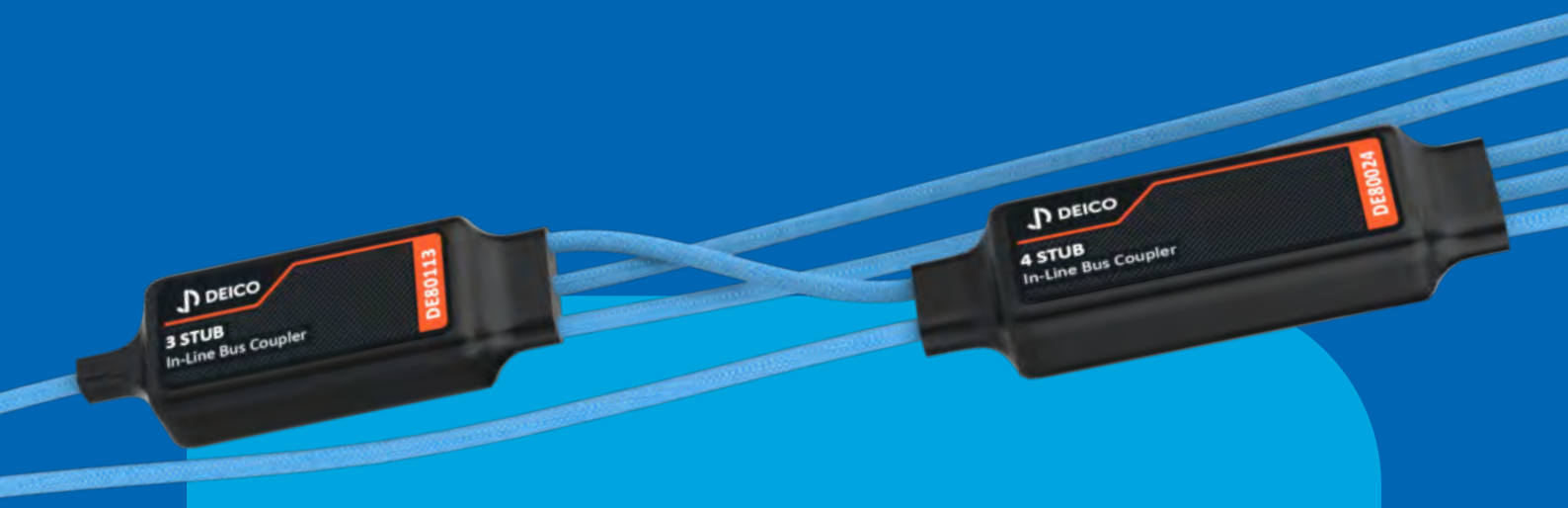
Catalog



DE80000

MIL-STD-1553 Bus Couplers

In-Line Aeronautics Type

DEICO

www.deico.com.tr

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1. Description

The MIL-STD-1553 communication bus electrically connects multiple devices to facilitate reliable communication in various platforms, including both military and civil applications.

These bus configurations are built using various components such as cables, bus couplers, terminating resistors and connectors. In a data bus structure, bus couplers play a role in providing shielding, isolation resistance and transformer interfaces for connection points known as stubs. In this respect, bus couplers are the commercial off-the-shelf (COTS) solutions for easier and more reliable wiring.

DEICO bus couplers are designed to provide an economical solution for both platform and professional benchtop test systems. The product offers users the opportunity to have MIL-STD-1553 bus networks through fast delivery options at a fraction of the cost.

2. Ordering Guide

D	E	8	X	X	X	X	—	XXX.X	—	X.X

Product Code

Product Type

0	Aeronautics type
1	Space type

Product Config

0	Bus lines on same side
1	Bus lines on opposite side

Termination Type

0	No termination
1	Left side termination (LTRM)
2	Right side termination (RTRM)
3	Double termination (DTRM)

Stub Count

1	1 stub
2	2 stubs
3	3 stubs
4	4 stubs

Bus Length

In meters (010.5: each bus cable is 10.5 meter)

Stub Length

In meters (1.5: each stub cable is 1.5 meter)

Eg: **DE80104-010.5-1.5** - In-Line Bus Coupler - Aeronautics Type - Bus Lines On Opposite Side - No Termination - 4 Stubs - 10.5 Meters Bus Cable - 1.5 Meters Stub Cable

3. Configuration Options

Table 1: In-Line Aeronautics Type Bus Couplers with 1 Stub

Product Code	Transformer Ratio	Stub Resistor Value	Configuration / Termination Type
DE80101-XXX.X-X.X	1:1.41	59 Ohms ±1% 1 W	Bus lines on opposite side / No termination
DE80001-XXX.X-X.X	1:1.41	59 Ohms ±1% 1 W	Bus lines on same side / No termination
DE80121-XXX.X-X.X	1:1.41	59 Ohms ±1% 1 W	Bus lines on opposite side / Right side terminated
DE80111-XXX.X-X.X	1:1.41	59 Ohms ±1% 1 W	Bus lines on opposite side / Left side terminated

Table 2: In-Line Aeronautics Type Bus Couplers with 2 Stubs

Product Code	Transformer Ratio	Stub Resistor Value	Configuration / Termination Type
DE80102-XXX.X-X.X	1:1.41	59 Ohms ±1% 1 W	Bus lines on opposite side / No termination
DE80002-XXX.X-X.X	1:1.41	59 Ohms ±1% 1 W	Bus lines on same side / No termination
DE80122-XXX.X-X.X	1:1.41	59 Ohms ±1% 1 W	Bus lines on opposite side / Right side terminated
DE80132-XXX.X-X.X	1:1.41	59 Ohms ±1% 1 W	Bus lines on opposite side / Double side terminated
DE80022-XXX.X-X.X	1:1.41	59 Ohms ±1% 1 W	Bus lines on same side / Right side terminated
DE80032-XXX.X-X.X	1:1.41	59 Ohms ±1% 1 W	Bus lines on same side / Double side terminated

Table 3: In-Line Aeronautics Type Bus Couplers with 3 Stubs

Product Code	Transformer Ratio	Stub Resistor Value	Configuration / Termination Type
DE80103-XXX.X-X.X	1:1.41	59 Ohms ±1% 1 W	Bus lines on opposite side / No termination
DE80003-XXX.X-X.X	1:1.41	59 Ohms ±1% 1 W	Bus lines on same side / No termination
DE80123-XXX.X-X.X	1:1.41	59 Ohms ±1% 1 W	Bus lines on opposite side / Right side terminated
DE80113-XXX.X-X.X	1:1.41	59 Ohms ±1% 1 W	Bus lines on opposite side / Left side terminated
DE80133-XXX.X-X.X	1:1.41	59 Ohms ±1% 1 W	Bus lines on opposite side / Double side terminated
DE80023-XXX.X-X.X	1:1.41	59 Ohms ±1% 1 W	Bus lines on same side / Right side terminated
DE80033-XXX.X-X.X	1:1.41	59 Ohms ±1% 1 W	Bus lines on same side / Double side terminated

Table 4: In-Line Aeronautics Type Bus Couplers with 4 Stubs

Product Code	Transformer Ratio	Stub Resistor Value	Configuration / Termination Type
DE80104-XXX.X-X.X	1:1.41	59 Ohms ±1% 1 W	Bus lines on opposite side / No termination
DE80004-XXX.X-X.X	1:1.41	59 Ohms ±1% 1 W	Bus lines on same side / No termination
DE80124-XXX.X-X.X	1:1.41	59 Ohms ±1% 1 W	Bus lines on opposite side / Right side terminated
DE80134-XXX.X-X.X	1:1.41	59 Ohms ±1% 1 W	Bus lines on opposite side / Double side terminated
DE80024-XXX.X-X.X	1:1.41	59 Ohms ±1% 1 W	Bus lines on same side / Right side terminated
DE80034-XXX.X-X.X	1:1.41	59 Ohms ±1% 1 W	Bus lines on same side / Double side terminated

4. Specifications

Table 5: Electrical Specifications

Common Mode Rejection	-45.0 dB Max @1.0 MHz
Droop	20% max (250 kHz)
Overshoot & Ringing	±1.0 V peak (250 kHz square wave with 100ns)
Stub Voltage	1.0 V to 14.0 V P-P, line to line, signal voltage, transformer coupling
Input Impedance Of Bus	3000 Ω min (75 kHz – 1.0 MHz), stub with open circuit

Table 6: Mechanical Specifications

Enclosure Material	Tinplate 0.5 mm thk.
Cable Type	M17/176-00002

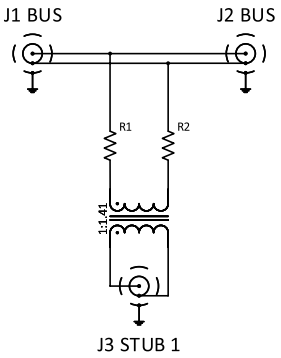
Table 7: Environmental Specifications

High Temperature Operating	MIL-STD-810G_CHG-1 Method 501.6 Procedure II, +125 °C
Low Temperature Operating	MIL-STD-810G_CHG-1 Method 502.6 Procedure II, -55 °C
High Temperature Storage	MIL-STD-810G_CHG-1 Method 501.6 Procedure I, +125 °C
Low Temperature Storage	MIL-STD-810G_CHG-1 Method 502.6 Procedure I, -55 °C
Vibration	MIL-STD-810G_CHG-1 Method 514.7 Procedure I - Category 12, 15 Hz to 2000 Hz, (performance: W0=0.040 and A=0.02, duration: half hour/axis), (endurance: W0=0.053 and A=0.02, duration: 1 hour/axis)
Shock	MIL-STD-810G_CHG-1 Method 516.7 Procedure V (40 g, 11 ms, terminal peak sawtooth, number of shocks: 12, two in each direction of three axes)
Rain	MIL-STD-810G Method 506.5 Procedure I

DE80101-XXX.X-X.X

MIL-STD-1553 Bus Coupler

In-Line, Aeronautics Type, 1 Stub, Opposite Side Bus



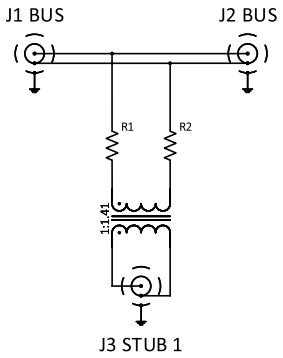
Characteristic Impedance	Fault Protection	Termination Resistor Value
Zo=78 Ohms	59 Ohms ±1% 1 W (R1-R2) in series with transformer winding on bus side	Not terminated



DE80001-XXX.X-X.X

MIL-STD-1553 Bus Coupler

In-Line, Aeronautics Type, 1 Stub, Same Side Bus



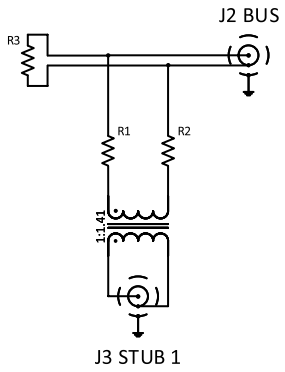
Characteristic Impedance	Fault Protection	Termination Resistor Value
Zo=78 Ohms	59 Ohms ±1% 1 W (R1-R2) in series with transformer winding on bus side	Not terminated



DE80111-XXX.X-X.X

MIL-STD-1553 Bus Coupler

In-Line, Aeronautics Type, 1 Stub, Opposite Side Bus, LTRM



Characteristic Impedance	Fault Protection	Termination Resistor Value
Zo=78 Ohms	59 Ohms ±1% 1 W (R1-R2) in series with transformer winding on bus side	78.7 Ohms ±1% 2 W (R3) bus termination

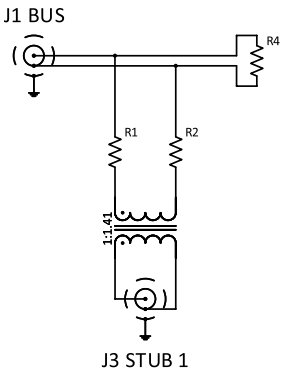




DE80121-XXX.X-X.X

MIL-STD-1553 Bus Coupler

In-Line, Aeronautics Type, 1 Stub, Opposite Side Bus, RTRM



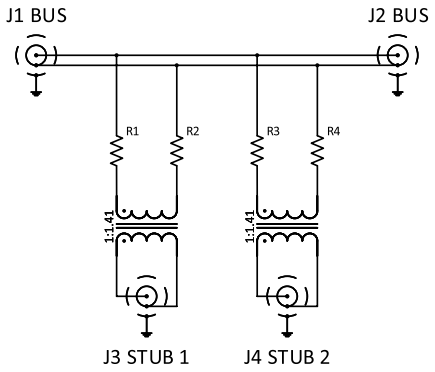
Characteristic Impedance	Fault Protection	Termination Resistor Value
Zo=78 Ohms	59 Ohms ±1% 1 W (R1-R2) in series with transformer winding on bus side	78.7 Ohms ±1% 2 W (R4) bus termination



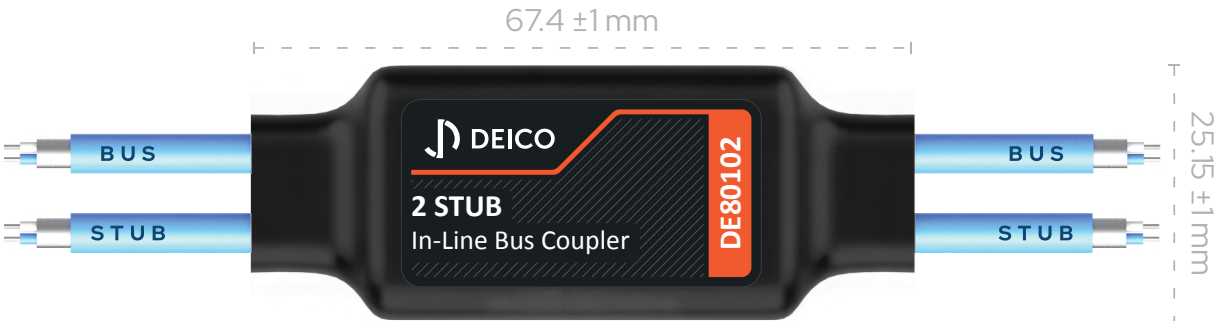
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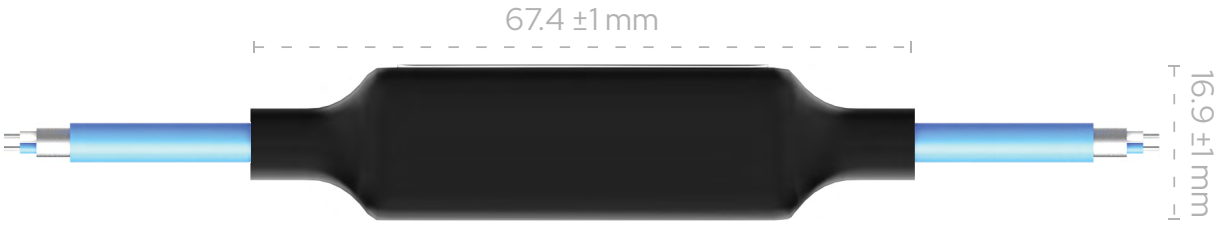
MIL-STD-1553 Bus Coupler

In-Line, Aeronautics Type, 2 Stub, Opposite Side Bus



Characteristic Impedance	Fault Protection	Termination Resistor Value
Zo=78 Ohms	59 Ohms ±1% 1 W (R1-R4) in series with transformer winding on bus side	Not terminated

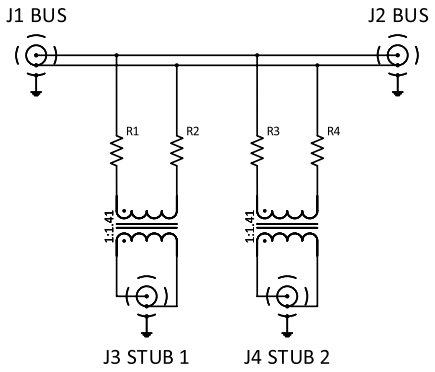




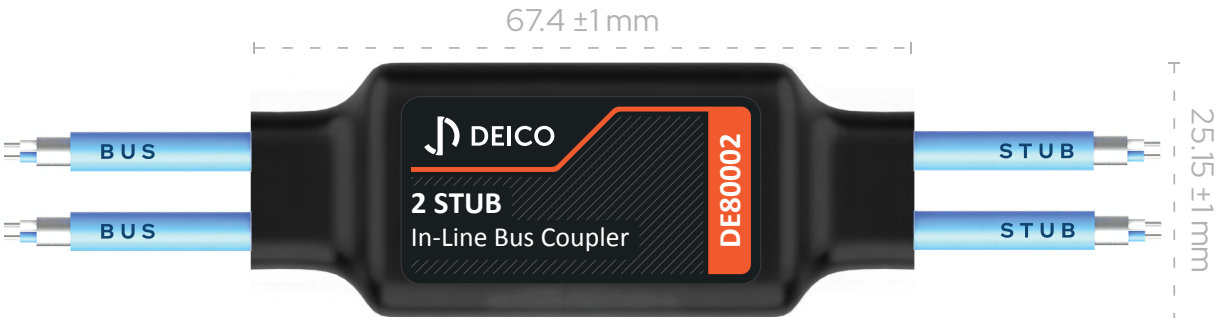
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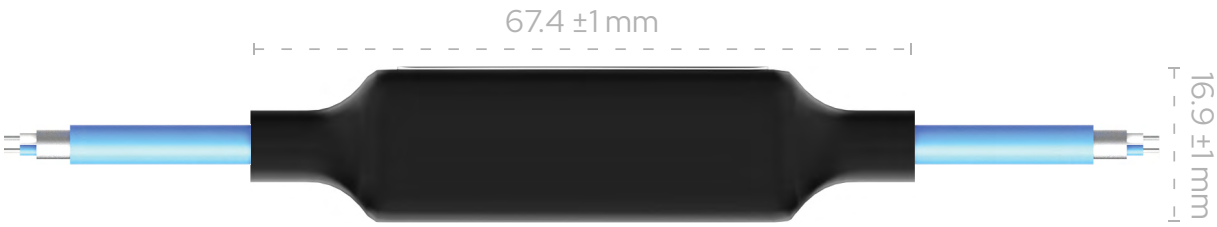
MIL-STD-1553 Bus Coupler

In-Line, Aeronautics Type, 2 Stub, Same Side Bus



Characteristic Impedance	Fault Protection	Termination Resistor Value
Zo=78 Ohms	59 Ohms ±1% 1 W (R1-R4) in series with transformer winding on bus side	Not terminated

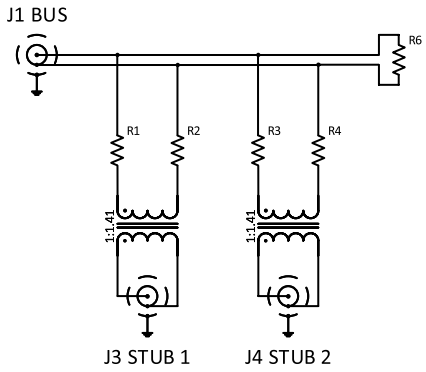




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MIL-STD-1553 Bus Coupler

In-Line, Aeronautics Type, 2 Stub, Opposite Side Bus, RTRM



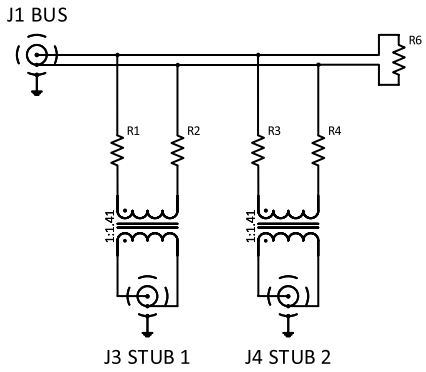
Characteristic Impedance	Fault Protection	Termination Resistor Value
Zo=78 Ohms	59 Ohms ±1% 1 W (R1-R4) in series with transformer winding on bus side	78.7 Ohms ±1% 2 W (R6) bus termination



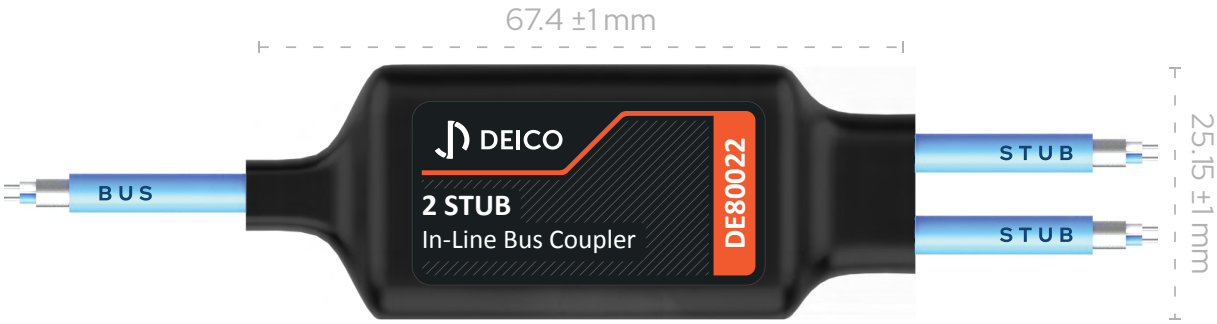
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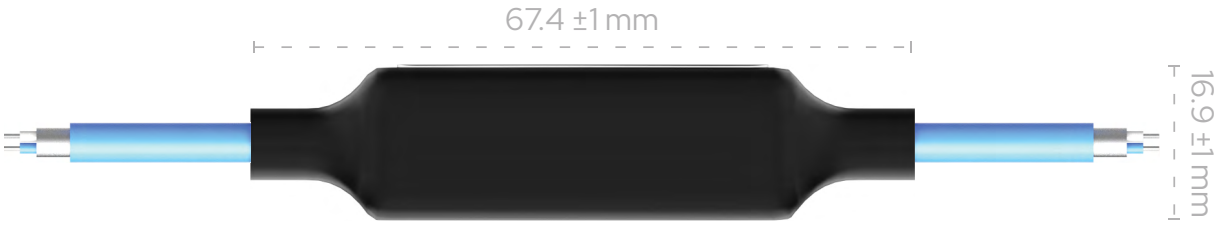
MIL-STD-1553 Bus Coupler

In-Line, Aeronautics Type, 2 Stub, Same Side Bus, RTRM



Characteristic Impedance	Fault Protection	Termination Resistor Value
Zo=78 Ohms	59 Ohms ±1% 1 W (R1-R4) in series with transformer winding on bus side	78.7 Ohms ±1% 2 W (R6) bus termination

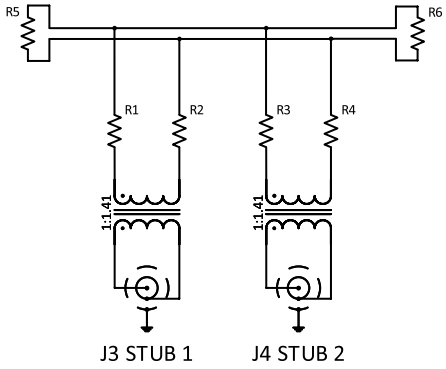




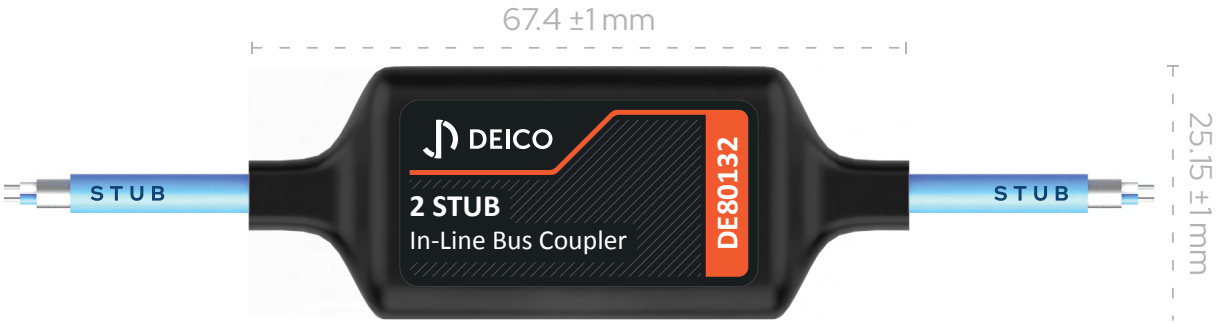
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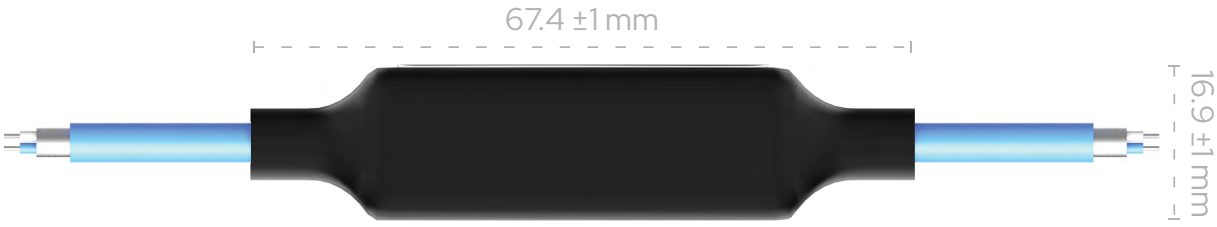
MIL-STD-1553 Bus Coupler

In-Line, Aeronautics Type, 2 Stub, Opposite Side Bus, DTRM



Characteristic Impedance	Fault Protection	Termination Resistor Value
Zo=78 Ohms	59 Ohms ±1% 1 W (R1-R4) in series with transformer winding on bus side	78.7 Ohms ±1% 2 W (R5, R6) bus termination

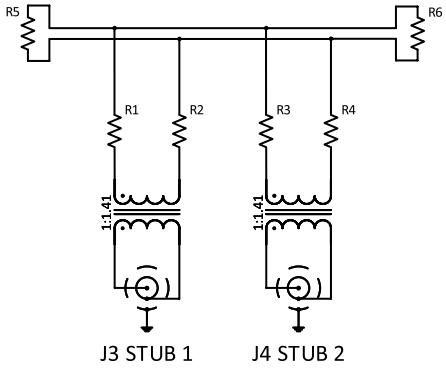




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MIL-STD-1553 Bus Coupler

In-Line, Aeronautics Type, 2 Stub, Same Side Bus, DTRM



Characteristic Impedance	Fault Protection	Termination Resistor Value
Zo=78 Ohms	59 Ohms ±1% 1 W (R1-R4) in series with transformer winding on bus side	78.7 Ohms ±1% 2 W (R5, R6) bus termination

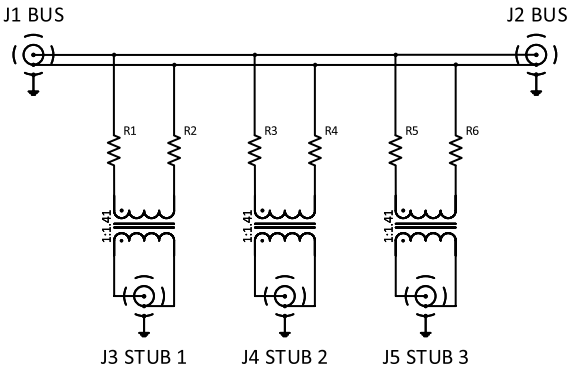




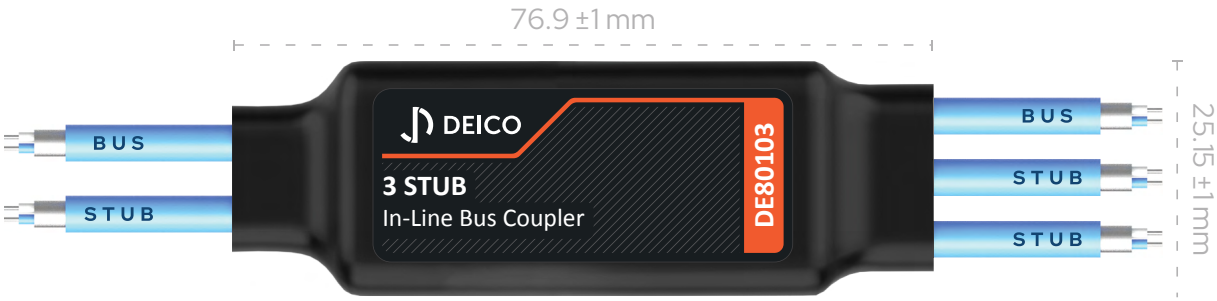
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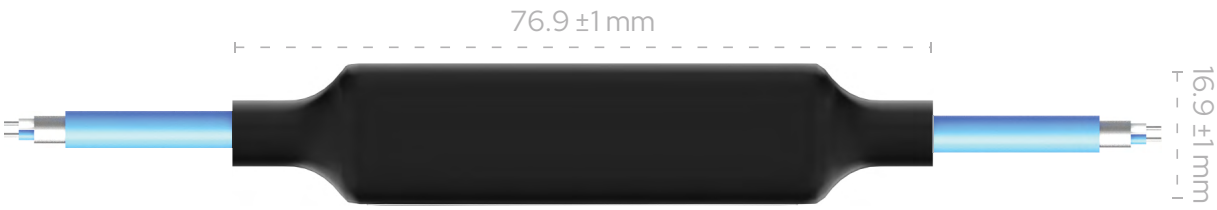
MIL-STD-1553 Bus Coupler

In-Line, Aeronautics Type, 3 Stub, Opposite Side Bus



Characteristic Impedance	Fault Protection	Termination Resistor Value
Zo=78 Ohms	59 Ohms ±1% 1 W (R1-R6) in series with transformer winding on bus side	Not terminated

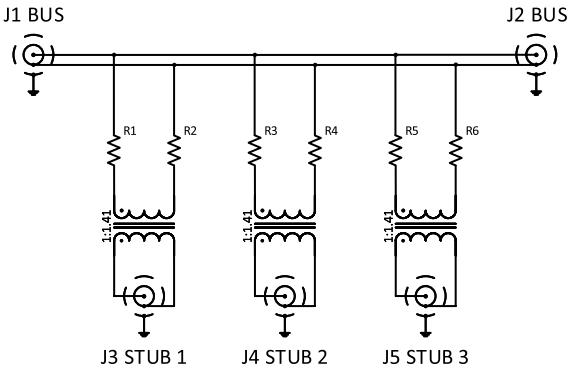




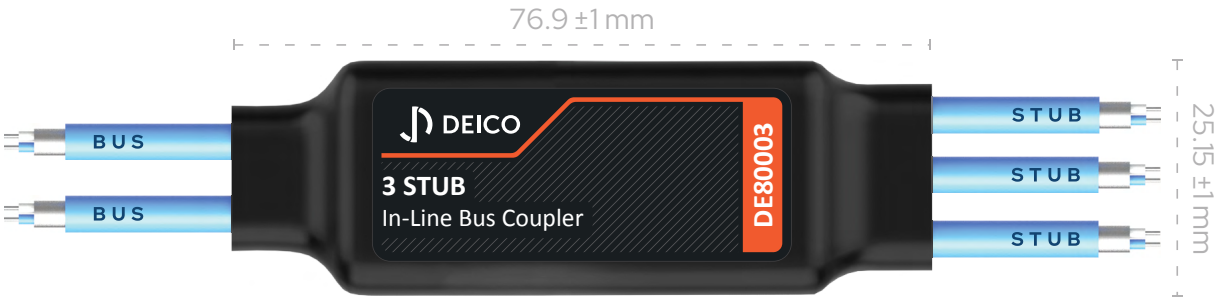
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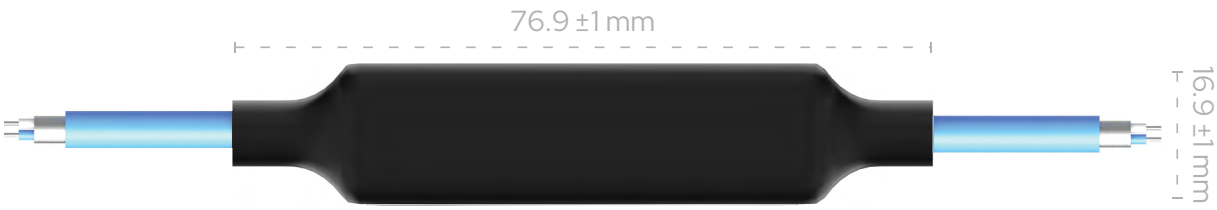
MIL-STD-1553 Bus Coupler

In-Line, Aeronautics Type, 3 Stub, Same Side Bus



Characteristic Impedance	Fault Protection	Termination Resistor Value
Zo=78 Ohms	59 Ohms ±1% 1 W (R1-R6) in series with transformer winding on bus side	Not terminated

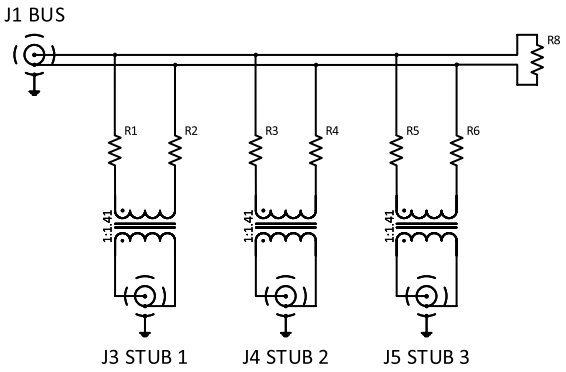




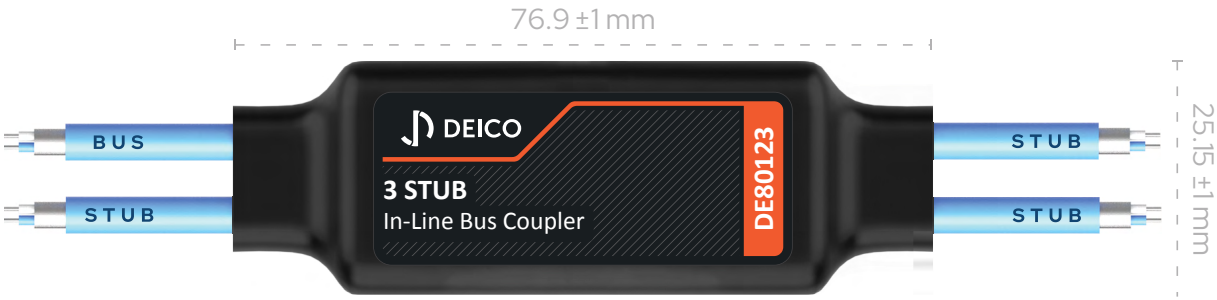
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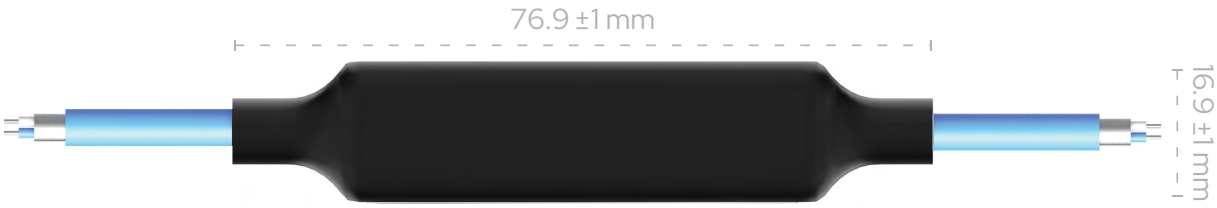
MIL-STD-1553 Bus Coupler

In-Line, Aeronautics Type, 3 Stub, Opposite Side Bus, RTRM



Characteristic Impedance	Fault Protection	Termination Resistor Value
Zo=78 Ohms	59 Ohms ±1% 1 W (R1-R6) in series with transformer winding on bus side	78.7 Ohms ±1% 2 W (R8) bus termination

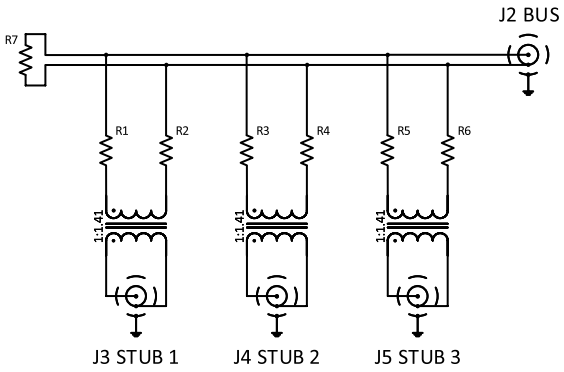




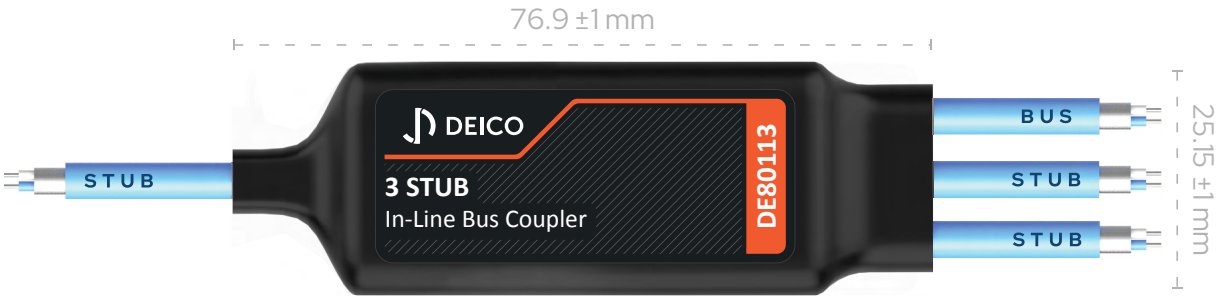
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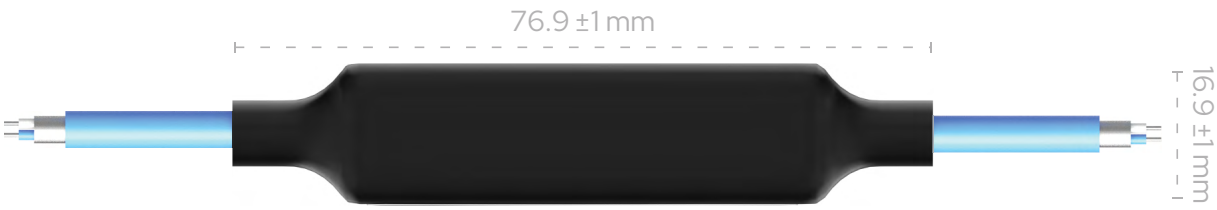
MIL-STD-1553 Bus Coupler

In-Line, Aeronautics Type, 3 Stub, Opposite Side Bus, LTRM



Characteristic Impedance	Fault Protection	Termination Resistor Value
Zo=78 Ohms	59 Ohms ±1% 1 W (R1-R6) in series with transformer winding on bus side	78.7 Ohms ±1% 2 W (R7) bus termination

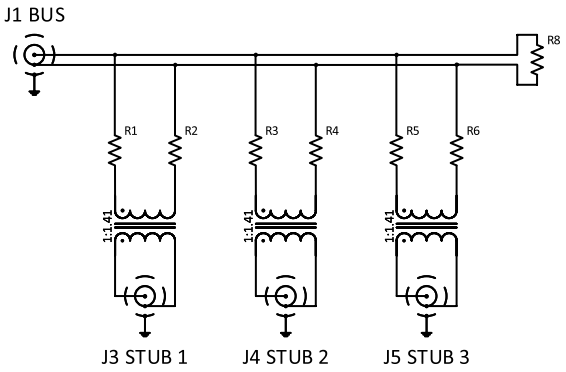




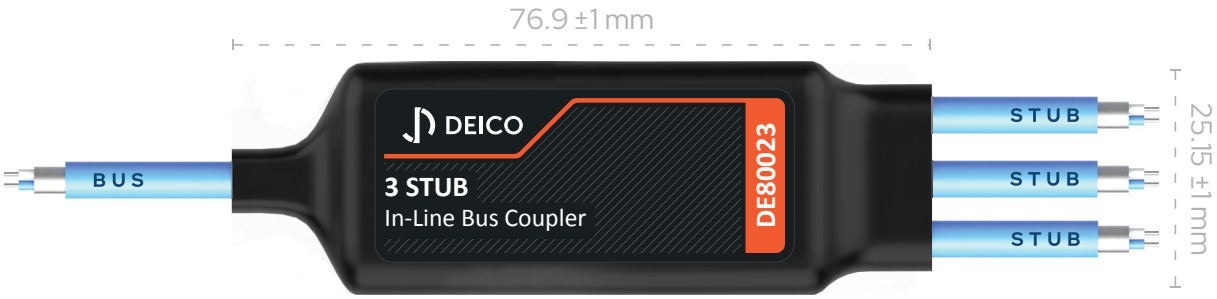
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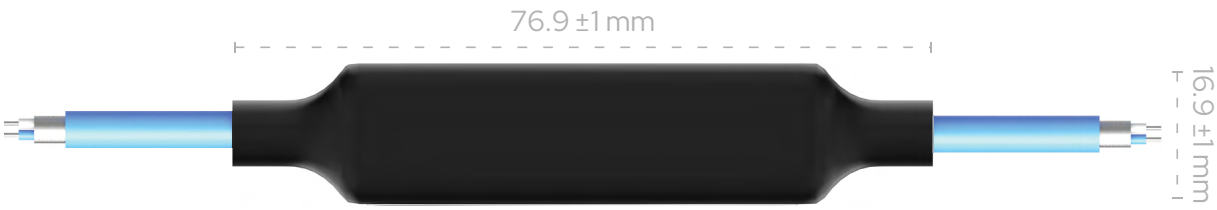
MIL-STD-1553 Bus Coupler

In-Line, Aeronautics Type, 3 Stub, Same Side Bus, RTRM



Characteristic Impedance	Fault Protection	Termination Resistor Value
Zo=78 Ohms	59 Ohms ±1% 1 W (R1-R6) in series with transformer winding on bus side	78.7 Ohms ±1% 2 W (R8) bus termination

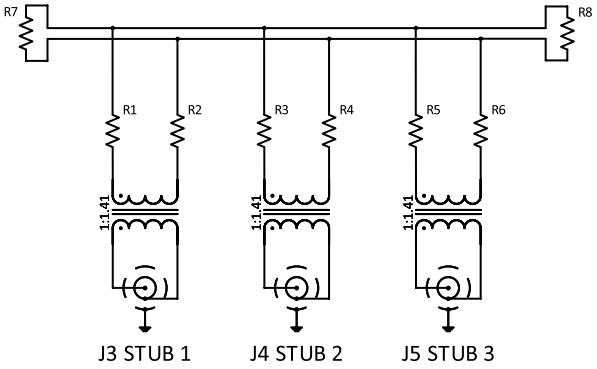




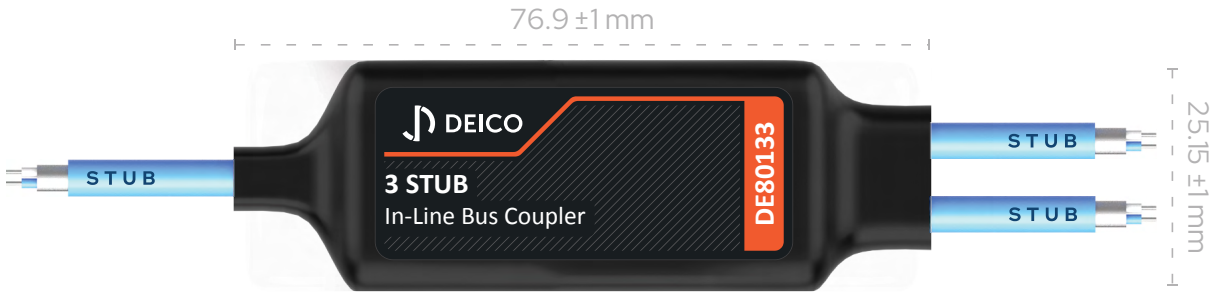
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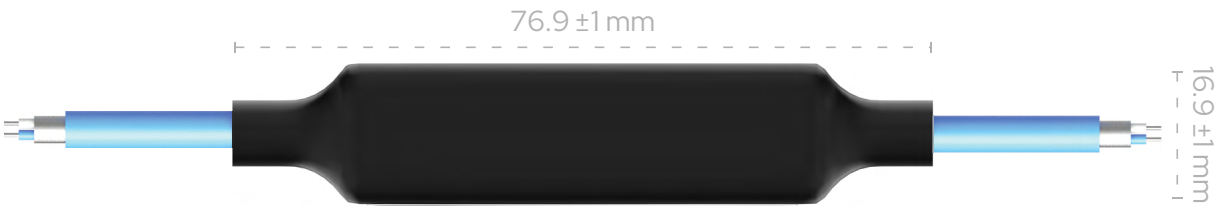
MIL-STD-1553 Bus Coupler

In-Line, Aeronautics Type, 3 Stub, Opposite Side Bus, DTRM



Characteristic Impedance	Fault Protection	Termination Resistor Value
Zo=78 Ohms	59 Ohms ±1% 1 W (R1-R6) in series with transformer winding on bus side	78.7 Ohms ±1% 2 W (R7, R8) bus termination

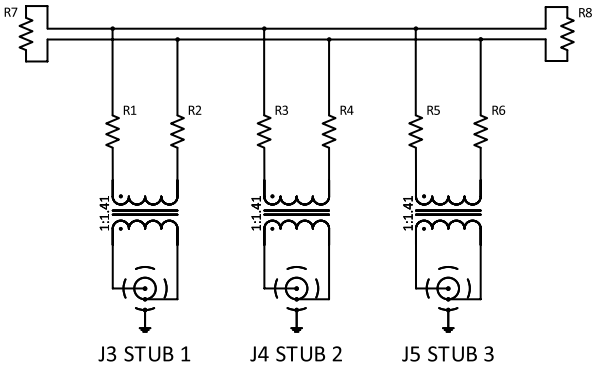




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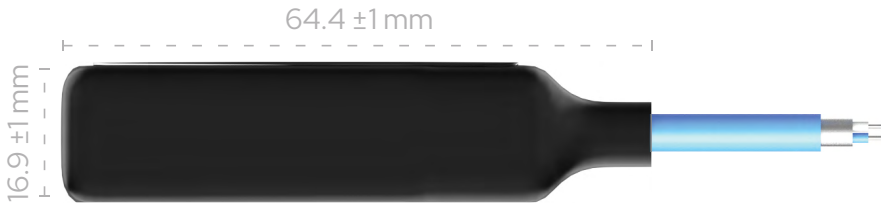
MIL-STD-1553 Bus Coupler

In-Line, Aeronautics Type, 3 Stub, Same Side Bus, DTRM



Characteristic Impedance	Fault Protection	Termination Resistor Value
Zo=78 Ohms	59 Ohms ±1% 1 W (R1-R6) in series with transformer winding on bus side	78.7 Ohms ±1% 2 W (R7, R8) bus termination

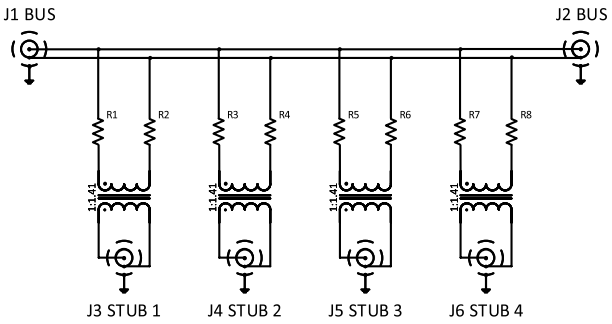




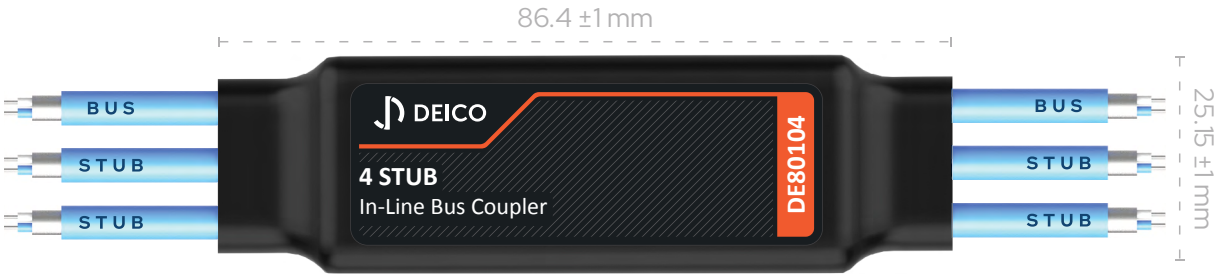
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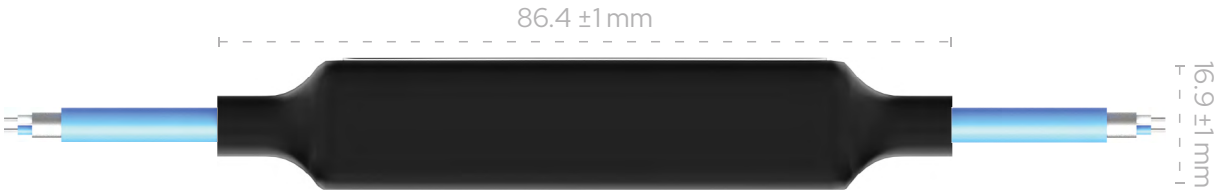
MIL-STD-1553 Bus Coupler

In-Line, Aeronautics Type, 4 Stub, Opposite Side Bus



Characteristic Impedance	Fault Protection	Termination Resistor Value
Zo=78 Ohms	59 Ohms ±1% 1 W (R1-R8) in series with transformer winding on bus side	Not terminated

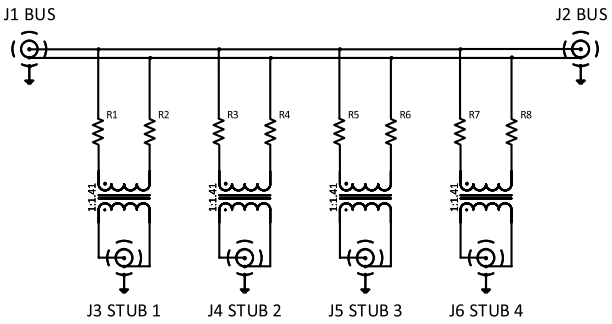




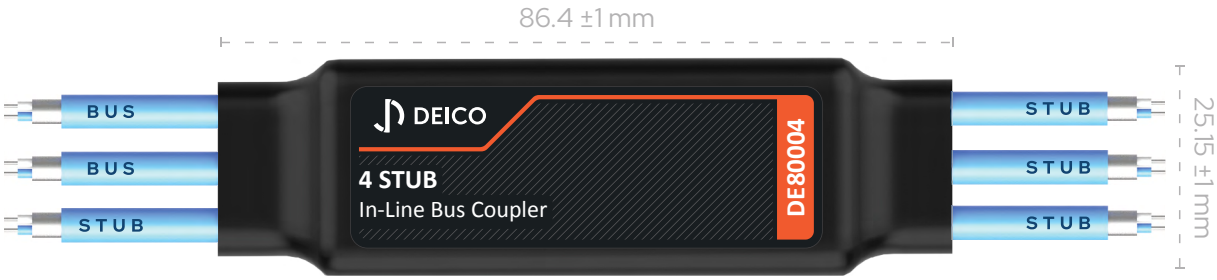
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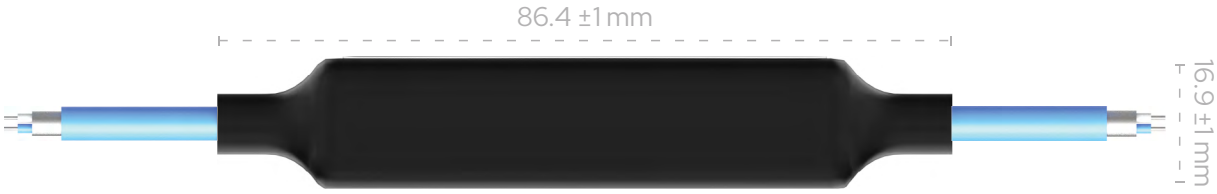
MIL-STD-1553 Bus Coupler

In-Line, Aeronautics Type, 4 Stub, Same Side Bus



Characteristic Impedance	Fault Protection	Termination Resistor Value
Zo=78 Ohms	59 Ohms ±1% 1 W (R1-R8) in series with transformer winding on bus side	Not terminated

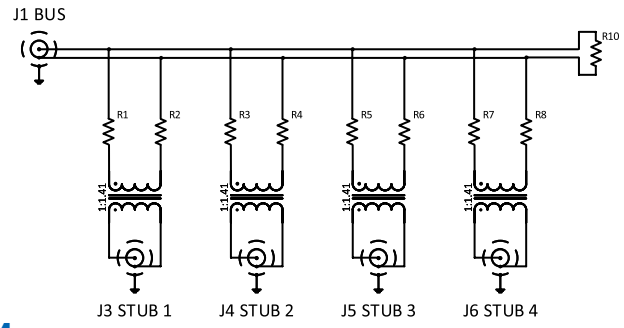




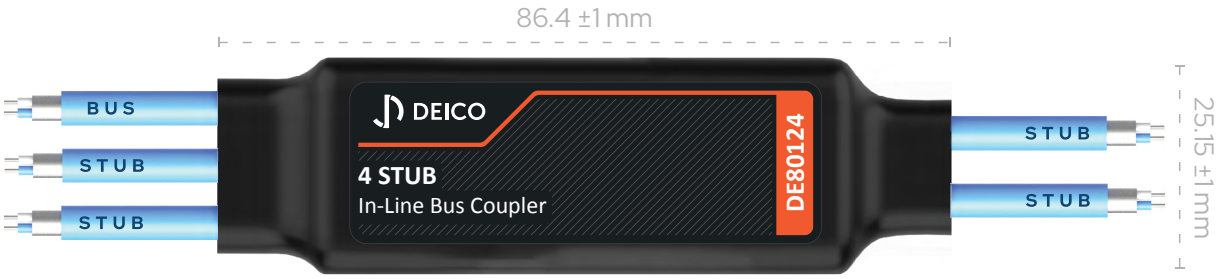
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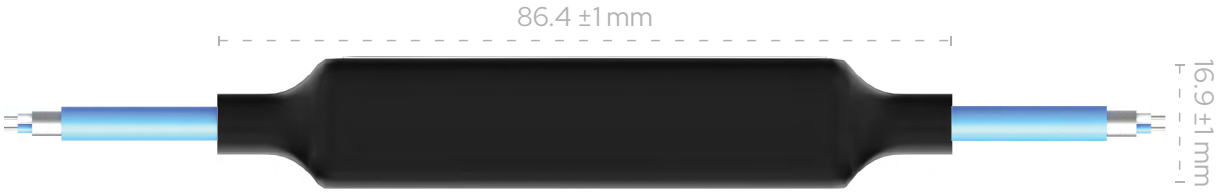
MIL-STD-1553 Bus Coupler

In-Line, Aeronautics Type, 4 Stub, Opposite Side Bus, RTRM



Characteristic Impedance	Fault Protection	Termination Resistor Value
Zo=78 Ohms	59 Ohms ±1% 1 W (R1-R8) in series with transformer winding on bus side	78.7 Ohms ±1% 2 W (R10) bus termination

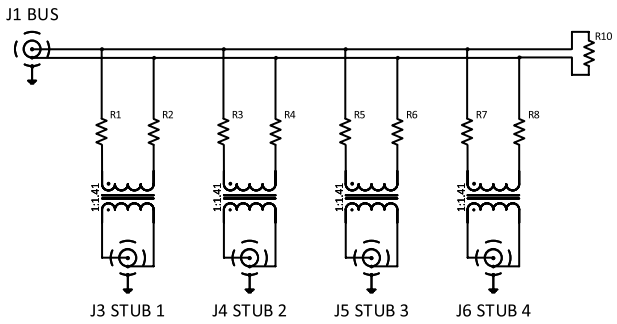




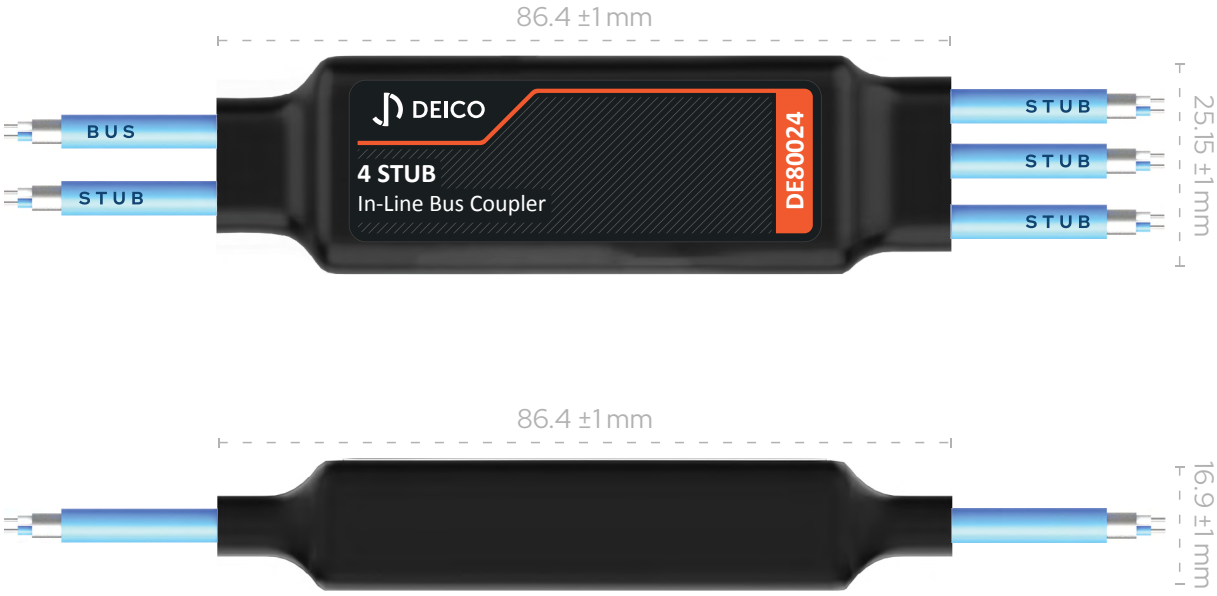
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MIL-STD-1553 Bus Coupler

In-Line, Aeronautics Type, 4 Stub, Same Side Bus, RTRM



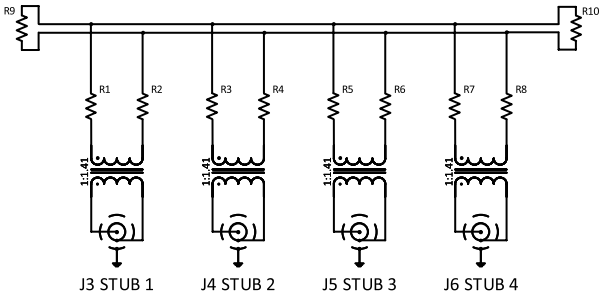
Characteristic Impedance	Fault Protection	Termination Resistor Value
Zo=78 Ohms	59 Ohms ±1% 1 W (R1-R8) in series with transformer winding on bus side	78.7 Ohms ±1% 2 W (R10) bus termination



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MIL-STD-1553 Bus Coupler

In-Line, Aeronautics Type, 4 Stub, Opposite Side Bus, DTRM



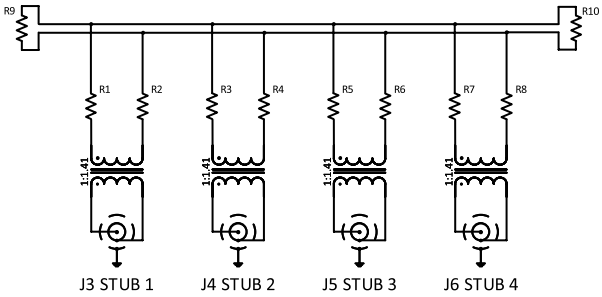
Characteristic Impedance	Fault Protection	Termination Resistor Value
Zo=78 Ohms	59 Ohms ±1% 1 W (R1-R8) in series with transformer winding on bus side	78.7 Ohms ±1% 2 W (R9,R10) bus termination



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MIL-STD-1553 Bus Coupler

In-Line, Aeronautics Type, 4 Stub, Same Side Bus, DTRM



Characteristic Impedance	Fault Protection	Termination Resistor Value
Zo=78 Ohms	59 Ohms ±1% 1 W (R1-R8) in series with transformer winding on bus side	78.7 Ohms ±1% 2 W (R9,R10) bus termination

