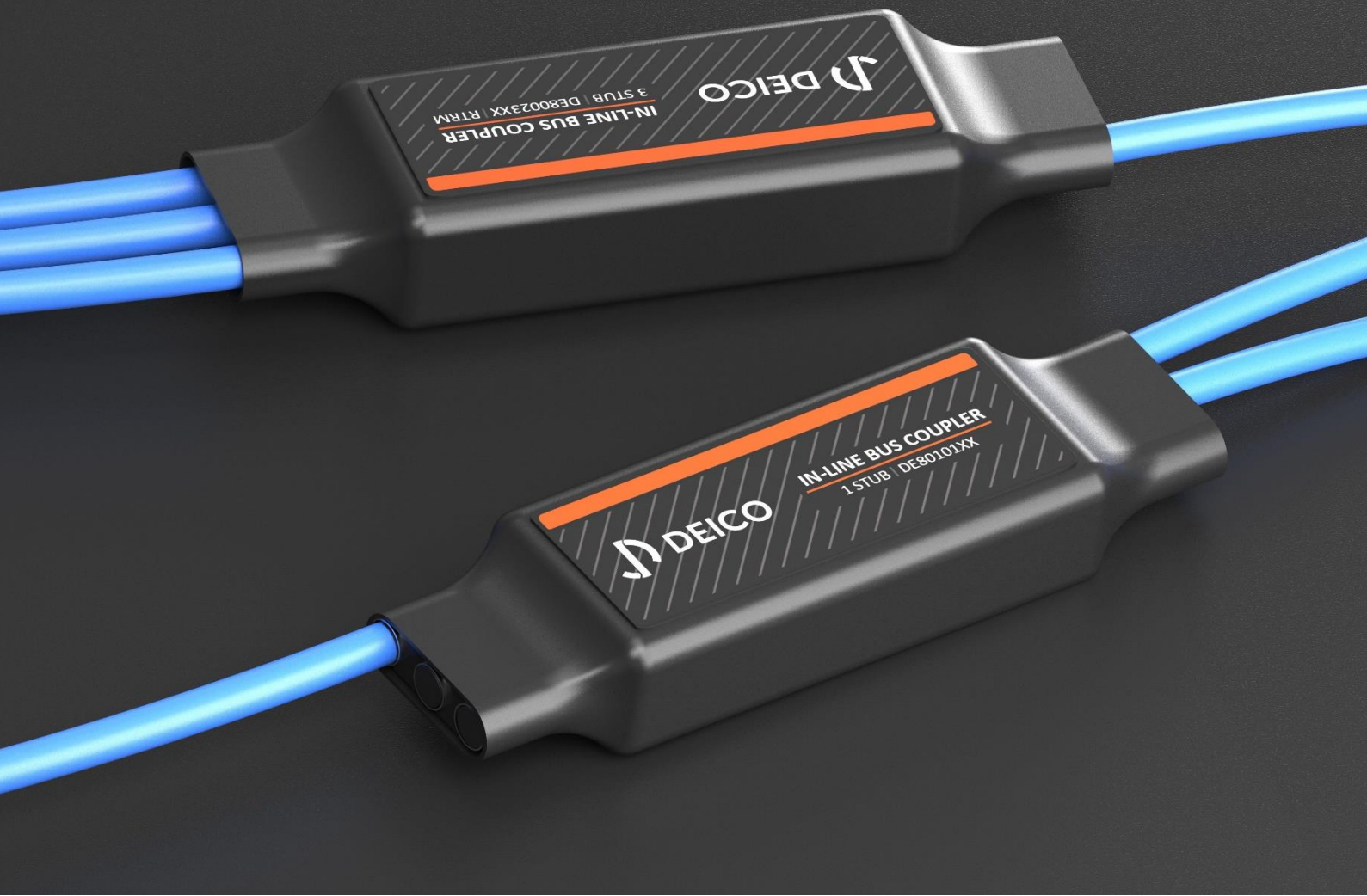
DEICO

MIL-STD-1553 Bus Couplers

IN-LINE TYPE



MIL-STD-1553
In-Line Bus Couplers

Product Overview

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.

In-Line Type Couplers with 1 Stub (Aeronautics)			
Product Code	**Transformer Ratio**	**Stub Resistor Value**	**Configuration / Termination Type**
DE80101XX	1:1.41	59 Ohms ±1% 1W	Bus lines on opposite side / No termination
DE80001XX	1:1.41	59 Ohms ±1% 1W	Bus lines on same side / No termination
DE80121XX	1:1.41	59 Ohms ±1% 1W	Bus lines on opposite side / Right side terminated
DE80111XX	1:1.41	59 Ohms ±1% 1W	Bus lines on opposite side / Left side terminated
In-Line Type Couplers with 2 Stubs (Aeronautics)			
Product Code	**Transformer Ratio**	**Stub Resistor Value**	**Configuration / Termination Type**
DE80102XX	1:1.41	59 Ohms ±1% 1W	Bus lines on opposite side / No termination
DE80002XX	1:1.41	59 Ohms ±1% 1W	Bus lines on same side / No termination
DE80122XX	1:1.41	59 Ohms ±1% 1W	Bus lines on opposite side / Right side terminated
DE80132XX	1:1.41	59 Ohms ±1% 1W	Bus lines on opposite side / Double side terminated
DE80022XX	1:1.41	59 Ohms ±1% 1W	Bus lines on same side / Right side terminated
DE80032XX	1:1.41	59 Ohms ±1% 1W	Bus lines on same side / Double side terminated
In-Line Type Couplers with 3 Stubs (Aeronautics)			
Product Code	**Transformer Ratio**	**Stub Resistor Value**	**Configuration / Termination Type**
DE80103XX	1:1.41	59 Ohms ±1% 1W	Bus lines on opposite side / No termination
DE80003XX	1:1.41	59 Ohms ±1% 1W	Bus lines on same side / No termination
DE80123XX	1:1.41	59 Ohms ±1% 1W	Bus lines on opposite side / Right side terminated
DE80113XX	1:1.41	59 Ohms ±1% 1W	Bus lines on opposite side / Left side terminated
DE80133XX	1:1.41	59 Ohms ±1% 1W	Bus lines on opposite side / Double side terminated
DE80023XX	1:1.41	59 Ohms ±1% 1W	Bus lines on same side / Right side terminated
DE80033XX	1:1.41	59 Ohms ±1% 1W	Bus lines on same side / Left side terminated

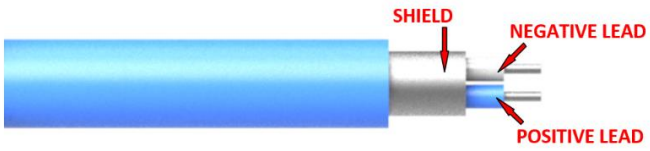
In-Line Type Couplers with 4 Stubs (Aeronautics)			
Product Code	**Transformer Ratio**	**Stub Resistor Value**	**Configuration / Termination Type**
DE80104XX	1:1.41	59 Ohms ±1% 1W	Bus lines on opposite side / No termination
DE80004XX	1:1.41	59 Ohms ±1% 1W	Bus lines on same side / No termination
DE80124XX	1:1.41	59 Ohms ±1% 1W	Bus lines on opposite side / Right side terminated
DE80134XX	1:1.41	59 Ohms ±1% 1W	Bus lines on opposite side / Double side terminated
DE80024XX	1:1.41	59 Ohms ±1% 1W	Bus lines on same side / Right side terminated
DE80034XX	1:1.41	59 Ohms ±1% 1W	Bus lines on same side / Double side terminated
In-Line Type Couplers with 1 Stub (Space)			
Product Code	**Transformer Ratio**	**Stub Resistor Value**	**Configuration / Termination Type**
DE81101XX	1:1.41	59 Ohms ±1% 1W	Bus lines on opposite side / No termination
DE81001XX	1:1.41	59 Ohms ±1% 1W	Bus lines on same side / No termination
DE81121XX	1:1.41	59 Ohms ±1% 1W	Bus lines on opposite side / Right side terminated
DE81111XX	1:1.41	59 Ohms ±1% 1W	Bus lines on opposite side / Left side terminated
In-Line Type Couplers with 2 Stubs (Space)			
Product Code	**Transformer Ratio**	**Stub Resistor Value**	**Configuration / Termination Type**
DE81102XX	1:1.41	59 Ohms ±1% 1W	Bus lines on opposite side / No termination
DE81002XX	1:1.41	59 Ohms ±1% 1W	Bus lines on same side / No termination
DE81122XX	1:1.41	59 Ohms ±1% 1W	Bus lines on opposite side / Right side terminated
DE81132XX	1:1.41	59 Ohms ±1% 1W	Bus lines on opposite side / Double side terminated
DE81022XX	1:1.41	59 Ohms ±1% 1W	Bus lines on same side / Right side terminated
DE81032XX	1:1.41	59 Ohms ±1% 1W	Bus lines on same side / Double side terminated
In-Line Type Couplers with 3 Stubs (Space)			
Product Code	**Transformer Ratio**	**Stub Resistor Value**	**Configuration / Termination Type**
DE81103XX	1:1.41	59 Ohms ±1% 1W	Bus lines on opposite side / No termination
DE81003XX	1:1.41	59 Ohms ±1% 1W	Bus lines on same side / No termination

DE81123XX	1:1.41	59 Ohms ±1% 1W	Bus lines on opposite side / Right side terminated
DE81113XX	1:1.41	59 Ohms ±1% 1W	Bus lines on opposite side / Left side terminated
DE81133XX	1:1.41	59 Ohms ±1% 1W	Bus lines on opposite side / Double side terminated
DE81023XX	1:1.41	59 Ohms ±1% 1W	Bus lines on same side / Right side terminated
DE81033XX	1:1.41	59 Ohms ±1% 1W	Bus lines on same side / Left side terminated

In-Line Type Couplers with 4 Stubs (Space)

Product Code	Transformer Ratio	Stub Resistor Value	Configuration / Termination Type
DE81104XX	1:1.41	59 Ohms ±1% 1W	Bus lines on opposite side / No termination
DE81004XX	1:1.41	59 Ohms ±1% 1W	Bus lines on same side / No termination
DE81124XX	1:1.41	59 Ohms ±1% 1W	Bus lines on opposite side / Right side terminated
DE81134XX	1:1.41	59 Ohms ±1% 1W	Bus lines on opposite side / Double side terminated
DE81024XX	1:1.41	59 Ohms ±1% 1W	Bus lines on same side / Right side terminated
DE81034XX	1:1.41	59 Ohms ±1% 1W	Bus lines on same side / Double side terminated

AERONAUTICS TYPE



SPACE TYPE

1.	ELECTRICAL SPECIFICATIONS	
1.1	**COMMON MODE REJECTION:**	-45.0dB MAX @1.0MHz
1.2	**DROOP:**	20% MAX (250kHz)
1.3	**OVERSHOOT & RINGING:**	±1.0V PEAK (250kHz SQUARE WAVE WITH 100ns)
1.4	**STUB VOLTAGE:**	1.0V TO 14.0V P-P, LINE TO LINE, SIGNAL VOLTAGE, TRANSFORMER COUPLING
1.5	**INPUT IMPEDANCE OF BUS:**	3000 ΩMIN (75kHz – 1.0MHz), STUB WITH OPEN CIRCUIT

2.	MECHANICAL SPECIFICATIONS	
2.1	**ENCLOSURE MATERIAL:**	TINPLATE 0.5mm THK.

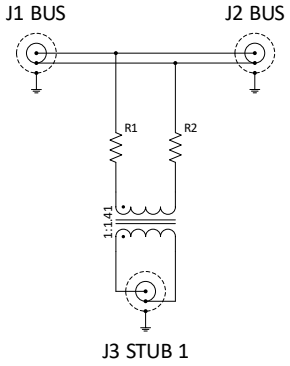
3.	ENVIRONMENTAL SPECIFICATIONS	
3.1	**HIGH TEMPERATURE OPERATING:**	MIL-STD-810G_CHG-1 METHOD 501.6 PROCEDURE II, +125°C
3.2	**LOW TEMPERATURE OPERATING:**	MIL-STD-810G_CHG-1 METHOD 502.6 PROCEDURE II, -55°C
3.3	**HIGH TEMPERATURE STORAGE:**	MIL-STD-810G_CHG-1 METHOD 501.6 PROCEDURE I, +125°C
3.4	**LOW TEMPERATURE STORAGE:**	MIL-STD-810G_CHG-1 METHOD 502.6 PROCEDURE I, -55°C
3.5	**VIBRATION:**	MIL-STD-810G_CHG-1 METHOD 514.7 PROCEDURE I - CATEGORY 12, 15Hz TO 2000Hz, (Performance: W0=0.040 and A=0.02, Duration: half hour/axis), (Endurance: W0=0.053 and A=0.02, Duration: 1 hour/axis)
3.6	**SHOCK:**	MIL-STD-810G_CHG-1 METHOD 516.7 PROCEDURE V (40g, 11ms, Terminal Peak Sawtooth, Number of shocks: 12, two in each direction of three axes)
3.7	**RAIN:**	MIL-STD-810G METHOD 506.5 PROCEDURE I

4.	ORDERING INFORMATION	
	TYPE	**0: AERONAUTICS TYPE** **1: SPACE TYPE**
	PRODUCT CONFIGURATION	**0: BUS LINES ON SAME SIDE** **1: BUS LINES ON OPPOSITE SIDE**
	TERMINATION	**0: NOT TERMINATED** **1: LEFT SIDE TERMINATED** **2: RIGHT SIDE TERMINATED** **3: DOUBLE/DUAL TERMINATED [NOT OPTIONAL FOR 1 STUB]**
	NUMBER OF STUBS	**1-4 STUB**
	CABLE LENGTH	**01-99 (IN METERS FOR EACH CABLE)**
	EXAMPLE	**DE8003403 – AERONAUTICS TYPE BUS LINES ON SAME SIDE DOUBLE SIDE TERMINATED 4 STUB 3 METERS**
	***NOTE**	**PRODUCT CONFIGURATIONS ARE THE SAME FOR AERONAUTICS AND SPACE TYPES EXCEPT THE SOLDER, SHRINK TUBE, POTTING MATERIAL AND CABLE TYPE.**

DE80101XX & DE81101XX Technical Specifications

CHARACTERISTIC IMPEDANCE:	Zo = 78 OHMS
FAULT PROTECTION:	59 OHMS ±1% 1W (R1-R2) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
TERMINATION RESISTOR VALUE:	NOT TERMINATED

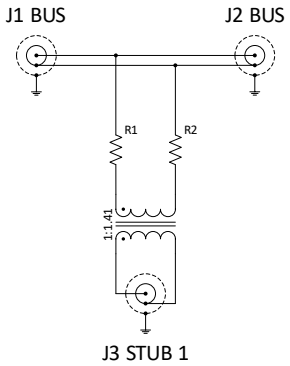
Schematics



DE80001XX & DE81001XX Technical Specifications

CHARACTERISTIC IMPEDANCE:	Zo = 78 OHMS
FAULT PROTECTION:	59 OHMS ±1% 1W (R1-R2) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
TERMINATION RESISTOR VALUE:	NOT TERMINATED

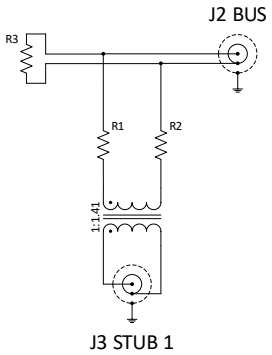
Schematics



DE80111XX & DE81111XX Technical Specifications

CHARACTERISTIC IMPEDANCE:	Zo = 78 OHMS
FAULT PROTECTION:	59 OHMS ±1% 1W (R1-R2) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
TERMINATION RESISTOR VALUE:	78.7 OHMS ±1% 2W (R3) BUS TERMINATION

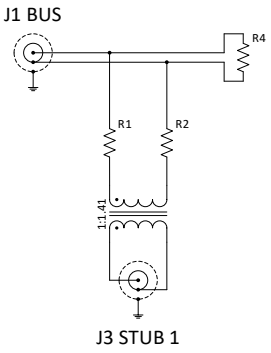
Schematics



DE80121XX & DE81121XX Technical Specifications

CHARACTERISTIC IMPEDANCE:	Zo = 78 OHMS
FAULT PROTECTION:	59 OHMS ±1% 1W (R1-R2) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
TERMINATION RESISTOR VALUE:	78.7 OHMS ±1% 2W (R4) BUS TERMINATION

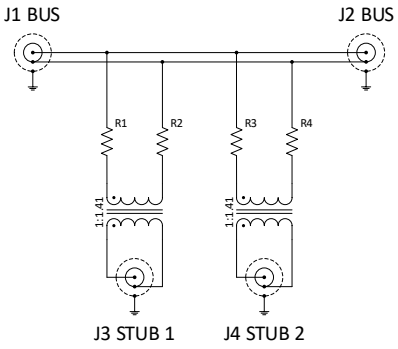
Schematics



DE80102XX & DE81102XX Technical Specifications

CHARACTERISTIC IMPEDANCE:	Zo = 78 OHMS
FAULT PROTECTION:	59 OHMS ±1% 1W (R1-R4) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
TERMINATION RESISTOR VALUE:	NOT TERMINATED

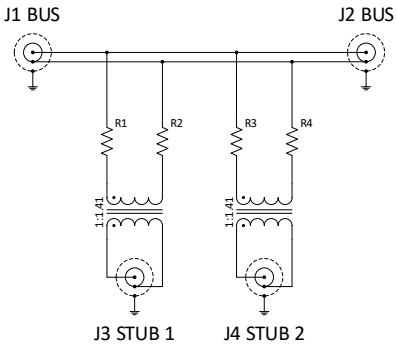
Schematics



DE80002XX & DE81002XX Technical Specifications

CHARACTERISTIC IMPEDANCE:	Zo = 78 OHMS
FAULT PROTECTION:	59 OHMS ±1% 1W (R1-R4) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
TERMINATION RESISTOR VALUE:	NOT TERMINATED

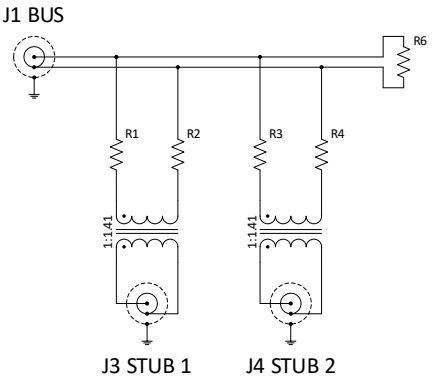
Schematics



DE80122XX & DE81122XX Technical Specifications

CHARACTERISTIC IMPEDANCE:	Zo = 78 OHMS
FAULT PROTECTION:	59 OHMS ±1% 1W (R1-R4) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
TERMINATION RESISTOR VALUE:	78.7 OHMS ±1% 2W (R6) BUS TERMINATION

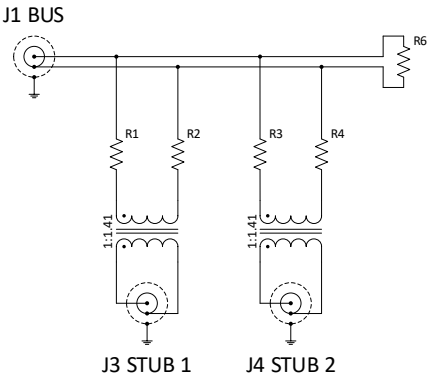
Schematics



DE80022XX & DE81022XX Technical Specifications

CHARACTERISTIC IMPEDANCE:	Zo = 78 OHMS
FAULT PROTECTION:	59 OHMS ±1% 1W (R1-R4) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
TERMINATION RESISTOR VALUE:	78.7 OHMS ±1% 2W (R6) BUS TERMINATION

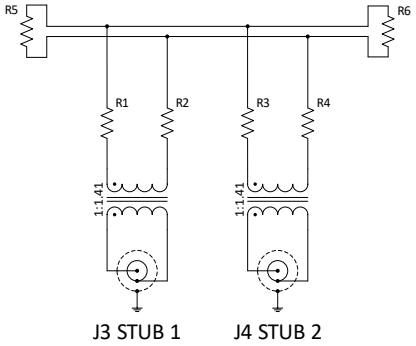
Schematics



DE80132XX & DE81132XX Technical Specifications

CHARACTERISTIC IMPEDANCE:	Zo = 78 OHMS
FAULT PROTECTION:	59 OHMS ±1% 1W (R1-R4) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
TERMINATION RESISTOR VALUE:	78.7 OHMS ±1% 2W (R5, R6) BUS TERMINATION

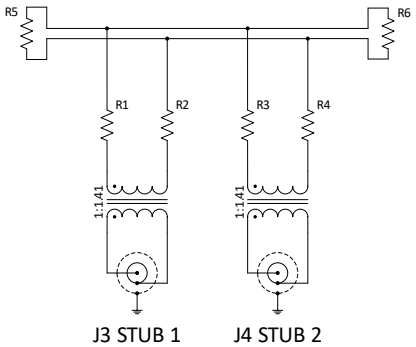
Schematics



DE80032XX & DE81032XX Technical Specifications

CHARACTERISTIC IMPEDANCE:	Zo = 78 OHMS
FAULT PROTECTION:	59 OHMS ±1% 1W (R1-R4) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
TERMINATION RESISTOR VALUE:	78.7 OHMS ±1% 2W (R5, R6) BUS TERMINATION

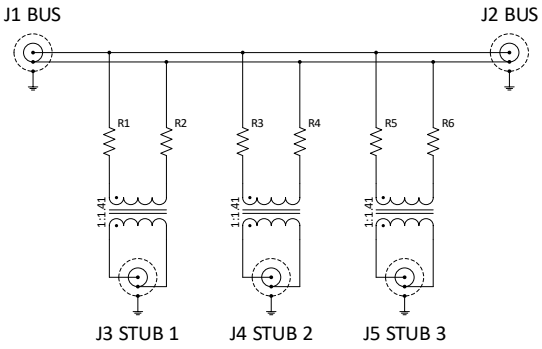
Schematics



DE80103XX & DE81103XX Technical Specifications

CHARACTERISTIC IMPEDANCE:	Zo = 78 OHMS
FAULT PROTECTION:	59 OHMS ±1% 1W (R1-R6) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
TERMINATION RESISTOR VALUE:	NOT TERMINATED

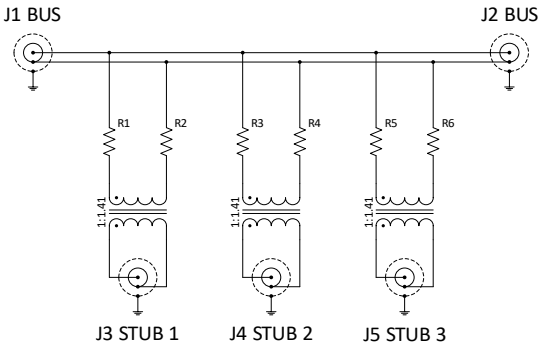
Schematics



DE80003XX & DE81003XX Technical Specifications

CHARACTERISTIC IMPEDANCE:	Zo = 78 OHMS
FAULT PROTECTION:	59 OHMS ±1% 1W (R1-R6) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
TERMINATION RESISTOR VALUE:	NOT TERMINATED

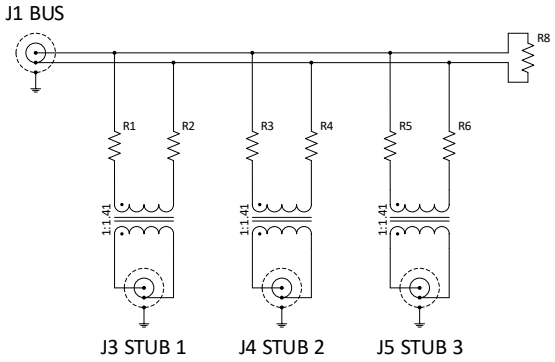
Schematics



DE80123XX & DE81123XX Technical Specifications

CHARACTERISTIC IMPEDANCE:	Zo = 78 OHMS 59 OHMS ±1% 1W (R1-R6) IN
FAULT PROTECTION:	SERIES WITH TRANSFORMER WINDING ON BUS SIDE
TERMINATION RESISTOR VALUE:	78.7 OHMS ±1% 2W (R8) BUS TERMINATION

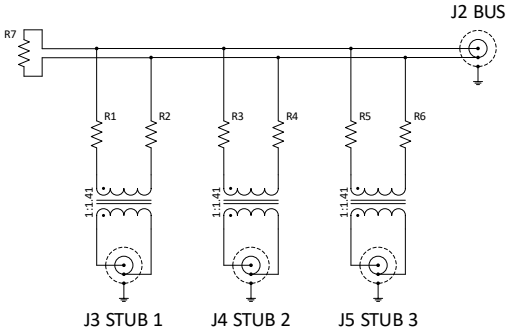
Schematics



DE80113XX & DE81113XX Technical Specifications

CHARACTERISTIC IMPEDANCE:	Zo = 78 OHMS
FAULT PROTECTION:	59 OHMS ±1% 1W (R1-R6) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
TERMINATION RESISTOR VALUE:	78.7 OHMS ±1% 2W (R7) BUS TERMINATION

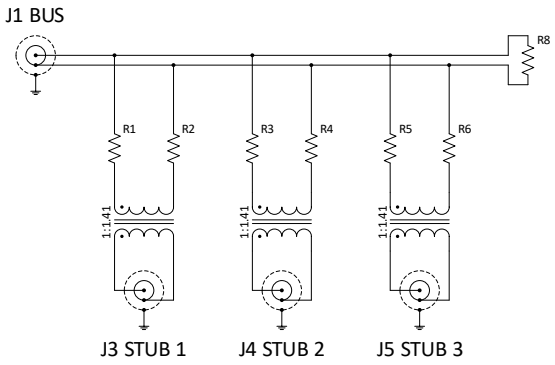
Schematics



DE80023XX & DE81023XX Technical Specifications

CHARACTERISTIC IMPEDANCE:	Zo = 78 OHMS
FAULT PROTECTION:	59 OHMS ±1% 1W (R1-R6) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
TERMINATION RESISTOR VALUE:	78.7 OHMS ±1% 2W (R8) BUS TERMINATION

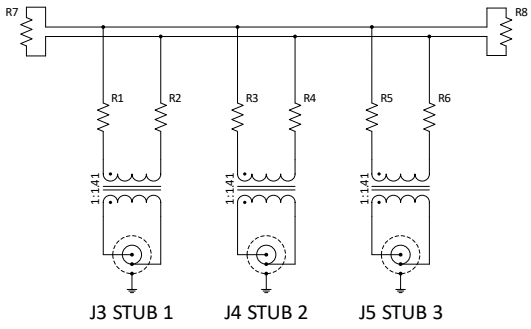
Schematics



DE80133XX & DE81133XX Technical Specifications

CHARACTERISTIC IMPEDANCE:	Zo = 78 OHMS
FAULT PROTECTION:	59 OHMS ±1% 1W (R1-R6) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
TERMINATION RESISTOR VALUE:	78.7 OHMS ±1% 2W (R7, R8) BUS TERMINATION

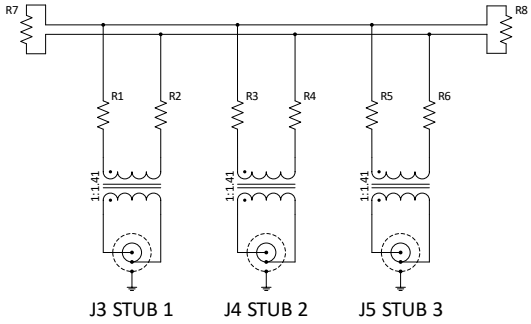
Schematics



DE80033XX & DE81033XX Technical Specifications

CHARACTERISTIC IMPEDANCE:	Zo = 78 OHMS
	59 OHMS ±1% 1W (R1-R6) IN SERIES
FAULT PROTECTION:	WITH TRANSFORMER WINDING ON
	BUS SIDE
TERMINATION RESISTOR VALUE:	78.7 OHMS ±1% 2W (R7, R8) BUS TERMINATION

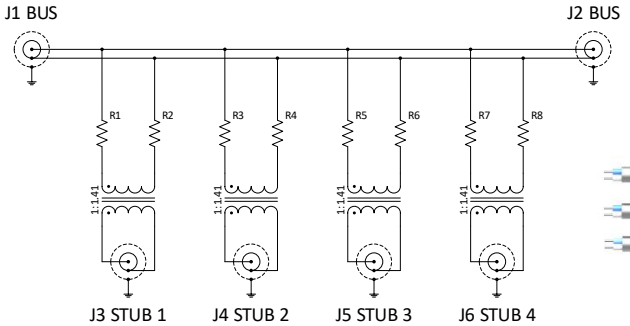
Schematics



DE80104XX & DE81104XX Technical Specifications

CHARACTERISTIC IMPEDANCE:	Zo = 78 OHMS
FAULT PROTECTION:	59 OHMS ±1% 1W (R1-R8) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
TERMINATION RESISTOR VALUE:	NOT TERMINATED

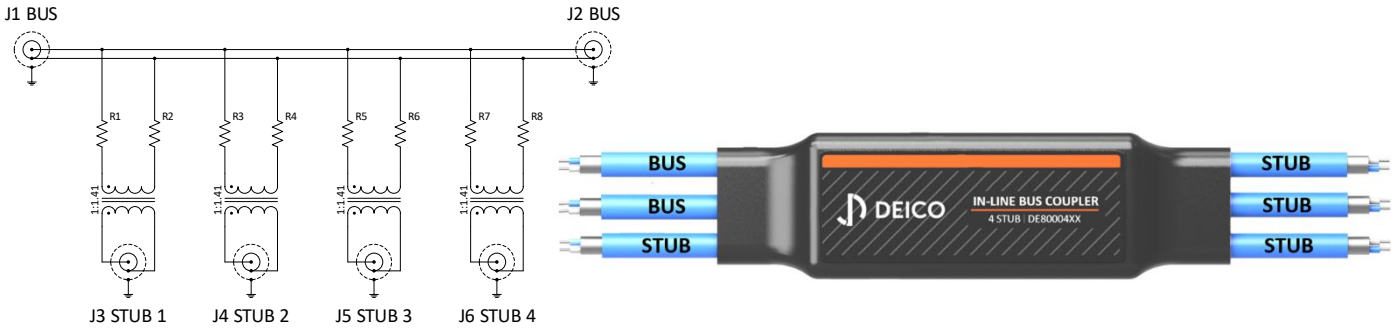
Schematics



DE80004XX & DE81004XX Technical Specifications

CHARACTERISTIC IMPEDANCE:	Zo = 78 OHMS
FAULT PROTECTION:	59 OHMS ±1% 1W (R1-R8) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
TERMINATION RESISTOR VALUE:	NOT TERMINATED

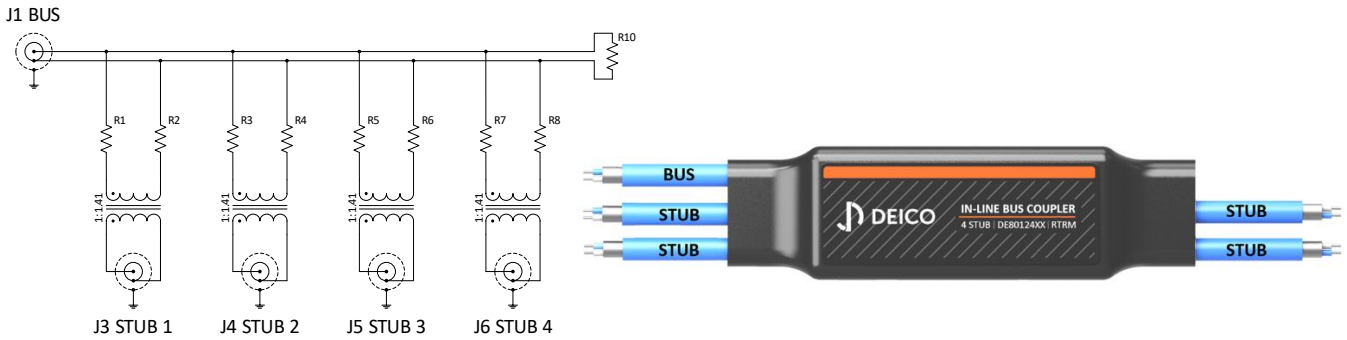
Schematics



DE80124XX & DE81124XX Technical Specifications

CHARACTERISTIC IMPEDANCE:	Zo = 78 OHMS
FAULT PROTECTION:	59 OHMS ±1% 1W (R1-R8) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
TERMINATION RESISTOR VALUE:	78.7 OHMS ±1% 2W (R10) BUS TERMINATION

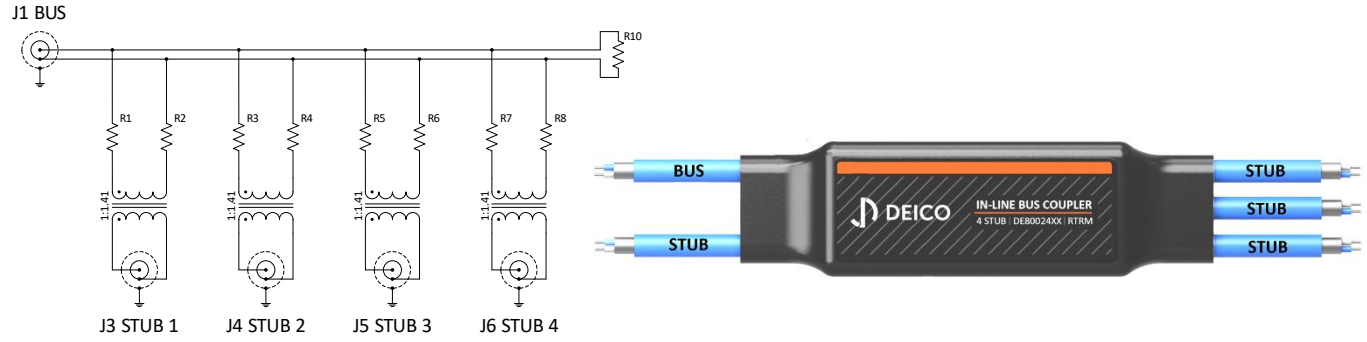
Schematics



DE80024XX & DE81024XX Technical Specifications

CHARACTERISTIC IMPEDANCE:	Zo = 78 OHMS 59 OHMS ±1% 1W (R1-R8) IN SERIES
FAULT PROTECTION:	WITH TRANSFORMER WINDING ON BUS SIDE
TERMINATION RESISTOR VALUE:	78.7 OHMS ±1% 2W (R10) BUS TERMINATION

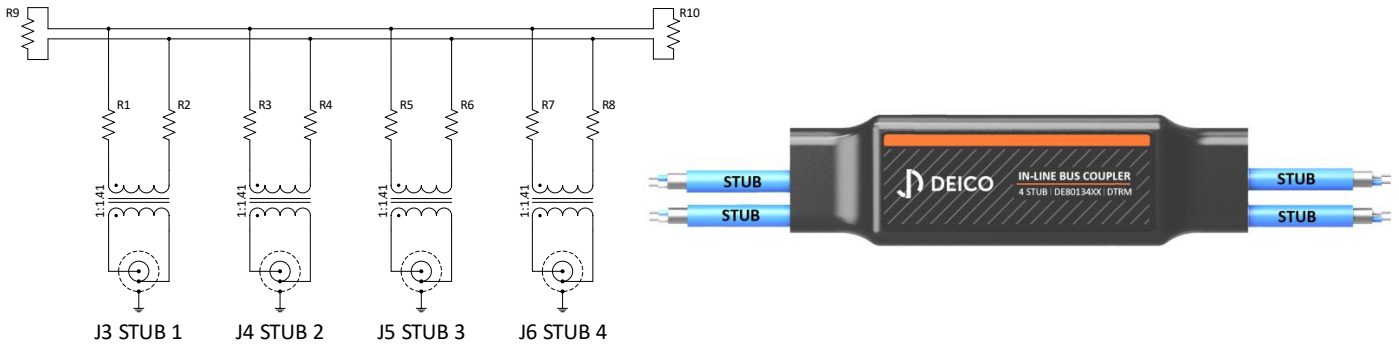
Schematics



DE80134XX & DE81134XX Technical Specifications

CHARACTERISTIC IMPEDANCE:	Zo = 78 OHMS 59 OHMS ±1% 1W (R1-R8) IN SERIES
FAULT PROTECTION:	WITH TRANSFORMER WINDING ON BUS SIDE
TERMINATION RESISTOR VALUE:	78.7 OHMS ±1% 2W (R9, R10) BUS TERMINATION

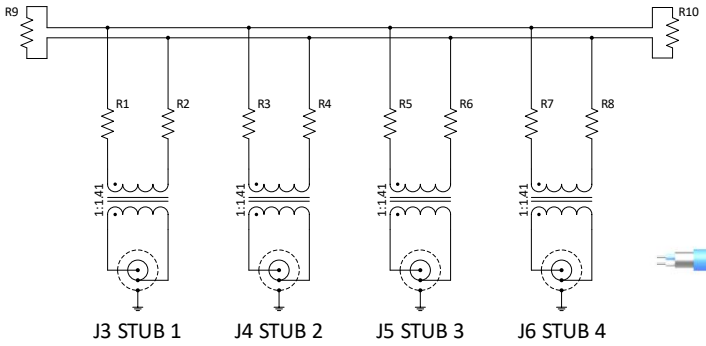
Schematics



DE80034XX & DE81034XX Technical Specifications

CHARACTERISTIC IMPEDANCE:	Zo = 78 OHMS
FAULT PROTECTION:	59 OHMS ±1% 1W (R1-R8) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
TERMINATION RESISTOR VALUE:	78.7 OHMS ±1% 2W (R9, R10) BUS TERMINATION

Schematics



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