOW



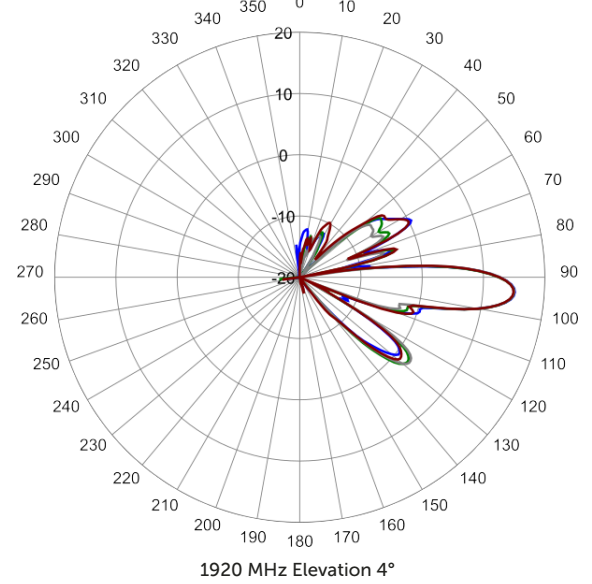
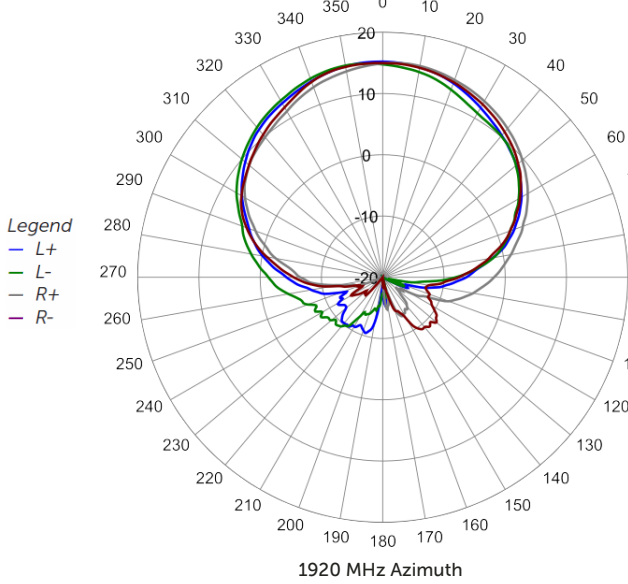
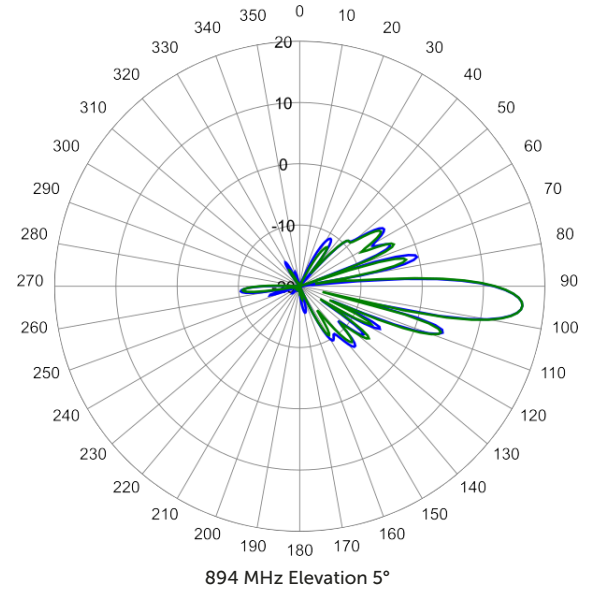
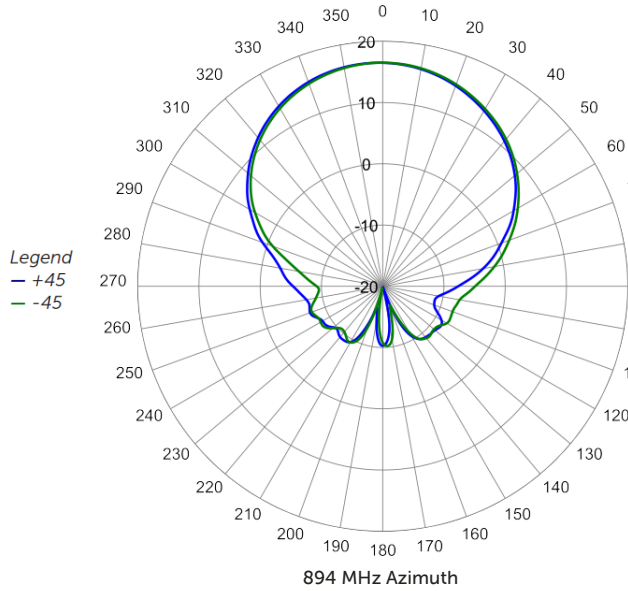
Connector Spacing





Typical Antenna Patterns

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

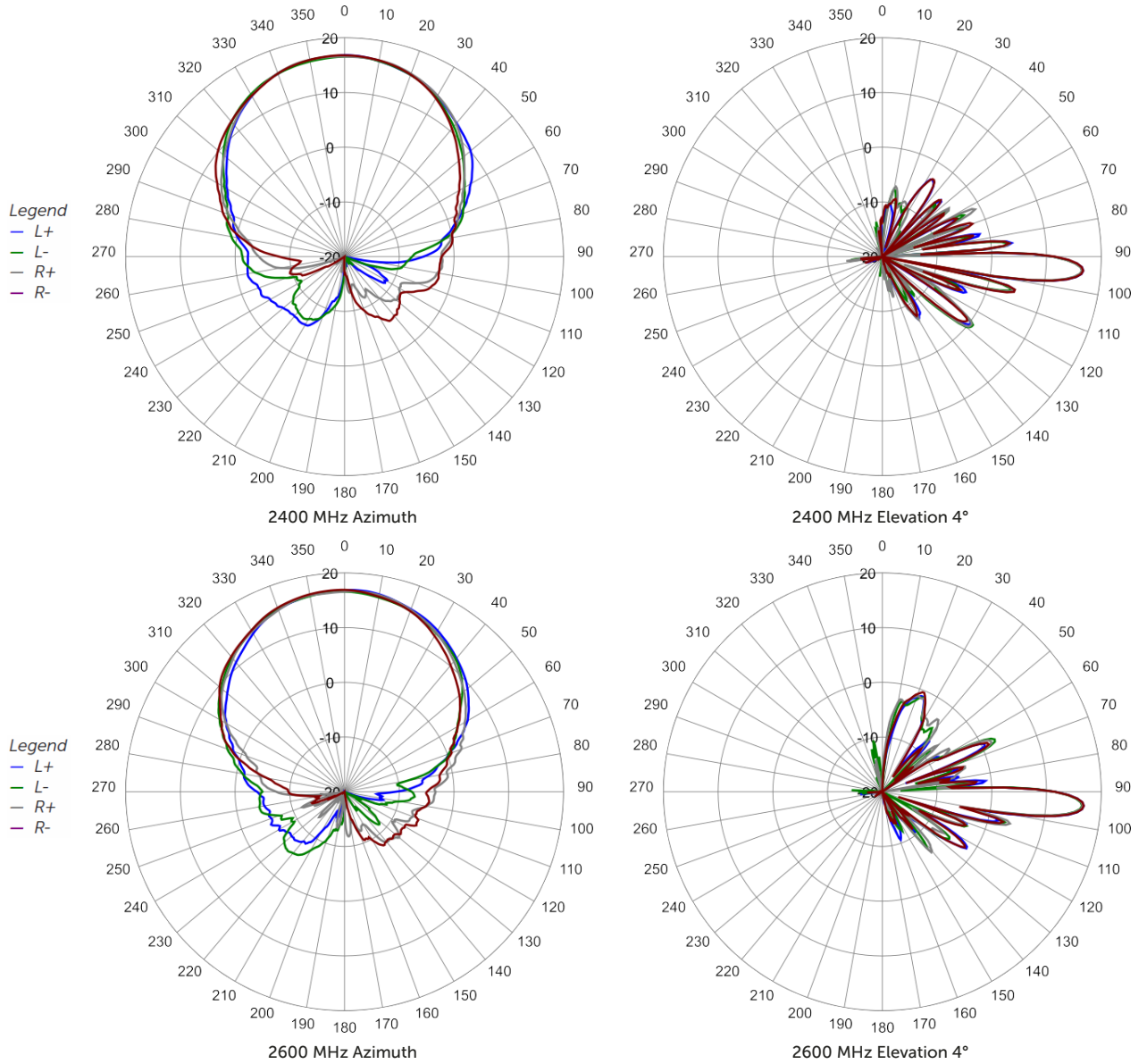




SPECIFICATIONS

TenPort Multi-Band Antenna

DPA-65R-BUUVV-H8





TenPort Multi-Band Antenna

DPA-65R-BUUVV-H8

Parts & Accessories

DPA-65R-BUUVV-H8	Eight foot (2.4 m) TenPort antenna with 65° azimuth beamwidth and 3 factory installed BSA-RET200 RET actuators
DPA-65R-BUUVV-H8-K	Antenna kit with 3 factory installed RET actuators and MBK-01 mounting bracket
MBK-01	Mounting bracket kit (top and bottom) with 0° to 10° mechanical tilt adjustment
TM-01	Optional triple mount mast bracket for mounting up to three 65° antennas on a pole (or mast).
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

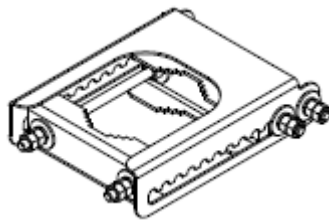


Mounting Bracket Kit

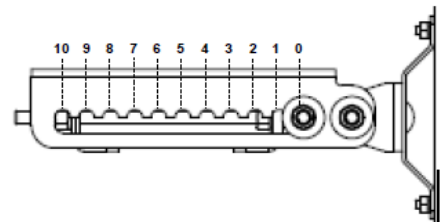
MBK-01

Mechanical

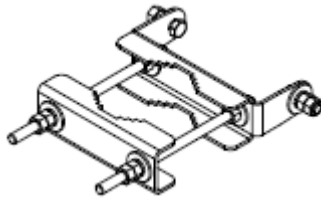
Weight	12.6 lbs (5.7 kg)
Hinge Pitch	47.25 in (1200 mm)
Mounting Pole Dimension	2 to 5 in (5 to 12 cm)
Fastener Size	M12
Installation Torque	40 ft·lb (54 N·m)
Mechanical Tilt Adjustment	0° - 10°



MBK-01 Top Adjustable Bracket



MBK-01 Top Adjustable Bracket Side View



MBK-01 Bottom Fixed Bracket

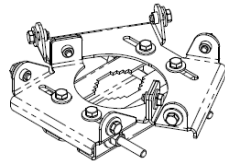


Triple Mount Cluster Bracket

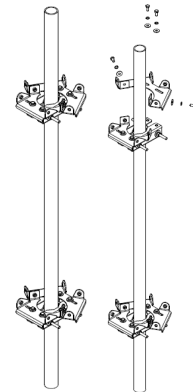
TM-01

Mechanical

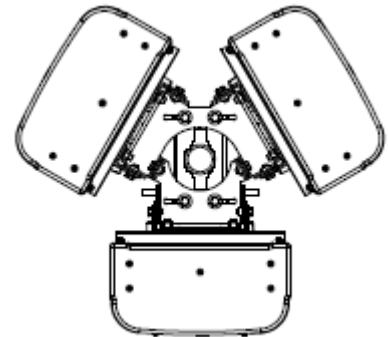
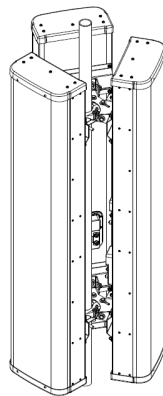
Weight	21.6 lbs (9.8 kg)
Fastener Size	M10
Installation Torque	40 ft-lb (54 N-m)
Hinge Pitch (Vertical)	13.0 in (330 mm) or 31.5 in (800 mm) or 47.2 in (1200 mm)
Mechanical Tilt Adjustment	None



TM-01 Bracket



TM-01 Mounting Brackets (on Pole)



3 - 65° Antennas Mounted on Pole using TM-01 Brackets (Iso and Top Views)



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

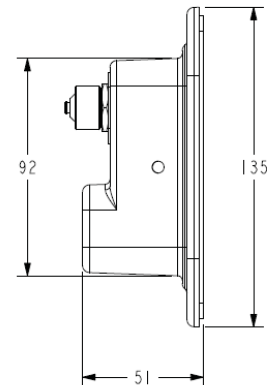
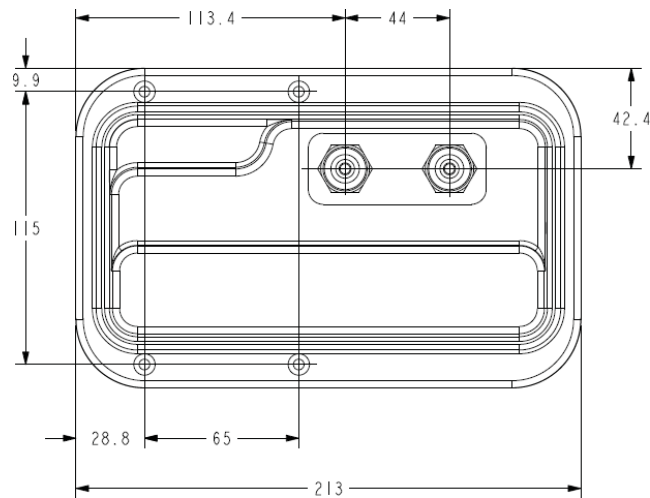
Electrical

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



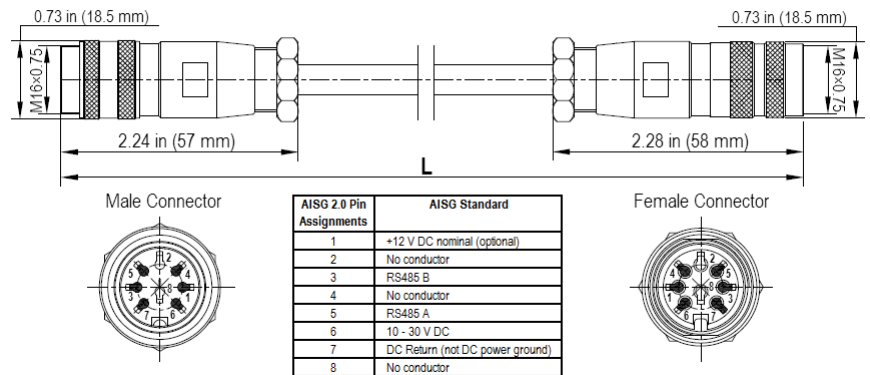


Electrical Specifications

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

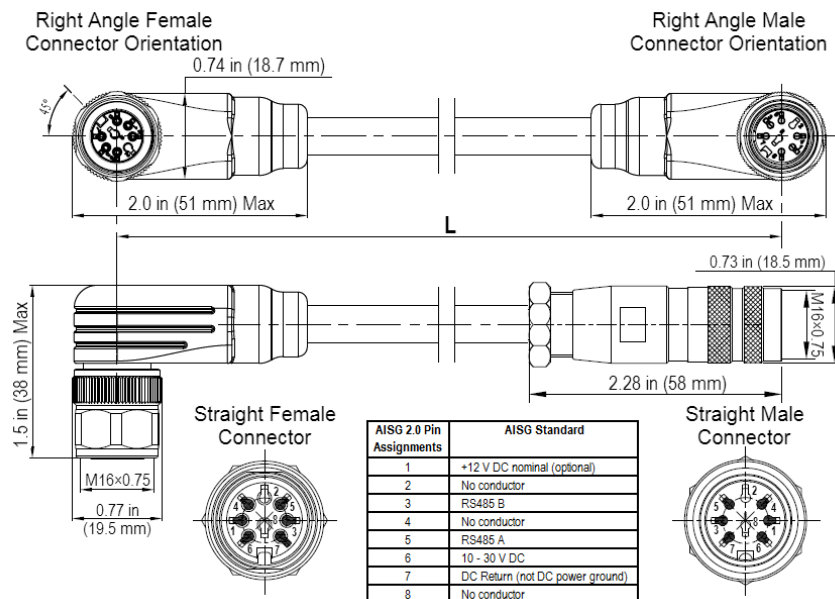
Environmental Specifications

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

TenPort Multi-Band Antenna

DPA-65R-BUUVV-H8

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

