

## CONNECTORIZED DATA BUS COUPLER

Data Bus Coupler is the electronic module where the connection(s) between the Stub(s)/ Node(s) and the Data Bus are made. It consists of Bus In, Bus out connections and at least one stub connection. The stub connection is made using a coupling transformer and two fault isolation resistors on the Data Bus end.

The Couplers with connectors directly attached to the Coupler box/case are known as Connectorized Data Bus Couplers.

The purpose of the Data Bus Couplers is to prevent a short on a single stub from shorting the main Data Bus i.e. to isolate the main Bus from the terminals, to reduce reflections and maintain signal impedance levels.

Compupower provides Connectorized Data Bus Couplers with Single, Dual, Four and Six Stubs. These Couplers are available with and without internal terminations.

All resistors are 1Watt per MIL-R-39007 and mounted away from the transformer to minimize heating effects. The transformers are manufactured to MIL-T-21038.

All Couplers are 100% tested and certified.



### Features:

- ❖ 1Watt Isolation resistors
- ❖ 1Watt Terminating resistors
- ❖ -55°C to +125°C operating temperature.

### Benefits:

- ❖ Qualified and type approved for flight applications
- ❖ Low cost
- ❖ Highly reliable
- ❖ Fast delivery



8-2-350/2/B, Road No.3, Banjara Hills, Hyderabad- 500 034, INDIA  
Phone: 91-40-23354583, 23352538, Fax: 91-40-23394654  
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### Electrical Specifications:

- ❖ Case : CRCA steel with Tin plating
- ❖ Coupler Module : Encapsulated with the following components
  - \* Coupler Transformer to MIL-T-21038
  - \* Fault protection Resistors to MIL-R-39007
- ❖ Transformer Turns ratio :  $1:1.41 \pm 3\%$  (Compliant to MIL-T-21038 Std)
- ❖ Input Impedance :  $3000\Omega$  Minimum (75KHz to 1MHz)
- ❖ Droop : 20% maximum (250KHz)
- ❖ Overshoot and ringing :  $\pm 1V$  peak (250KHz square wave with 100ns maximum rise and fall time)
- ❖ Common mode rejection :  $>45dB$  at 1.0MHz
- ❖ Fault protection : Resistor in series with each Bus winding connection equal to  $59\Omega \pm 1\%$ , 1W or  $58.5 \pm 2\%\Omega$
- ❖ Termination :  $78\Omega \pm 2\%$ , 1W
- ❖ Operating Temperature :  $-55^{\circ}C$  to  $+125^{\circ}C$
- ❖ Storage Temperature :  $-55^{\circ}C$  to  $+130^{\circ}C$
- ❖ Stub Voltage : 1.0V to 14.0V p-p, line-line
- ❖ Connector type : BJ 77 (Jack type with socket contact Bayonet coupled – 3 lug)

### Ordering information

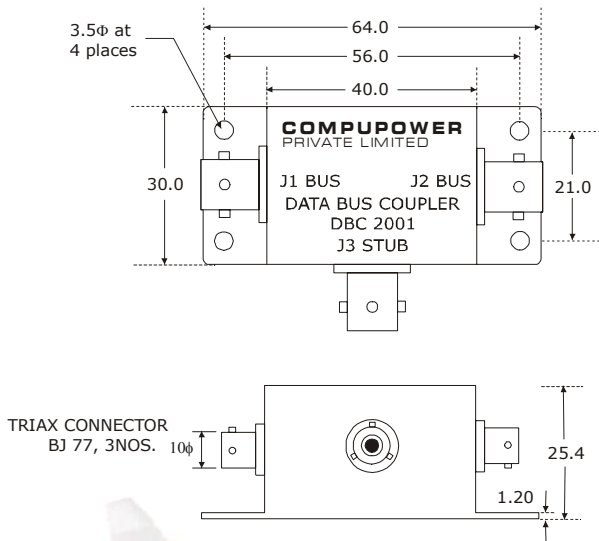
Description	Model No.	Weight in grams (max)
Single Stub Coupler	DBC 2001	90
Single Stub Coupler with Terminator	DBC 2001-TR	90
Dual Stub Coupler	DBC 1002	180
Dual Stub Coupler with Terminator	DBC 1002-TR	180
Four Stub Coupler	DBC 1004	260
Four Stub Coupler with Terminator	DBC 1004-TR	260
Six Stub Coupler	DBC 1006	350
Six Stub Coupler with Terminator	DBC 1006-TR	350



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PRIVATE LIMITED

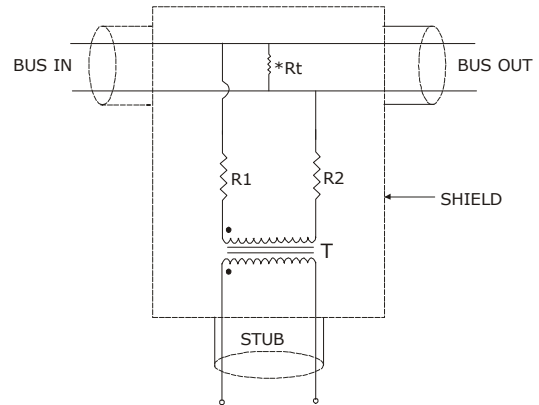
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**SINGLE STUB COUPLER**  
- DBC 2001 & DBC 2001-TR



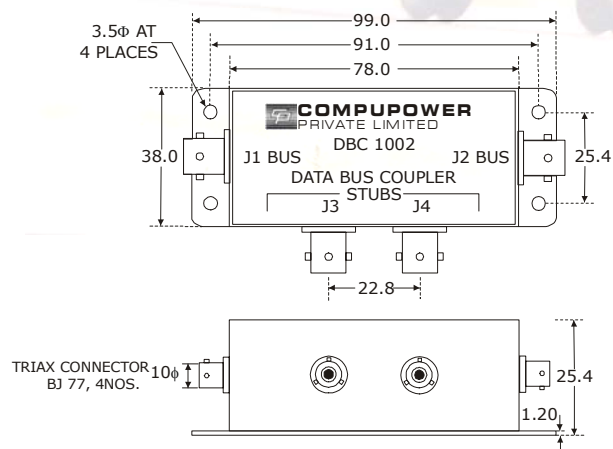
- NOTE :**
1. All dimensions are in mm
  2. Tolerance =  $\pm 1\text{mm}$
  3. Hole to hole dimensions tolerance:  $\pm 0.1\text{mm}$

**SCHEMATIC**



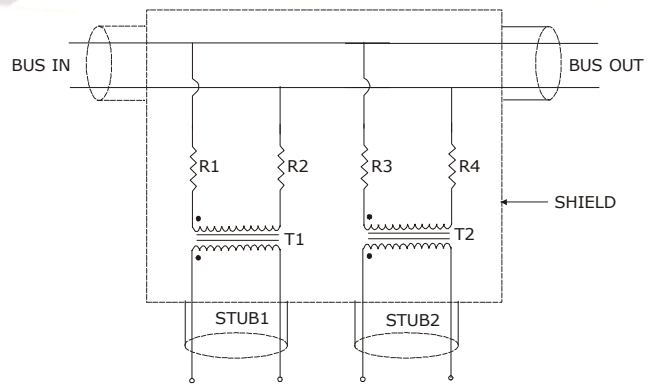
R1 & R2: ISOLATION RESISTORS  
\*Rt: TERMINATING RESISTOR FOR DBC 2001-TR ONLY  
T: TRANSFORMER

**DUAL STUB COUPLER - DBC 1002**



- NOTE :**
1. All dimensions are in mm
  2. Tolerance =  $\pm 1\text{mm}$
  3. Hole to hole dimensions tolerance:  $\pm 0.1\text{mm}$

**SCHEMATIC**

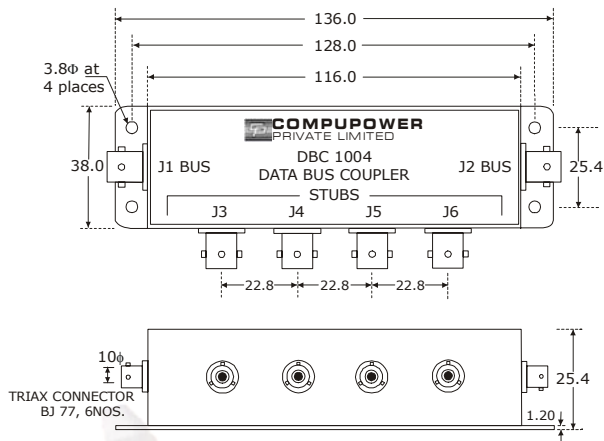


R1 TO R4: ISOLATION RESISTORS  
T1&T2: TRANSFORMERS

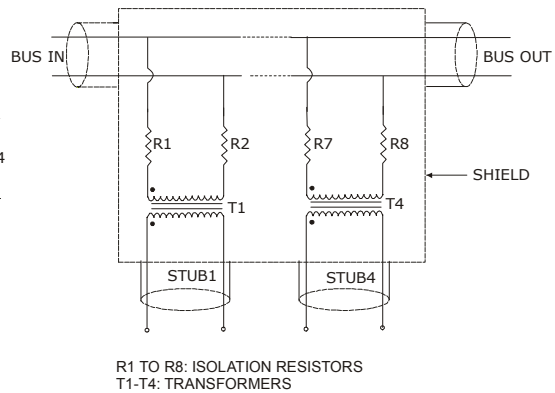


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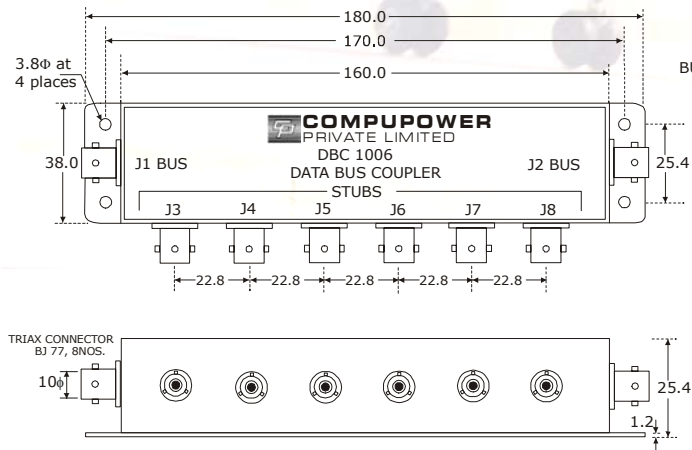
#### FOUR STUB COUPLER - DBC 1004



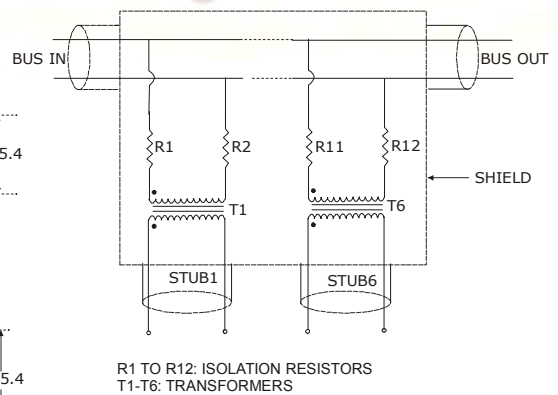
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#### SIX STUB DATA BUS COUPLER - DBC 1006



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