



# Antennas

DATA SHEET

Outdoor AISG Bias-T

BT-0821-xxx-AG-O



- AISG 2.0/1.1 Compliant
- Environmentally Sealed for Outdoor use
- PCS & AWS Band capability
- Lightning Protected
- High RF Power Handling
- Housing Rated to IP67
- Connector Rated to IP68

## Overview

Communication Components, Inc. (CCI) Bias-T's are designed to combine the DC Bias and AISG compliant communication link provided by the "Site Control Unit" (SCU) with the RF signal from other equipment onto the center conductor of the feeder line. By providing control interfaces which are AISG 2.0 compatible to / from the "Site Control Unit," the Bias-T's can provide AISG control signals to AISG compliant Cellular, PCS and AWS band TMA's (which can then amplify the uplink signal from mobile users) and AISG compliant Remote Electrical Tilt Actuators via the RF Feeder Lines. The Bias-T also provides surge protection in case of lightning strikes or other sources of surges. The Standard Bias-T supplied includes a 7/16 DIN-Male connector at the RF Input port, an 8 pin AISG Compliant (per IEC 60130-9) male circular connector at the DC Input port, and a 7/16 DIN-Female connector at the combined RF, DC and AISG Signal output port. The unit is fully rated for outdoor deployment.

## Technical Description:

The standard Bias-T consists of 7/16 DIN-Male BTS Input (RF) and a 7/16 DIN-Female ANT Output (RF + DC+AISG signal) connector, as well as an 8-Pin AISG-compliant Male Circular connector for the DC Bias Input point. A reverse gender Bias-T is also available where the RF port genders are reversed (7/16 DIN-Female BTS Input (RF) to 7/16 DIN-Male ANT (RF+DC+AISG signal). Similarly, a Female only RF port Bias-T (7/16 DIN-Female BTS Input (RF) to 7/16 DIN-Female ANT Output (RF+DC\_AISG signal) is also available. The 8-pin AISG connector supplies +10-30V DC, DC Return/Ground, RS485A, and RS485B to the Bias-T in order to provide the application of bias for the TMA, a power source for the RS485 Modem within the Bias-T, the appropriate RS485 signal paths and grounding/DC return as required. The unit also provides protection against lightning strikes via a surge protection circuit. The Bias-T is fully tested for outdoor applications, being housed in an IP67 rated enclosure with IP68 rated connectors suited to long-life indoor & outdoor mount.

An optional indoor Site Control Unit (SCU) is available to power up to 32 AISG modules per sector and to provide all the monitoring and alarm functions for the system. The SCU is housed in a single (1U) 1.75" x 19" rack and contains dual redundant power supplies that provide a regulated DC supply voltage for all AISG tower mounted components such as TMA's and Antenna's.



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## Outdoor AISG Bias-T

BT-0821-xxx-AG-O

### SPECIFICATIONS

#### Electrical Specification

##### Outdoor AISG Compliant Bias-T(BT-0821-xxxx-AG-O) Typical Specifications

Frequency Range	800 - 2200 Mhz
RF Impedance	50 ohms
Insertion Loss	0.2 dB
Return Loss	20 dB min. Input and Output
RF Power Handling	300 W
IMD	<-120 dBm typical (2 x +43 dBm tones)
Surge Protection	8/20us, ±2KA max., 10 strikes each( per IEC-801-5)
<b>AISG Electrical Specifications</b>	
Voltage Rating	10 - 40 VDC
Current Rating	2A max.
Modem Carrier Frequency	2.176 MHz
Baud	9600
AISG Version	1.1 / 2.0

#### Environmental Specification

Operating Temperature	-40 °C to +70 °C
Ingress Protection	IP67 (Housing), IP68 (Connectors)
MTBF	>300,000 hours



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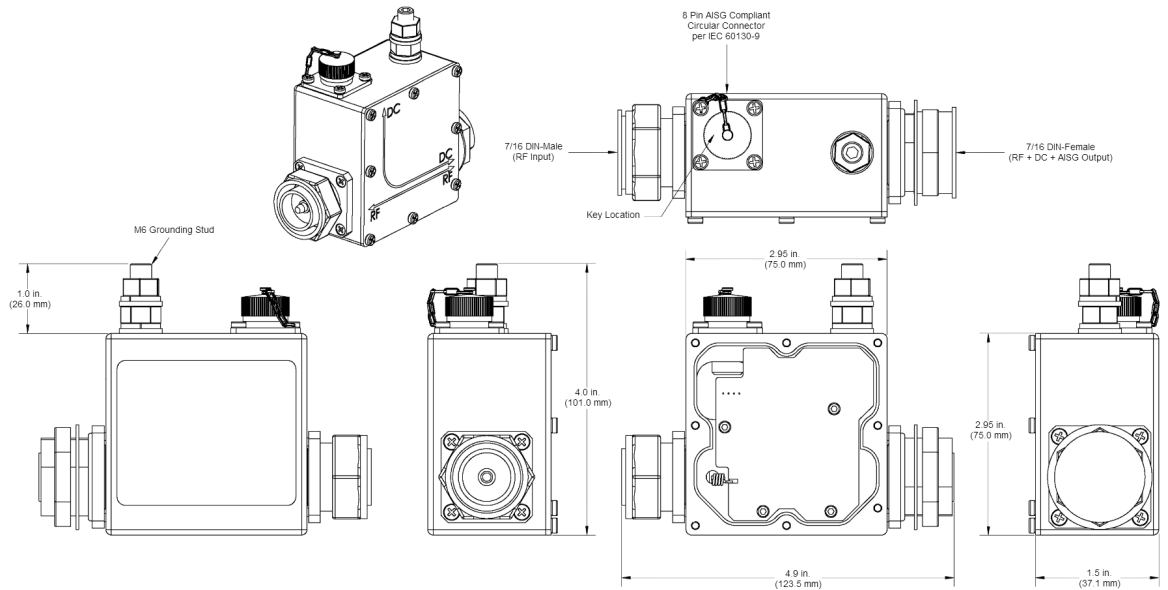
## Outdoor AISG Bias-T

BT-0821-xxx-AG-O

### SPECIFICATIONS

#### Mechanical Specification

Model	BT-0821-D MDF-AG-O	BT-0821-DFDM-AG-O	BT-0821-DFDF-AG-O
Connectors	RF: 7/16 DIN-Male RF+DC+AISG 7/16 DIN-Female	RF: 7/16 DIN-Female RF+DC+AISG 7/16 DIN-Male	RF: 7/16 DIN-Female RF+DC+AISG 7/16 DIN-Female
DC Bias/Signal:	"AISG Compliant" 8 pin circular connector per IEC 60130-9 Ed. 3.0 with screw locking ring		
Dimensions (body only)(WxHxL)	1.5 x 2.95 x 2.95 in. (37.1 x 75 x 75 mm)		
Dimensions (inc. connectors)(WxHxL)	1.5 x 4.0 x 4.9 in. (37.1 x 101 x 123.5 mm)		



Outdoor Bias-T Outline Drawing (BT-0821-D MDF-AG-O)



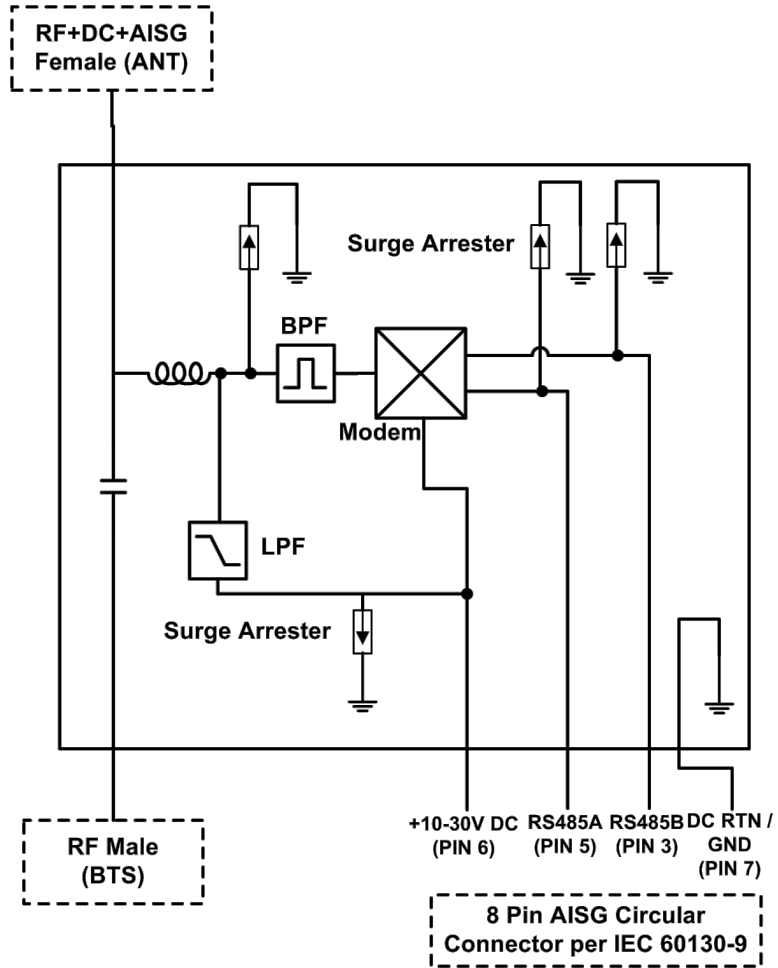
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SPECIFICATIONS

Outdoor AISG Bias-T

BT-0821-xxx-AG-O

Block Diagram



Outdoor Bias-T Block Diagram (BT-0821-DMDf-AG-O)



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ORDERING

Outdoor AISG Bias-T

BT-0821-xxx-AG-O

Parts & Accessories

<a href="#">BT-0821-D MDF-AG-O</a>	DIN-Male RF Port, DIN-Female RF+DC+AISG Port ANT. 13575
<a href="#">BT-0821-DFDM-AG-O</a>	DIN-Female RF Port, DIN-Male RF+DC+AISG Port ANT. 12030
<a href="#">BT-0821-DFDF-AG-O</a>	DIN-Female RF Port, DIN-Female RF+DC+AISG Port ANT. 12031



# Antennas

STANDARDS &  
CERTIFICATIONS

Outdoor AISG Bias-T

BT-0821-xxx-AG-O

Certifications

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

