Application & Description Brief

The Becker UHF Bi-Directional Power Coupler is used in radiating cable systems, like the Leaky Feeder System to inject DC power from the system power supply into the coaxial radiating cable. This injected power is then used to power up all the active devices in the immediate vicinity of the power coupler.

The DC voltage is usually sourced from an AC-DC power supply with local battery back-up. The DC voltage range is 5V to 32VDC at a maximum current of 3A. The downlink & uplink radio signals already present on the radiating cable are passed transparently through the bi-directional power coupler. The insertion losses are typically as per the curve provided.

Indicator LED's for power present on the Base Station and Tunnel ports are provided for in system fault finding. DC power may be directed in either direction by making connections to the screw terminals associated with the Base Station & Tunnel radiating cable connections. Alternatively, power may be directed in both directions simultaneously by installing the bridge jumper.

Purchase Contact Details

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Website: www.becker-mining.com
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Performance Specifications

Description	Spec / Range / Type
Frequency Band	200MHz - 500MHz
Port Characteristic Impedance	50Ω
Connectors	50Ω Brass Blocks
Port Output to Output Isolation	20dB min. 25dB typical
Insertion loss	<2.5dB
VSWR	1.3:1 (400MHz to 500MHz)
Power Requirement	None – Passive
Operating Temperature Range	-20°C to +55°C

Environmental Specifications

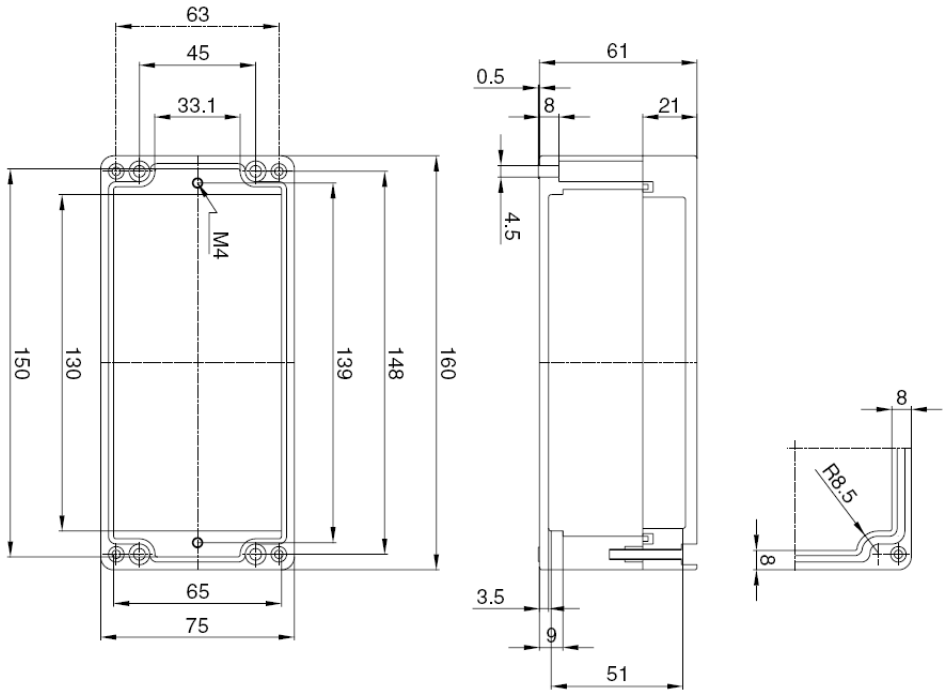
Description	Spec / Range / Type
Operating Temperature Limits	-10°C to +40°C
Storage Temperature Limits	-40°C to + 65°C
Operating Altitude	Up to 5500m ASL
Operating Humidity	10 to 85% (Non Condensing)
Protection Class	IP66 according to EN60529
Impact Resistance	7Nm – Body Only – Not indicator lights
Flammability	UL94 V-O
Toxicity	Halogen and Cadmium Free
Electromagnetic Interference (EMI)	FCC Emissions Class A (Industrial) CE Emissions Class A (Industrial)

Mechanical Specifications

Description	Spec / Range / Type
Width (Excluding mounting brackets)	160mm
Height (Excluding mounting brackets)	75mm
Depth (Excluding mounting brackets)	61mm
Weight	753.60g
Principal Materials	Enclosure: Glass Reinforced Polyester GRP Connectors: Electroplated Brass Thermoplastic polymer glass fiber
Finish	Natural Grey – (Similar to RAL7001)
Gasket	Silicon rubber

Internal View

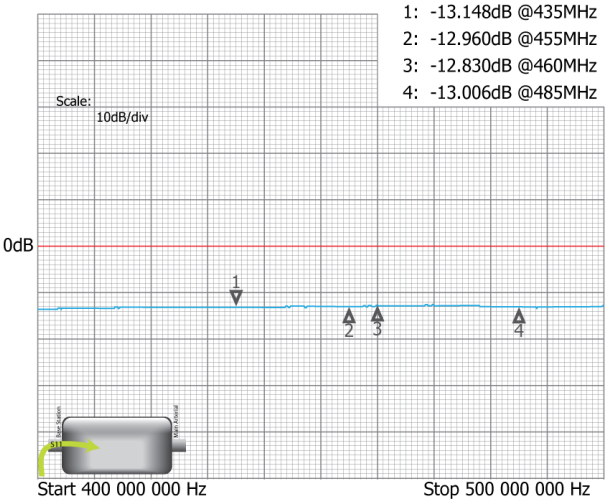
Mechanical Drawing



Typical Response Curve

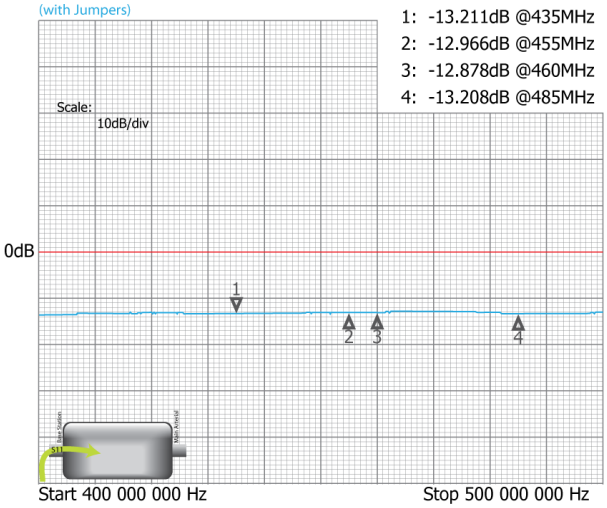
Return Loss from Base Station to Main Arterial on Base Station S11

1: -13.148dB @435MHz
2: -12.960dB @455MHz
3: -12.830dB @460MHz
4: -13.006dB @485MHz



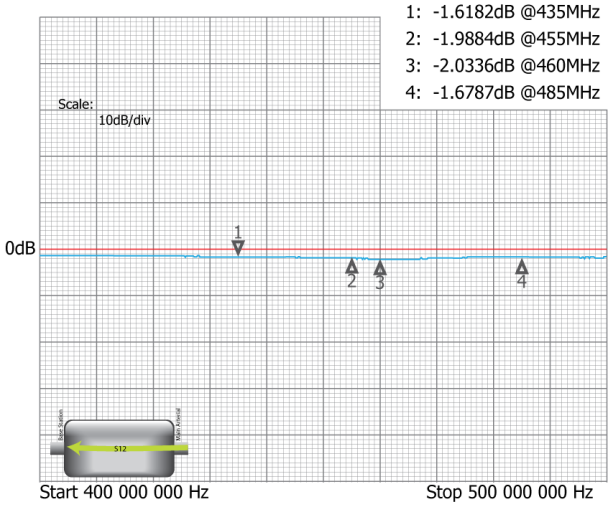
Return Loss from Base Station to Main Arterial on Base Station S11
(with Jumpers)

1: -13.211dB @435MHz
2: -12.966dB @455MHz
3: -12.878dB @460MHz
4: -13.208dB @485MHz



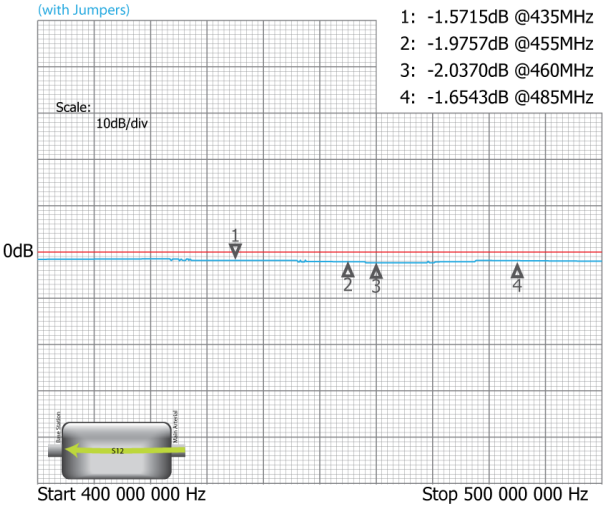
Insertion Loss from Base Station to Main Arterial S12

1: -1.6182dB @435MHz
2: -1.9884dB @455MHz
3: -2.0336dB @460MHz
4: -1.6787dB @485MHz

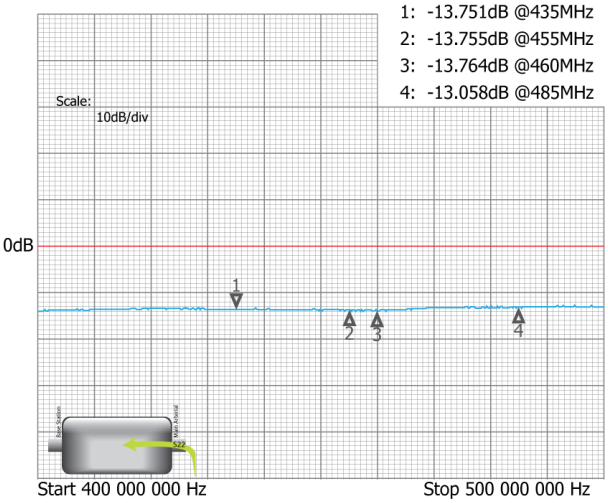


Insertion Loss from Main Arterial to Base Station S12
(with Jumpers)

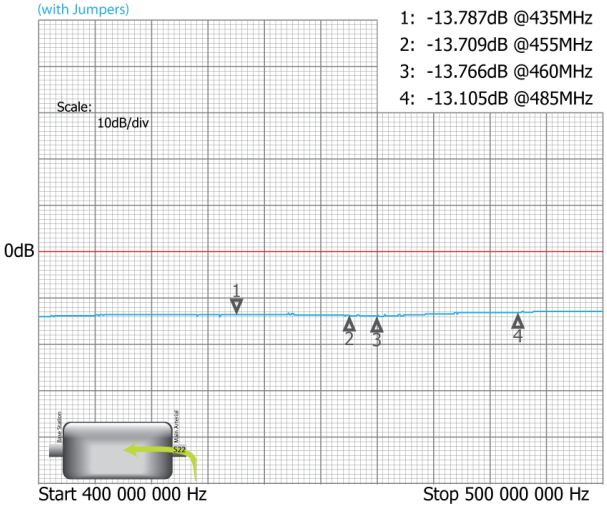
1: -1.5715dB @435MHz
2: -1.9757dB @455MHz
3: -2.0370dB @460MHz
4: -1.6543dB @485MHz



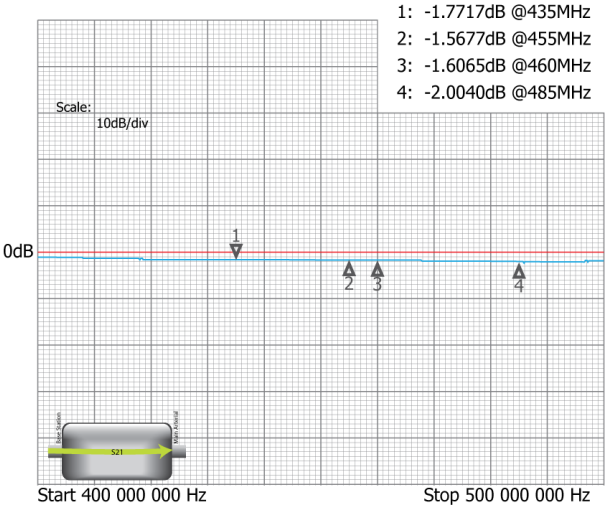
Return Loss from Base Station to Main Arterial on Main Arterial S22



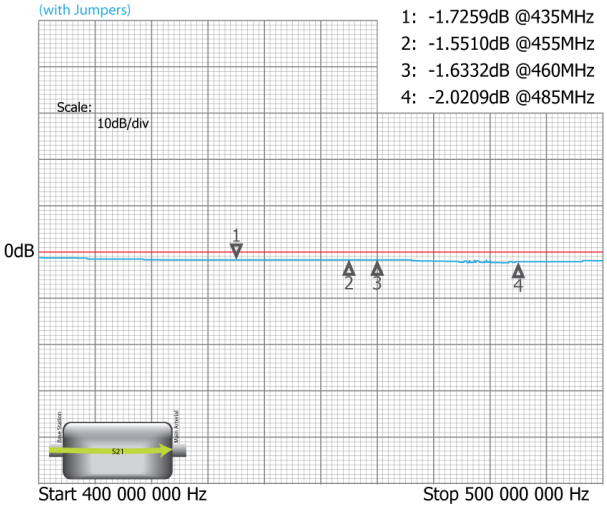
Return Loss from Base Station to Main Arterial on Main Arterial S22 (with Jumpers)



Insertion Loss from Base Station to Main Arterial S21



Insertion Loss from Base Station to Main Arterial S21 (with Jumpers)



Ordering Information

Description	What's In The Box
Part No: UBPC100WW# – XXXXXX ***(Base Part No.)*** ***(Serial No)***	• UHF Bi-Directional Power Coupler • Datasheet • Test Result Sheet