Antennas

MultiPort Series

DATA SHEET

LowBand Antenna

2PA65R-K8A

- Eight foot (2.4 m), two port antenna with a 65° azimuth beamwidth covering 698-960 MHz frequencies
- Two wide low band ports covering 698-960 MHz in a single antenna
- Full Spectrum Compliance 698-960 MHZ
- 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
- 4.3-10 connector, which are 40% smaller than traditional 7/16 DIN connector

Overview

The CCI antenna is a two port antenna, with two wide low band ports covering 698-960 MHz. The CCI antenna provides the capability to deploy 2x2 Multiple-input Multiple-output in the low band.

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

Applications

- 2x2 MIMO for the low band
- Ready for Network Standardization on 4.3-10 connectors
- With CCI's antennas, wireless providers can connect multiple platforms to a single antenna, reducing tower load, lease expense, deployment time and installation costs

LowBand Antenna

2PA65R-K8A

SPECIFICATIONS

Electrical

Ports	2 x Low Band Ports for 698-960 MHz			
Frequency Range	698-806 MHz	790-862 MHz	824-896 MHz	880-960 MHz
Gain	15.9 dBi	16.4 dBi	16.6 dBi	16.5 dBi
Azimuth Beamwidth (-3dB)	70°	75°	74°	69°
Elevation Beamwidth (-3dB)	9.2°	8.2°	7.9°	7.3°
Electrical Downtilt	0° to 10°	0° to 10°	0° to 10°	0° to 10°
Elevation Sidelobes (1st Upper)	<-20 dB	<-20 dB	<-19 dB	<-18 dB
Front-to-Back Ratio @180°	> 28 dB	> 30 dB	> 30 dB	> 30 dB
Cross-Polar Discrimination at Peak	> 24 dB	> 24 dB	> 22 dB	> 22 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)	≤ -153 dBc	≤ -153 dBc	≤ -153 dBc	≤ -153 dBc
Input Power Continuous Wave (CW)	500 watts	500 watts	500 watts	500 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

BASTA Electrical Specifications*				
Frequency Range	694-806 MHz	790-862 MHz	824-896 MHz	880-960 MHz
Gain over all Tilts (dBi)	15.6	15.8	16.1	16.2
Gain over all Tilts Tolerance (dB)	0.4	0.3	0.4	0.3
Gain at Low-Tilt (dBi)	15.7	15.8	16.1	16.2
Gain at Mid-Tilt (dBi)	15.7	15.9	16.2	16.3
Gain at High-Tilt (dBi)	15.4	15.8	15.9	16.1
Azimuth Beamwidth Tolerance (°)	3.5	2.3	4.1	3.2
Elevation Beamwidth Tolerance (°)	0.9	0.5	0.5	0.6
Electrical Downtilt Deviation (°)	0.5	0.4	0.4	0.5
First Upper Sidelobe Suppression (dB)	14.7	15.2	14.9	15.1
Upper Sidelobe Suppression Peak to 20° (dB)	15.6	15.2	14.9	15.2
Front-to-Back Ratio over ±20° (dB)	24.7	27.7	27.8	28.4
Cross-polar Discrimination at ±60° (dB)	9.3	9.1	9.1	9.3

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

Mechanical

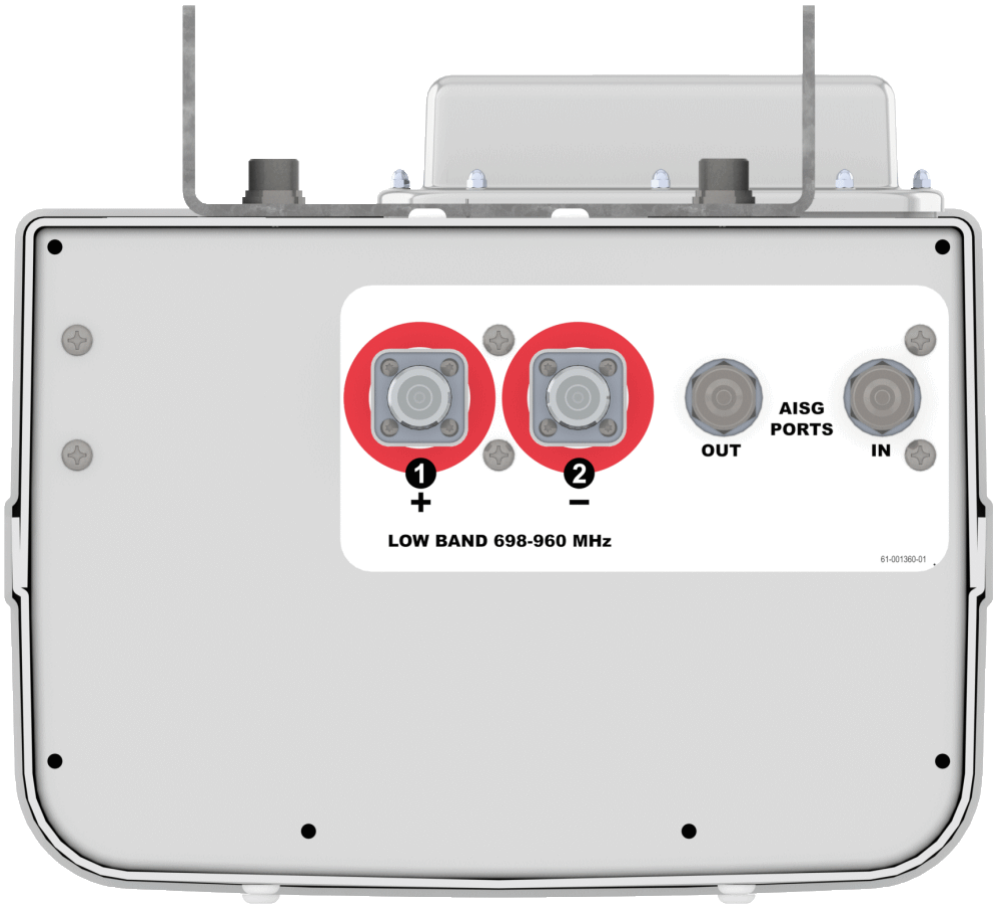
Dimensions (LxWxD)	96.0x11.7x8.3 in (2439x297x211 mm)
Survival Wind Speed	> 150 mph (> 241 kph)
Front Wind Load[1]	175 lbf @ 100 mph 780 N @ 161 kph
Side Wind Load[1]	139 lbf @ 100 mph 617 N @ 161 kph
Effective Projective Area (EPA), Front[1]	7.0 ft^2 (0.6 m^2)
Weight *	49.8 lbs (22.6 kg)
RF Connector	2 x 4.3-10 female
Mounting Pole	2 to 5 in (5 to 12 cm)

[1]Windload values calculated using CFD analysis
** Weight excludes mounting*

Mechanical

Bottom View

2PA65R-K8A

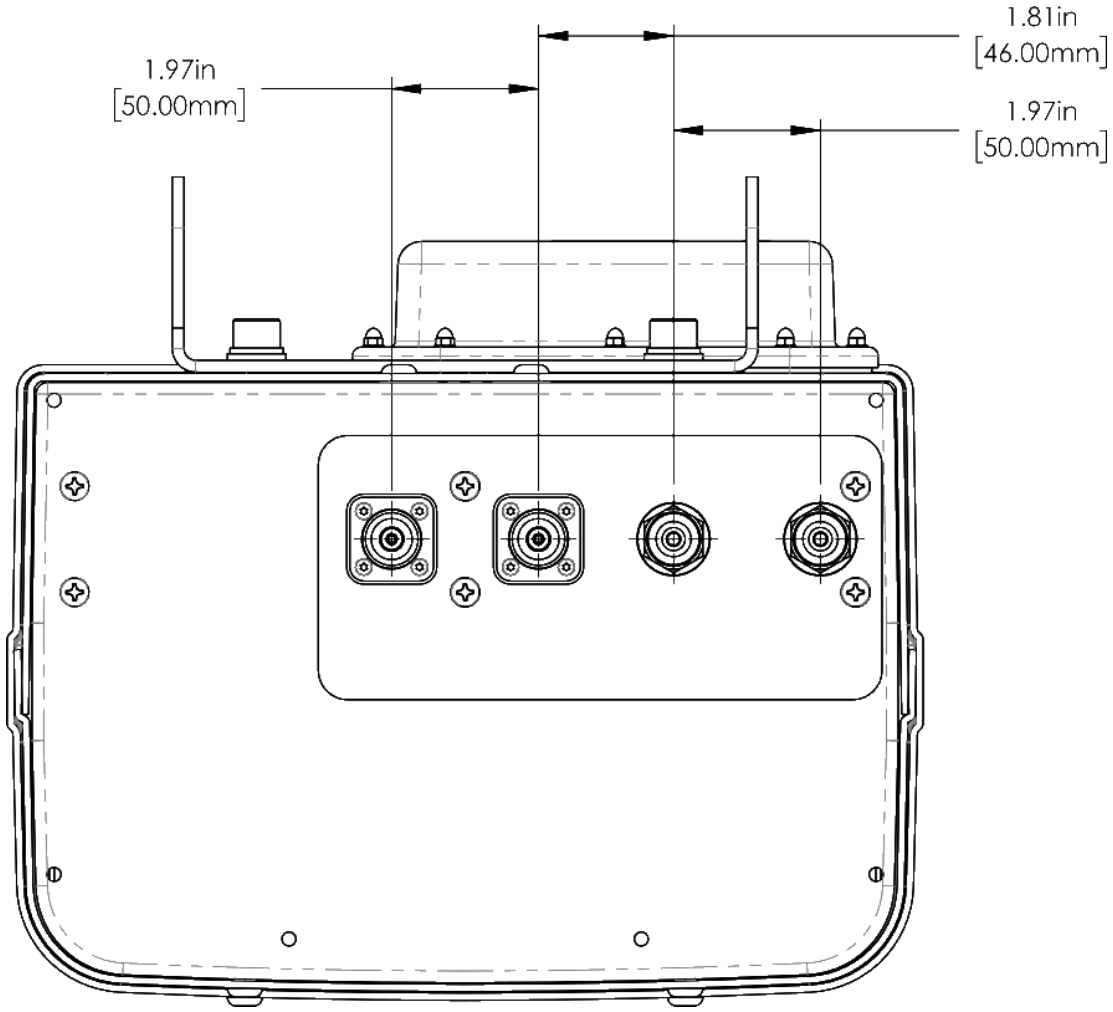


SPECIFICATIONS

Mechanical

Connection Spacing Diagram

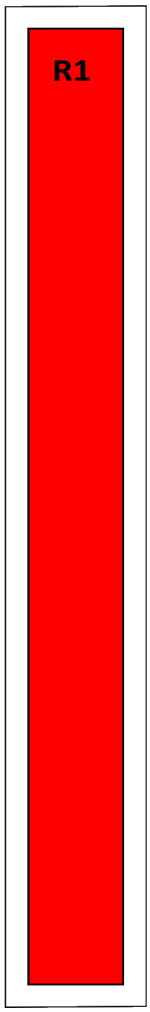
2PA65R-K8A



RET to Element Configuration

2PA65R-K8AA Element and RET configuration

Element arrays as viewed from rear of antenna



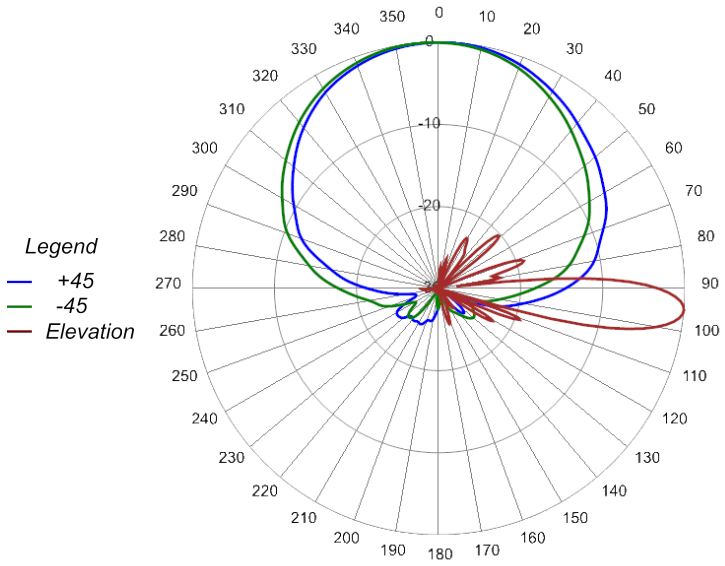
RET placement as viewed from rear of antenna

Top of antenna

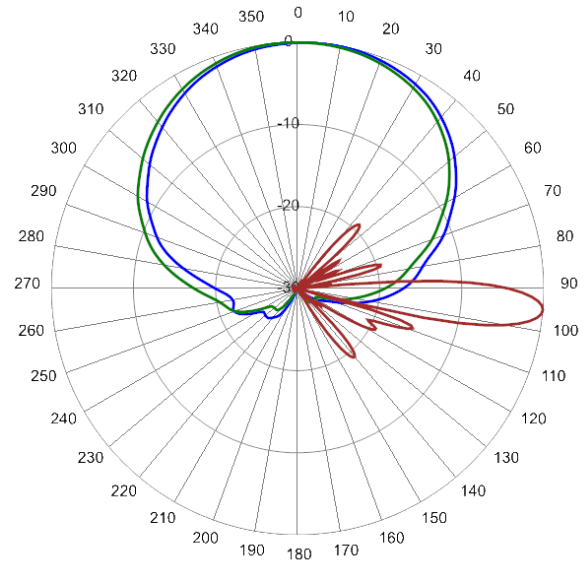
Array	Ports	Freq (MHz)	Ports controlled by common RET	AISG RET UID
R1	1, 2	698-960	1, 2	CIxxxxxxMM.1

Typical Antenna Patterns

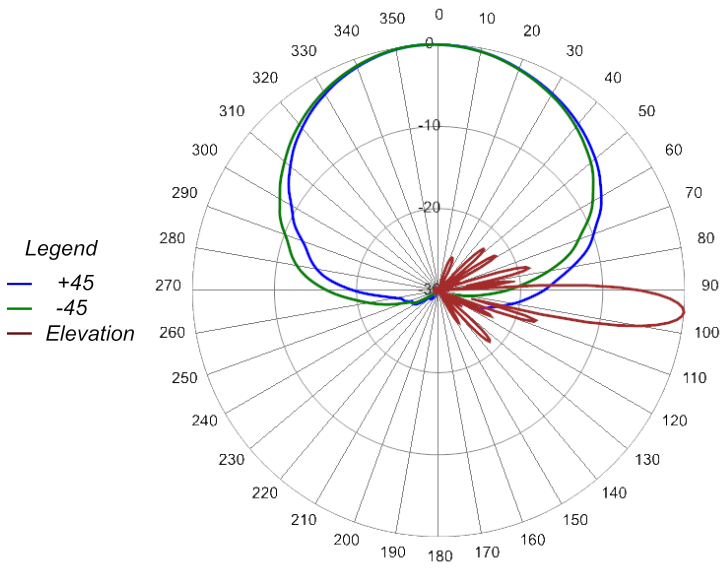
For detailed information on additional antenna patterns, contact customer support at support@cciproducts.com



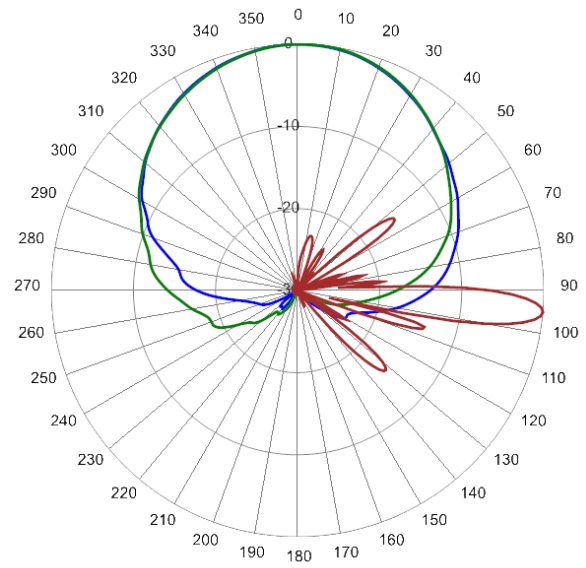
710 MHz Azimuth with Elevation 5°



806 MHz Azimuth with Elevation 5°



880 MHz Azimuth with Elevation 5°



945 MHz Azimuth with Elevation 5°

Parts & Accessories

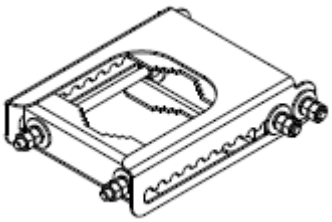
2PA65R-K8AA-K	Eight foot (2.4 m) LowBand antenna with 65° azimuth beamwidth, 4.3-10 female connectors, 1 factory installed BSA-RET400 RET actuators and MBK-01 mounting bracket
MBK-01	MBK-01 Mounting Kit with 0° - 10° mechanical tilt
MBK-16	MBK-16 Mounting Kit with fixed 0° mechanical tilt
BSA-RET400	Type 17 Internal remote electrical tilt actuator
AISGC-M-F-10FT	10 Ft (3 m) Male/Female RRU to Antenna AISG cable

Mounting Bracket Kit

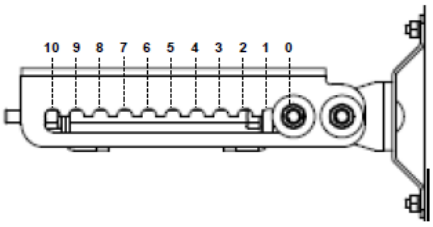
MBK-01

Mechanical

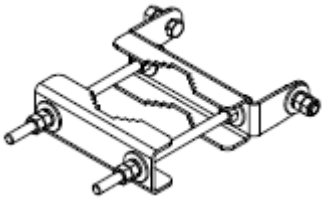
Weight	12.6 lbs (5.7 kg)
Hinge Pitch	47.25 in (1200 mm)
Mounting Pole Dimension	2 to 5 in (5 to 12 cm)
Fastener Size	M12
Installation Torque	40 ft·lb (54 N·m)
Mechanical Tilt Adjustment	0° - 10°



MBK-01 Top Adjustable Bracket



MBK-01 Top Adjustable Bracket Side View



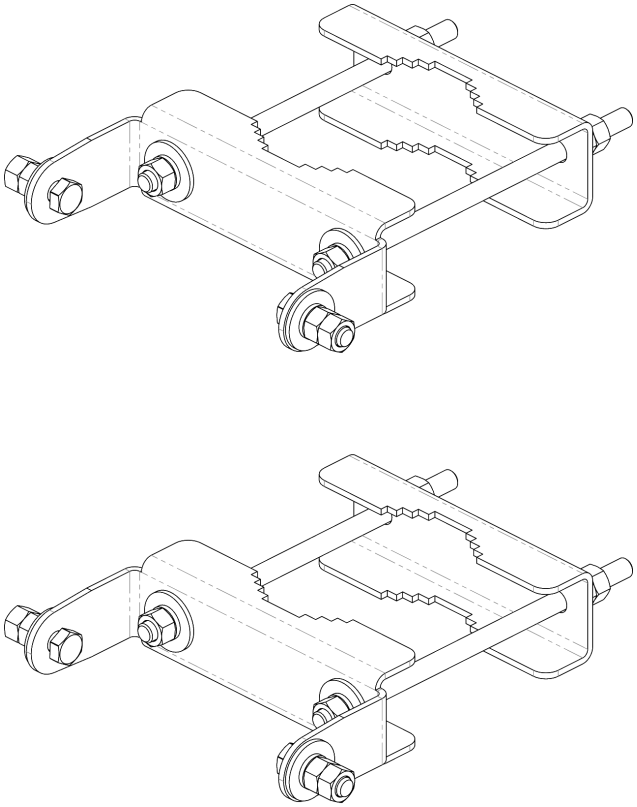
MBK-01 Bottom Fixed Bracket

Mounting Bracket Kit

MBK-16

Mechanical

Weight	9.9 lbs (4.5 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·lbs (54 N·m)
Mechanical Tilt	0°



MBK-16 Top and Bottom Bracket

MultiPort Series

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	±0.1°
Temperature Range	-40° C to 70° C

Electrical

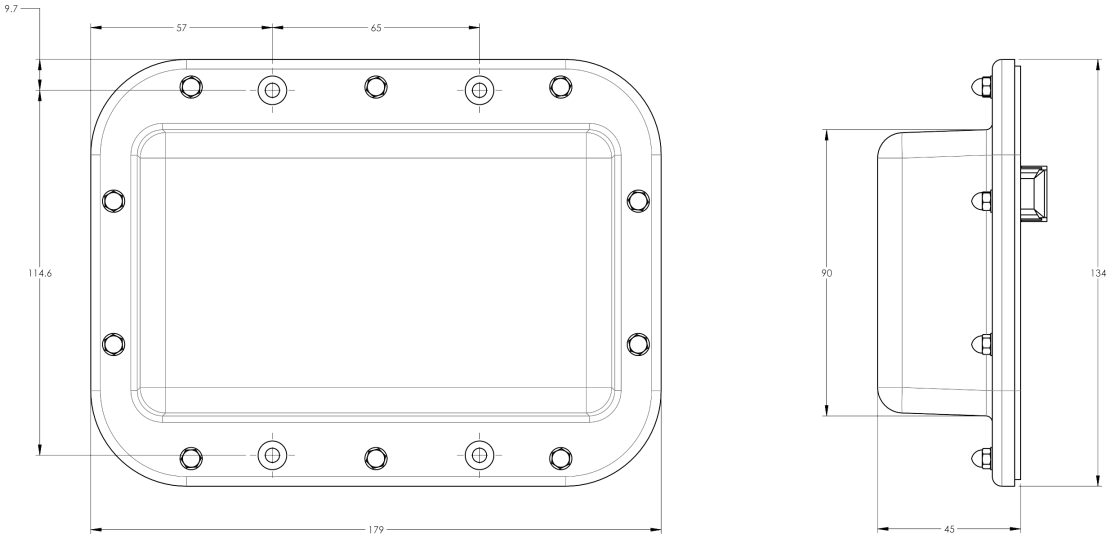
Data Interface Signal	DC
Input Voltage	10-30 Vdc
Current Consumption Tilt	100 mA at V_{in}=24 (500 mA MAX)
Current Consumption Idle	10 mA at V_{in}=24

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=Acrylanitrile Butadiene Styrene



AISG Cable

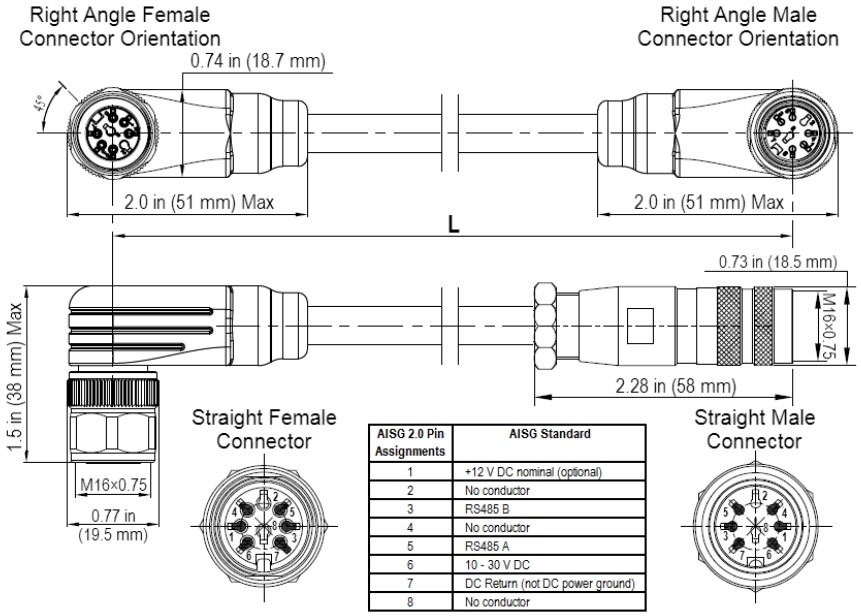
AISGC-M-F-xFT

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

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

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