



### Application & Description Brief

The Becker UHF 3-Way Splitter is used to split the main arterial line into two separate Leaky Feeder Arterials. In doing so the RF power is divided equally between the two resultant arterials. The DC Power may also be routed in various directions by opening and closing the on board jumpers. DC injection screw terminals also allow this unit to be used as a make shift "Power Coupler". Additional jumpers allow the technician to internally terminate the unused RF ports.

The RF and DC Signals present on the "Base Station" port are separated using a passive network. The 3dB SMD splitter and PCB transmission lines redirect the RF signals to the "Main Arterial" and the "Split-1" ports with a minimum of loss. The DC portion is similarly split to the two ports through a set of 3 jumper terminals, one for each of the ports. The "Main Arterial" and "Split-1" ports are driven by passive combiner networks used to re-combine the DC and RF signals. A local DC-Injection screw terminal is also included to act as a power coupler for any or all of the 3 ports simultaneously. The unit thereby takes the DC and RF signals present on the original arterial and repeats (-3dB RF + -3dB DC = max 6dB) copies on to two additional arterials.

### Purchase Contact Details

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**DISCLAIMER**  
All information given in this datasheet is correct to the best of our knowledge, but the company reserves the right to make alterations and amendments to the detailed specification at its discretion.

### Technical Features

- DC Power Jumper Selections :
  1. Input to All
  2. Input to Main Arterial
  3. Input to Split
  4. Main Arterial to Split
- DC Power Injection
  1. Screw Terminal Facility
- 50Ohm terminal facility included for unused ports

### Functional Features

- Low Loss – Near theoretical insertion loss to Main Arterial and Split-1
- 3A DC power through feed facility on all ports
- Brass block custom connection system specifically for radiating cable systems
- The electronic circuitry is constructed using bought out and individually certified 3dB broad-band splitter transformers



UHF 3-Way Splitter U3SP100WW#

**Performance Specifications**

Description	Spec / Range / Type
Frequency Band	200MHz - 500MHz
Port Characteristic Impedance	50 Ω
Connectors	50 Ω Brass Blocks
Insertion loss	<6dB
VSWR	1.3:1 (200MHz to 500MHz)
Internal Port Termination jumper	Main Arterial & Split – 50R
Through current capacity	3.0A max.
Power Requirement	None – Passive
DC Power Jumper Selections	Input to All
DC Power Injection	Input to Main, Individual or All
Operating Temperature Range	-20°C to +40°C

**Environmental Specifications**

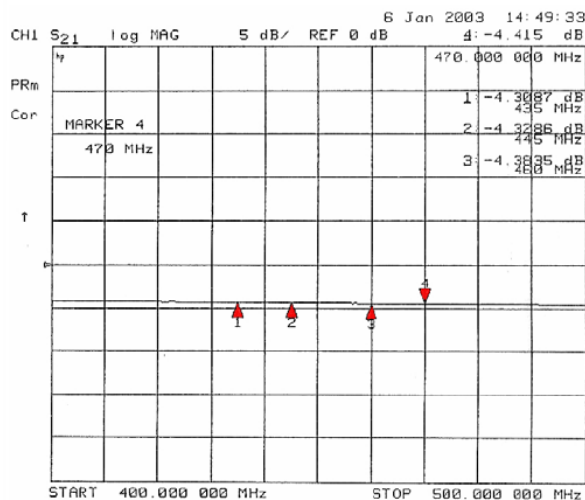
Description	Spec / Range / Type
Operating Temperature Limits	-20°C to +40°C
Storage Temperature Limits	-40°C to +65°C
Operating Altitude	Up to 5500m ASL
Operating Humidity	10 to 85% (Non Condensing)
Protection Class	IP68 according to EN60529
Impact Resistance	7Nm – Body Only – Not indicator lights
Flammability	UL94 V-O
Toxicity	Halogen and Cadmium Free
Electromagnetic Interference (EMI)	FCC Emissions Class A (Industrial) CE Emissions Class A (Industrial)

**Mechanical Specifications**

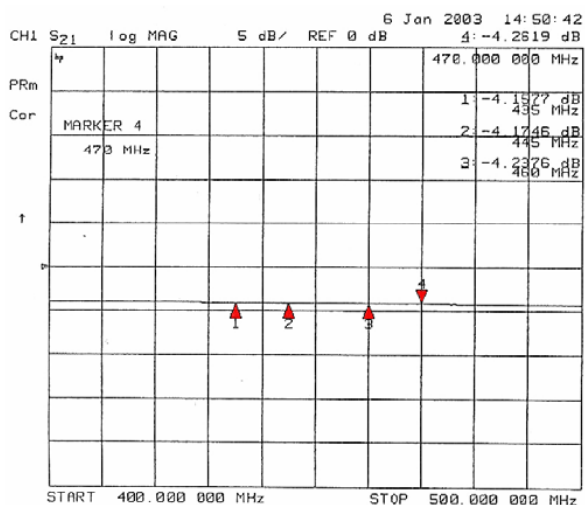
Description	Spec / Range / Type
Width (Excluding mounting brackets)	75mm
Height (Excluding mounting brackets)	61mm
Depth (Excluding mounting brackets)	160mm
Weight	0.99kg
Principal Materials	Enclosure: Glass Reinforced Polyester GRP Connectors: Electroplated Brass Thermoplastic polymer glass fiber
Finish	Natural Grey – (Similar to RAL7001)
Gasket	Silicon rubber



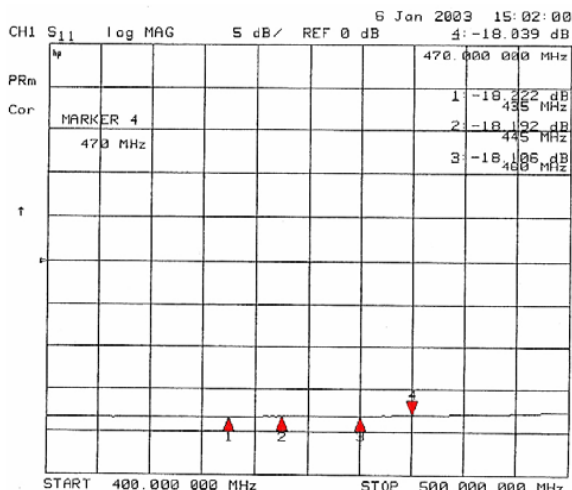
## Typical Response Curve



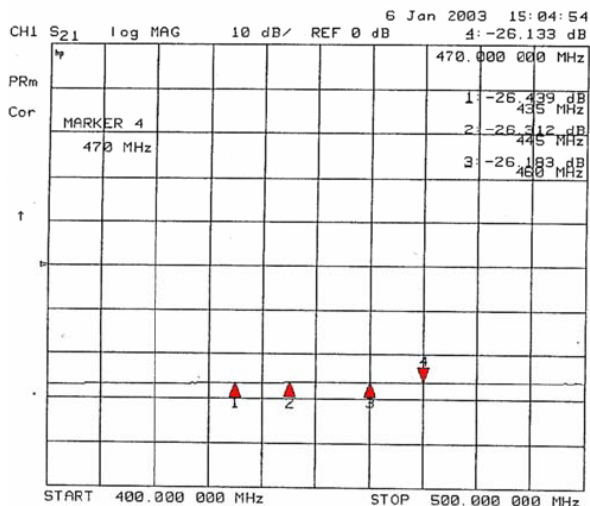
Base Station to Main Arterial Insertion Loss



Base Station to Split 1 Insertion Loss

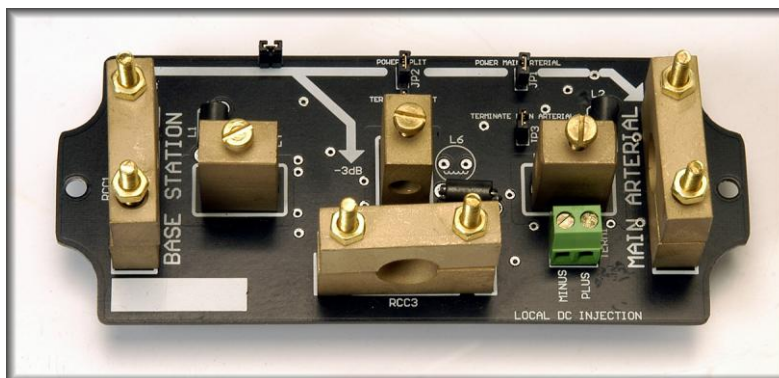


Base Station Input Return Loss



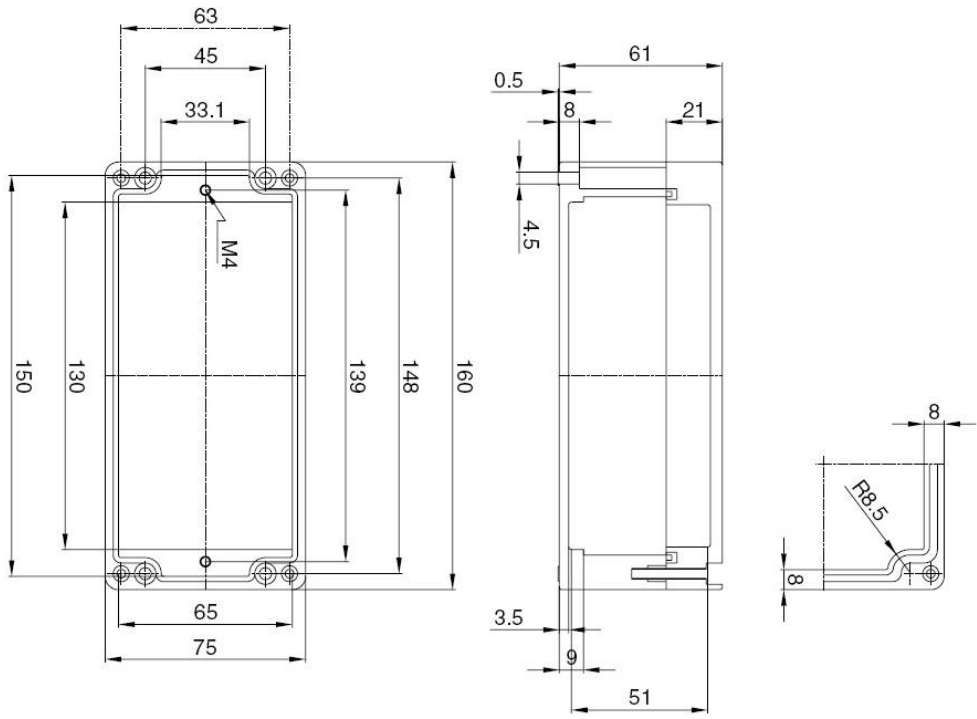
Main Arterial Split 1 Isolation

## Internal Circuitry

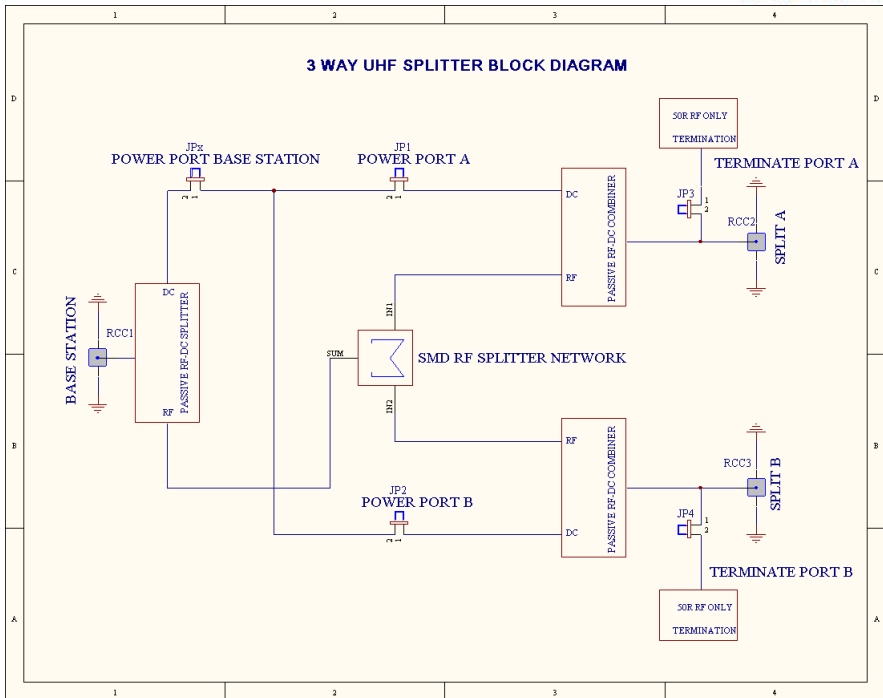


UHF 3-Way Splitter U3SP100WW#

Mechanical Drawing



Block Diagram



Ordering information

Description	What's In The Box
NON-IA	
Part No: U3SP100WW# – XXXXXX (Base Part No.) (Serial No)	<ul style="list-style-type: none"> <li>• UHF 3-Way Splitter</li> <li>• Datasheet</li> <li>• Test Results Sheet</li> </ul>