

The Smart Bias Tee combines the performance of a standard Bias Tee (e.g. type 78210577) with the function of an additional modem (AISG standard) in order to provide either DC voltage as well as remote control signals via an RF feeder cable to a TMA or RCU.

The Smart Bias Tee provides low RF signal insertion loss from port 1 to port 2 and vice versa. The measures taken to protect against static discharge and lightning ensure a high level of reliability and operational safety.

- 78211053, 78211063: +8–14 VDC (DC on pin1) version for use near the BTS, in order to feed-in DC voltage and RCU control signals into a feeder cable
- 78211054, 78211064: +8–14 VDC (DC on pin1) version for use near the antenna, in order to control an RCU (only required if no TMA is in use)
- 78211055, 78211065: +8–30 VDC (DC on pin6) version for use near the BTS, in order to feed-in DC voltage and RCU control signals into a feeder cable
- 78211056, 78211066: +8–30 VDC (DC on pin6) version for use near the antenna, in order to control an RCU (only required if no TMA is in use)

### General Specifications:

Frequency range	690–2700 MHz
Impedance	50 ohms
VSWR	< 1.1:1 (690–2700 MHz)
Insertion loss Port 1↔Port 2	< 0.1 dB (690–2700 MHz)
Isolation for DC and RCU signals	
Port 1↔Port 2	>70 dB
Port 1↔Port DC/RCU	>70 dB
Port 2↔Port DC/RCU	0 dB
Intermodulation (2x20w)	IM3: <-160 dBc
Power consumption	Typically 0.6 watt
Lightning protection	3 kA, 10/350 μs pulse
Operating temperature	-40° to +60° C
Modem carrier frequency	2.176 MHz
IP rating	IP 66 (indoors or outdoors)
Certification	FCC 15.107 Class B Computing Devices
Dimensions	5.5 x 3.2 x 1.8 inches (140.5 x 81 x 46 mm)
Weight	1.8 lb (0.8 kg)
Shipping dimensions	6.6 x 4 x 3.4 inches (167 x 102 x 86 mm)

See reverse for order information.



### Abbreviations:

- RCU = Remote Control Unit for remote electrical control of antenna tilt
- BTS = Base Transceiver Station
- TMA = Tower Mounted Amplifier
- AISG = Antenna Interface Standards Group
- Port 1 = Port for BTS or for Antenna
- Port 2 = Port for Feeder Cable
- Port DC/RCU = Port for DC voltage and remote control unit signals

### Specifications:

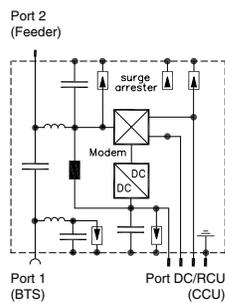
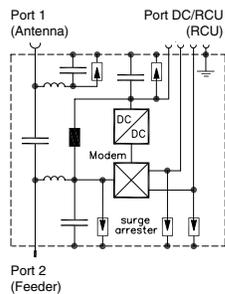
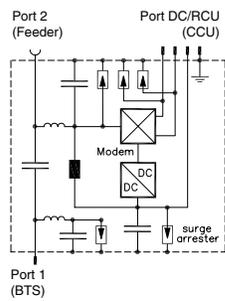
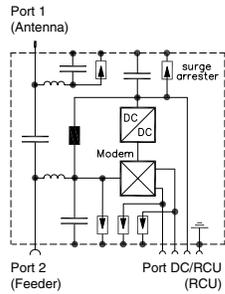
Connectors	<b>782 11053</b> 8–14VDC/BTS	<b>782 11054</b> 8–14VDC/Antenna	<b>782 11055</b> 8–30VDC/BTS	<b>782 11056</b> 8–30VDC/Antenna
Port 1: 7-16 DIN male	BTS	Antenna	BTS	Antenna
Port 2: 7-16 DIN female	Feeder	Feeder	Feeder	Feeder
Connectors	<b>782 11063</b> 8–14VDC/BTS	<b>782 11064</b> 8–14VDC/Antenna	<b>782 11065</b> 8–30VDC/BTS	<b>782 11066</b> 8–30VDC/Antenna
Port 1: 7-16 DIN female	BTS	Antenna	BTS	Antenna
Port 2: 7-16 DIN male	Feeder	Feeder	Feeder	Feeder
Maximum input power Port 1 or Port 2	< 750 watts (690–2700 MHz)			
Port DC/RCU	<2.5 A / +8 – +14 VDC	<2.5 A / +8 – +14 VDC	<2.5 A / +8 – +30 VDC	<2.5 A / +8 – +30 VDC



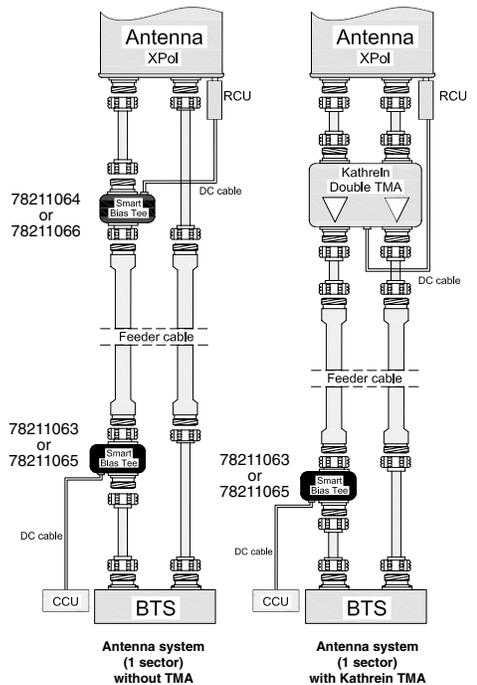
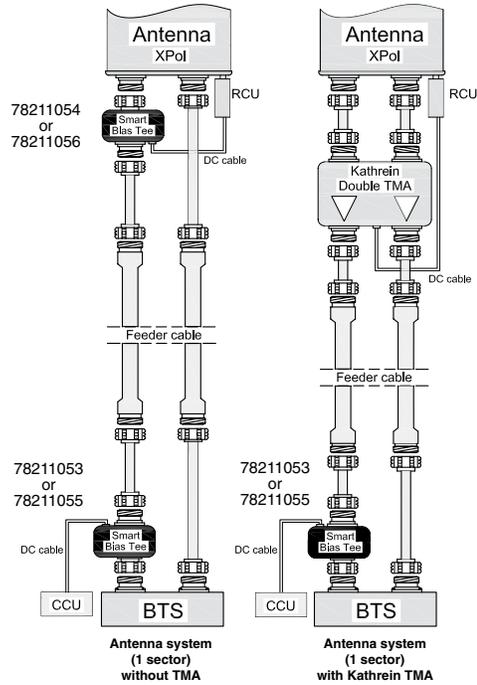
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**Block diagrams**



**Application Examples**

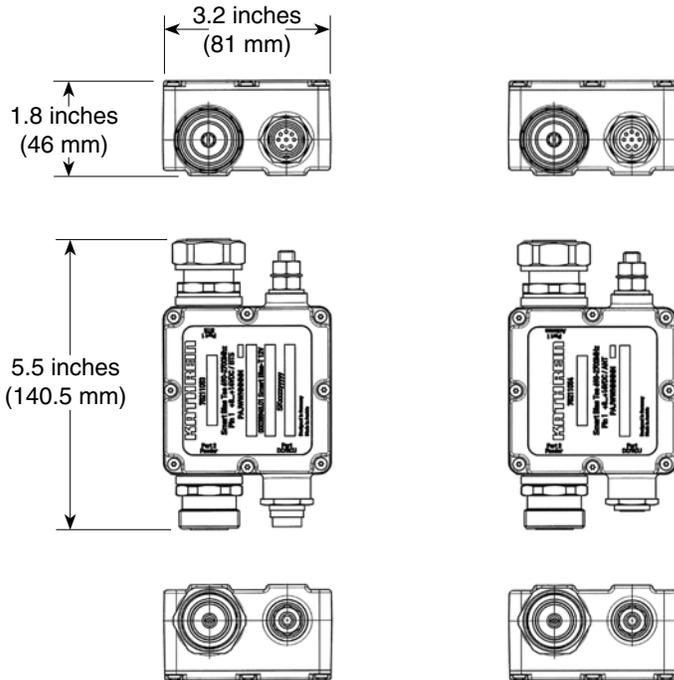


Please note:

The Smart Bias Tees are designed to operate under the environmental conditions as described in ETS 300 019-1-4 class 4.1 E and have passed environmental tests as recommended in ETS 300 019-2-4.

The installation team must be properly qualified and also be familiar with the relevant national safety regulations.

The coupling torque at 7-16 connectors is 18.5–22 ft-lbf! Hold the smart bias tee housing securely while tightening the 7-16 locking nut. The tightening torque for fixing the AISG connector must be 0.4–0.7 ft-lbf ('hand-tightened').



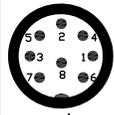
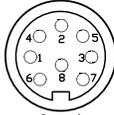
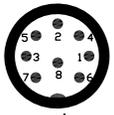
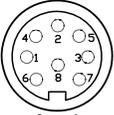
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78211064, 78211066

	KATHREIN	782 11053, 782 11054
		782 11055, 782 11056
		782 11063, 782 11064
		782 11065, 782 11066
	<b>Tested To Comply With FCC Standards</b>	
<small>This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.</small>		

### Order Information:

Model	Description
782 11053	Smart Bias Tee 8–14VDC/BTS
782 11054	Smart Bias Tee 8–14VDC/Antenna
782 11055	Smart Bias Tee 8–30VDC/BTS
782 11056	Smart Bias Tee 8–30VDC/Antenna
782 11063	Smart Bias Tee 8–14VDC/BTS
782 11064	Smart Bias Tee 8–14VDC/Antenna
782 11065	Smart Bias Tee 8–30VDC/BTS
782 11066	Smart Bias Tee 8–30VDC/Antenna

Pin connections	782 11053	782 11054	782 11055	782 11056
	782 11063	782 11064	782 11065	782 11066
8-pin connector (IEC 60130-9)				
Pin 1	+8...+14 VDC in	+8...+14 VDC out	Not connected	Not connected
Pin 2	Not connected	Not connected	Not connected	Not connected
Pin 3	RS485-B	RS485-B	RS485-B	RS485-B
Pin 4	Not connected	Not connected	Not connected	Not connected
Pin 5	RS485-A	RS485-A	RS485-A	RS485-A
Pin 6	Not connected	Not connected	+8...+30 VDC in	+8...+30 VDC out
Pin 7	DC return (grounded)	DC return (grounded)	DC return (grounded)	DC return (grounded)
Pin 8	Not connected	Not connected	Not connected	Not connected

All specifications are subject to change without notice. The latest specifications are available at [www.kathrein-scala.com](http://www.kathrein-scala.com).