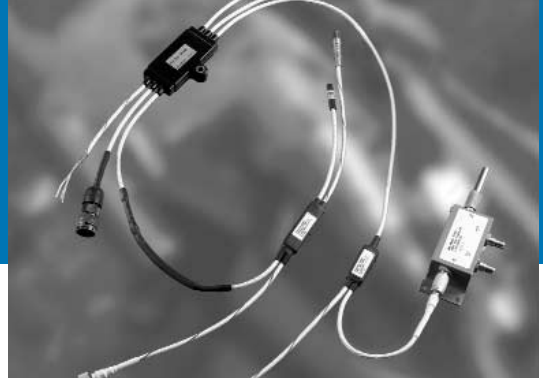


Data Bus (MIL-STD-1553B) Components



The full line of Raychem data bus products offers a complete system of interconnection hardware for all MIL-STD-1553B multiplexing needs.

Available components include:

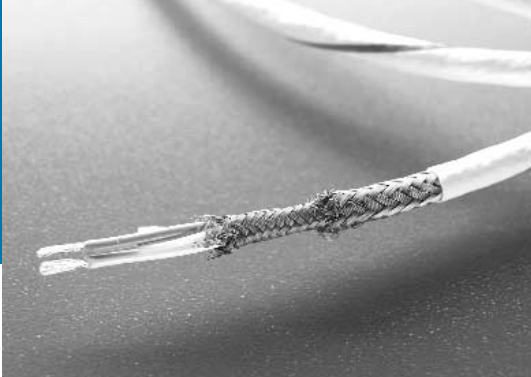
- Couplers (micros, boxes, flat packs).
- Data bus cables.
- Triax connectors and contacts with strain relief.
- One-piece triaxial contacts for MIL-C-38999 connectors (size 8 cavity).
- Bus and stub terminators.
- Cable marker sleeves (TMS).
- Lightweight couplers (see page 8-92).
- Space components (see page 8-103).
- Harness design (*HarnWare*).

All Raychem data bus components offer:

- High packaging density and weight savings.
- Design flexibility.
- High performance (to 150°C rating).

Raychem MIL-STD-1553B data bus components are also specified in the Air Force drawings listed in Air Force Drawing 8340707.

Tyco Electronics also supplies complete Raychem data bus networks in accordance with customer harness drawings. Using factory-built harnesses eliminates unnecessary splices and connectors, reducing the cost and increasing the reliability of the networks. Factory-built harnesses are pre-tested and ready for installation.



Data Bus (MIL-STD-1553B) Components

Cables



Applications

Tyco Electronics manufactures a line of Raychem SPEC 55 data bus cables that meet or exceed the performance requirements of MIL-STD-1553B. SPEC 55 insulation is a high-temperature, radiation-crosslinked, modified ETFE material that can be used in wire constructions rated up to 200°C.

Features and benefits

- Light weight.
- Highly flexible.
- Flame resistant.
- Chemical resistant to all aircraft fluids.
- Solder iron resistant.
- Defined shielding levels.

Note:

Tyco Electronics will build harnesses with any customer - specified cables and/or connectors.

Fax-on-demand

US only (800) 260-9099

Outside US (650) 257-2301





Fax ID

9040

DescriptionCables and
markers bulletin**Visit our website at www.tycoelectronics.com****Specifications/approvals**

Series	Military
SPEC 55 insulation	MIL-W-22759/32-~/35
	MIL-W-22759/41-~/46

Product selection

Cable type		Part number
24 AWG single optimized shield		10612
24 AWG double optimized shield		10613
24 AWG EMP hardened		10614
24 AWG flat shield, unfilled		7724 E 2664



Data Bus (MIL-STD-1553B) Components

In-line microcouplers: one- and two stub



Applications

The low-profile configuration of these couplers enables avionics system designers to plan for optimum coupler locations. Microcouplers are supplied with Raychem SPEC 55 data bus cables, including EMP-hardened versions. They are also available assembled with other components into a complete data bus harness.

Features and benefits

- Environmental sealing.
- No connectors.
- Very small size.
- Light weight (1 stub: 10 g max.; 2 stubs: 15 g max.).
- In-line profile that makes wire bundle mounting possible.
- 360° continuous low-impedance cable-shield terminations.
- Reliable solder termination of all components.
- Potted circuit elements for maximum durability and in-use reliability.
- Ease of installation.
- Altitude immersion resistance.
- Optional eyelet configurations for bulkhead mounting.
- Mean time between failures > 1,000,000 hours.

Available in:

Americas

Europe

Asia Pacific



Specifications/approvals

Series

Military

Raychem

D-500-04

MIL-STD-1553B

D-6020

Fax-on-demand

US only (800) 260-9099

Outside US (650) 257-2301

Fax ID

8070 Microcoupler

bulletin

8080 System bulletin

Visit our website at www.tycoelectronics.com

Product selection

Single stub

Double stub

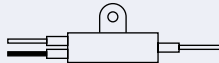
D-500-0455-1-YYY-ZZZ



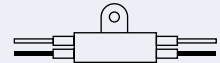
D-500-0455-2-YYY-ZZZ



D-500-0465-1-YYY-ZZZ



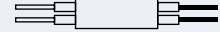
D-500-0465-2-YYY-ZZZ



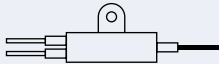
D-500-0456-1-YYY-ZZZ



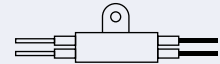
D-500-0456-2-YYY-ZZZ



D-500-0466-1-YYY-ZZZ



D-500-0466-2-YYY-ZZZ



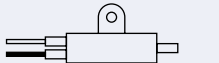
D-500-0457-1-YYY-ZZZ



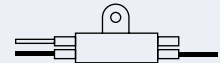
D-500-0457-2-YYY-ZZZ



D-500-0467-1-YYY-ZZZ



D-500-0467-2-YYY-ZZZ



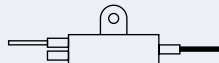
D-500-0458-1-YYY-ZZZ



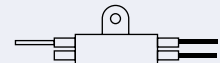
D-500-0458-2-YYY-ZZZ



D-500-0468-1-YYY-ZZZ



D-500-0468-2-YYY-ZZZ



Note:

1. Bus cable 

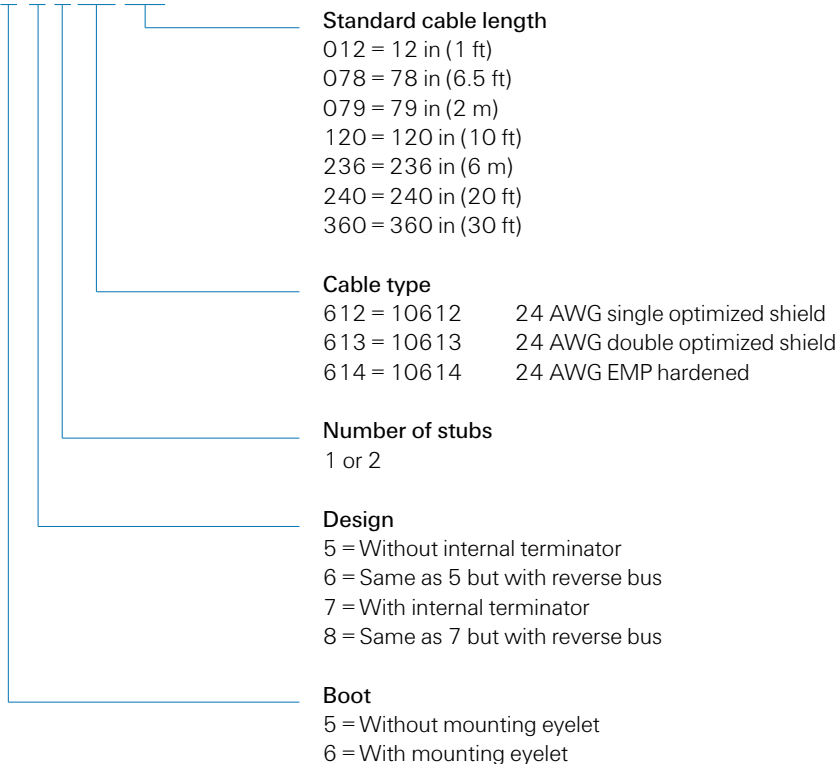
2. Stub cable 

Data Bus (MIL-STD-1553B) Components

In-line microcouplers: one- and two-stub (cont'd.)

Microcoupler part numbering system

D-500-04W W-X-YYY-ZZZ



Fax-on-demand

US only (800) 260-9099
Outside US (650) 257-2301

Fax ID

8070
8080

Description

Microcoupler
bulletin
System bulletin

Visit our website at www.tycoelectronics.com

Fax-on-demand

US only (800) 260-9099

Outside US (650) 257-2301













Visit our website at www.tycoelectronics.com

Product selection

D-500-L455-X-YYY-ZZZ

End view
Left side













End view
Right side

	1 stub	
	2 stub	
	3 stub	
	4 stub	
	5 stub	
	6 stub	

D-500-L456-X-YYY-ZZZ

End view
Left side













End view
Right side

	1 stub	
	2 stub	
	3 stub	
	4 stub	
	5 stub	
	6 stub	

D-500-L457-X-YYY-ZZZ

End view
Left side













End view
Right side

	1 stub	
	2 stub	
	3 stub	
	4 stub	
	5 stub	
	6 stub	

D-500-L458-X-YYY-ZZZ

End view
Left side

End view
Right side

	1 stub	
	2 stub	
	3 stub	
	4 stub	
	5 stub	
	6 stub	

Legend
 Bus cable ○
 Stub cable ●

Users should independently evaluate the suitability of the product for their application.
 Before ordering check with factory for most current data.



Data Bus (MIL-STD-1553B) Components

Box couplers



Applications

The multiport capability of these couplers (up to eight stubs) enables avionics system designers to interconnect black boxes with minimum wire runs. Box couplers are supplied with Raychem triaxial threaded or bayonet connectors.

Features and benefits

- Light, robust coupler modules with connector versatility.
- Up to eight stub connectors can be arrayed on the “face” of the box coupler. Bus connectors can also be on the “face” or on the “side” of the box.
- Designed with Raychem D-621 series corrosion-resistant threaded-type or bayonet-type connectors.

Note: Tyco Electronics also designs and manufactures customized Raychem data bus box couplers.

Available in:

Americas

Europe

Asia Pacific



Specifications/approvals

Series	Military	Raychem
D-500-0255	MIL-STD-1553	D-6021

Fax-on-demand

US only (800) 260-9099

Outside US (650) 257-2301

Fax ID

8090

Description

Product bulletin

Visit our website at www.tycoelectronics.com**Product selection**

Coupler type	Part number			
	Threaded	Bayonet A*	Bayonet B*	Bayonet C*
Face - 1 Stub	D-500-0255-511-1	D-500-0255-513-1	D-500-0255-515-1	D-500-0255-517-1
Face - 2 Stub	D-500-0255-521-1	D-500-0255-523-1	D-500-0255-525-1	D-500-0255-527-1
Face - 3 Stub	D-500-0255-531-1	D-500-0255-533-1	D-500-0255-535-1	D-500-0255-537-1
Face - 4 Stub	D-500-0255-541-1	D-500-0255-543-1	D-500-0255-545-1	D-500-0255-547-1
Face - 5 Stub	D-500-0255-551-1	D-500-0255-553-1	D-500-0255-555-1	D-500-0255-557-1
Face - 6 Stub	D-500-0255-561-1	D-500-0255-563-1	D-500-0255-565-1	D-500-0255-567-1
Face - 7 Stub	D-500-0255-571-1	D-500-0255-573-1	D-500-0255-575-1	D-500-0255-577-1
Face - 8 Stub	D-500-0255-581-1	D-500-0255-583-1	D-500-0255-585-1	D-500-0255-587-1
Side - 1 Stub	D-500-0255-512-1	D-500-0255-513-2	D-500-0255-515-2	D-500-0255-517-2
Side - 2 Stub	D-500-0255-522-1	D-500-0255-523-2	D-500-0255-525-2	D-500-0255-527-2
Side - 3 Stub	D-500-0255-532-1	D-500-0255-533-2	D-500-0255-535-2	D-500-0255-537-2
Side - 4 Stub	D-500-0255-542-1	D-500-0255-543-2	D-500-0255-545-2	D-500-0255-547-2
Side - 5 Stub	D-500-0255-552-1	D-500-0255-553-2	D-500-0255-555-2	D-500-0255-557-2
Side - 6 Stub	D-500-0255-562-1	D-500-0255-563-2	D-500-0255-565-2	D-500-0255-567-2
Side - 7 Stub	D-500-0255-572-1	D-500-0255-573-2	D-500-0255-575-2	D-500-0255-577-2
Side - 8 Stub	D-500-0255-582-1	D-500-0255-583-2	D-500-0255-585-2	D-500-0255-587-2

*The bayonet polarization listed is for the bus connector. All stub connectors are Bayonet D polarization. Polarizations are depicted as follows (jack view):

1 = A



2 = B



3 = C



4 = D





Data Bus (MIL-STD-1553B) Components

Discrete connectors



Applications

Designed specifically for MIL-STD-1553B data bus applications, the D-621 connector is intended to be a perfect match for the Raychem airworthy data bus cable. Together they provide durable, reliable, and reworkable interconnection hardware for the MIL-STD-1553B market.

Features and benefits

- Compliance with MIL-STD-1553B hardware requirements.
- Light weight.
- Removable pin or socket contacts.
- Termination with Raychem MIL-STD-1553B data bus cables, including EMP-hardened versions.
- Continuous 360° shield coverage.
- Rugged constructions.
- Termination time of 1 to 2 minutes.
- Inspectable solder terminations.
- Low-skill assembly.
- Reworkable and repairable terminations.
- Strain relief built into the design.
- Low-voltage drop and high reliability because of precisely controlled solder terminations.
- Threaded coupling, with safety wire holes and bayonet coupling styles.
- Low total installed cost.
- 1000-hour salt spray resistance.
- Lower-cost connectors, for benchtop and mock-up.

Available in:

Americas

Europe

Asia Pacific



Specifications/approvals

Series	Military	Raychem
DK-621	MIL-STD-1553B	D-6025

Fax-on-demand

US only (800) 260-9099
Outside US (650) 257-2301

Fax ID

9010

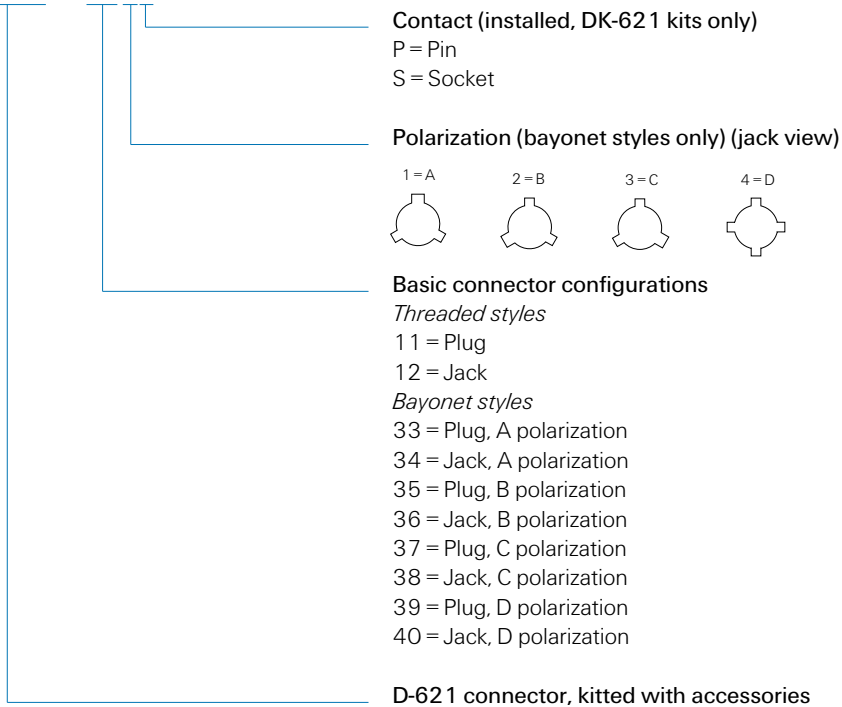
Description

Connectors
bulletin

Visit our website at www.tycoelectronics.com

Connector kit part numbering system

DK-621-04 XX-XX



Example:

DK-621-0434-1P = D-621 connector, kitted with accessories, jack bayonet style with A polarization and pin contact.



Data Bus (MIL-STD-1553B) Components

Triaxial size 8 contacts



Applications

Contacts provide full shield coverage with a simple, quick, and reliable termination system. AWG 24 twisted-pair data bus cables are terminated with triaxial SolderTacts contacts, which fit size 8 cavities of MIL-C-38999, Series 1, 3, or 4 connectors.

Raychem size 8 triaxial data bus contacts for MIL-C-38999 connectors have interfaces that comply with MIL-C-39029/90 and /91 to provide ease of termination, and intermateability with more cumbersome crimp contacts.

These contacts provide a fast and convenient method of implementing MIL-STD-1553B connections in MIL-STD-1760 applications.

Features and benefits

- One-step termination.
- Termination time of 1 to 2 minutes.
- No requirements for special termination tools.
- No requirements for special skills.
- Reworkable and repairable terminations.
- Strain relief.
- Continuous 360° shield coverage.
- Triaxial mating face for least susceptibility to damage.
- Rugged construction, because only two parts are being soldered together.
- Inspectable solder terminations.
- Low voltage drop and high reliability due to precisely controlled solder termination.

Available in:

Americas

Europe

Asia Pacific



Fax-on-demand

US only (800) 260-9099
Outside US (650) 257-2301

Fax ID

9020

Description

Coaxial contacts
bulletin

Visit our website at www.tycoelectronics.com

Specifications/approvals

Series	Raychem
Size 8	D-6002

Product selection

Cable type	Pin	Socket
10612	DK-602-0156-N-1	DK-602-0157-N-1
10613	DK-602-0156-N-2	DK-602-0157-N-2
10614	DK-602-0156-N-3	DK-602-0157-N-3

*This product follows Data Bus Discrete Connectors per MIL-Std-1553B.



Data Bus (MIL-STD-1553B) Components

Space-grade data bus components

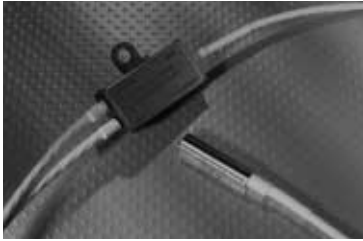


Figure 1. In-line couplers and terminators



Figure 2. Threaded triaxial connectors



Figure 3. Bayonet triaxial connectors



Figure 4. Splice kit

Applications

Tyco Electronics full line of Raychem data bus products includes space-grade couplers, terminators, triaxial connectors, and SolderShield splices. These space-grade components meet the low outgassing requirements of NASA specification SP-R-0022A and can be used in outer-space applications.

Raychem space-grade components are designed in a variety of configurations and are currently available either as discrete items or as Raychem-assembled harnesses. Using factory-built harnesses eliminates unnecessary splices and connectors, reducing the cost and increasing the reliability of the networks.

Specification control drawings describe the design features and performance characteristics of Raychem space-grade couplers, terminators, connectors, and splices. The space-grade data bus couplers, terminators, and connectors have tin/nickel-plated metallic parts and baked silicone rubber components. For strain relief they include Raychem RT-218 low-outgassing tubing. Unlike parts intended for aircraft applications, these components do not have polymeric environmental covers.

The table on the next page lists Raychem standard space-grade data bus components with their part numbers and descriptions. New components will become available per customer request.

Features and benefits

- Complete line of space-qualified MIL-STD-1553B components.
- Low outgassing levels that meet NASA requirements.
- Light weight.
- Rugged construction.

Fax-on-demand

US only (800) 260-9099
 Outside US (650) 257-2301

Fax ID

8065

Description

Data sheet

Visit our website at www.tycoelectronics.com

Available in:

Americas

Europe

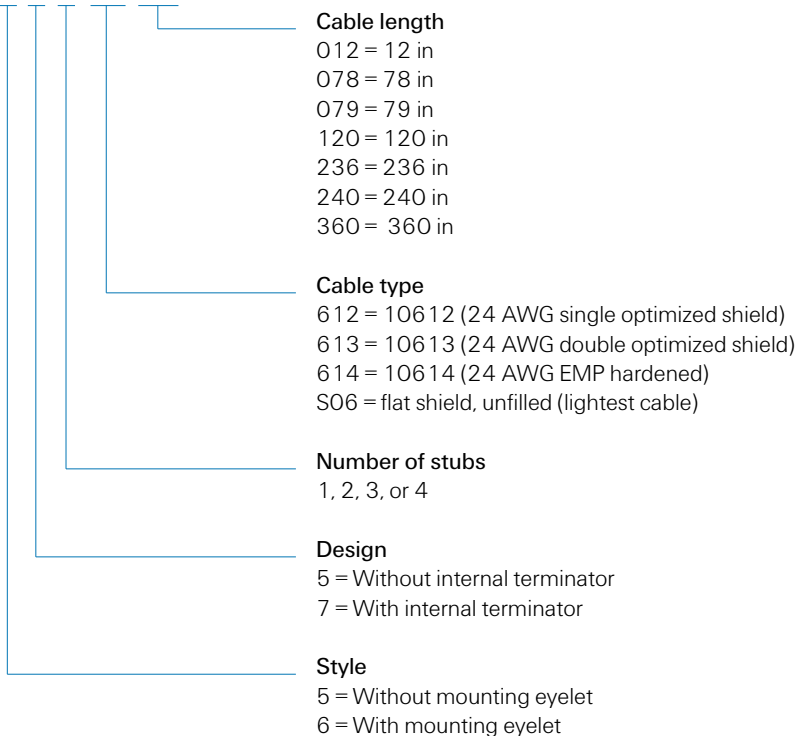
Asia Pacific

Specifications/approvals

Series	Raychem
Space-grade databus components	D-6022

Space-grade in-line coupler - part numbering system

D-500-94 W W -X -YYY -ZZZ



Data Bus (MIL-STD-1553B) Components

Space-grade data bus components (cont'd.)

Space-grade connectors - part numbering system

DK-621 -09 XX -X X

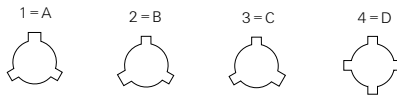
Contact (installed, DK-621 kits only)

P = Pin*

S = Socket*

*May be ordered separately as D-602-0126 (pin)
and D-602-0127 socket

Polarization (bayonet styles only) (jack view)



Basic connector configurations

Threaded styles:

11 = Plug

12 = Jack

Bayonet styles:

33 = Plug, A polarization

33 = Jack, A polarization

35 = Plug, B polarization

36 = Jack, B polarization

37 = Plug, C polarization

38 = Jack, C polarization

39 = Plug, D polarization

40 = Jack, D polarization

D-621 connector, kitted with accessories

Fax-on-demand

US only (800) 260-9099
Outside US (650) 257-2301

Fax ID

8065

Description

Data sheet

Visit our website at www.tycoelectronics.com

Space-grade terminators - part numbering systemD-500-9463- ZZZ**Cable type**

612 = 10612 (24 AWG single optimized shield)

613 = 10613 (24 AWG double optimized shield)

614 = 10614 (24 AWG EMP hardened)

S06 = flat shield, unfilled (lightest cable)

Space-grade splice kit = D-150-9708-5

Data Bus (MIL-STD-1553B) Components

*Customer-specified harness assemblies
and HarnWare*



Tyco Electronics supplies complete Raychem data bus networks in accordance with customer harness drawings, with any customer-specified cables and/or connectors. Using factory-built harnesses eliminates unnecessary splices and connectors, reducing the cost and increasing the reliability of the networks. Factory-built harnesses are pre-tested and ready for installation.

HarnWare - harness design software - allows designers to draw a data bus harness in a matter of minutes, while selecting Raychem or others' components; a bill of materials is automatically generated.

Available in:

Americas

Europe

Asia Pacific

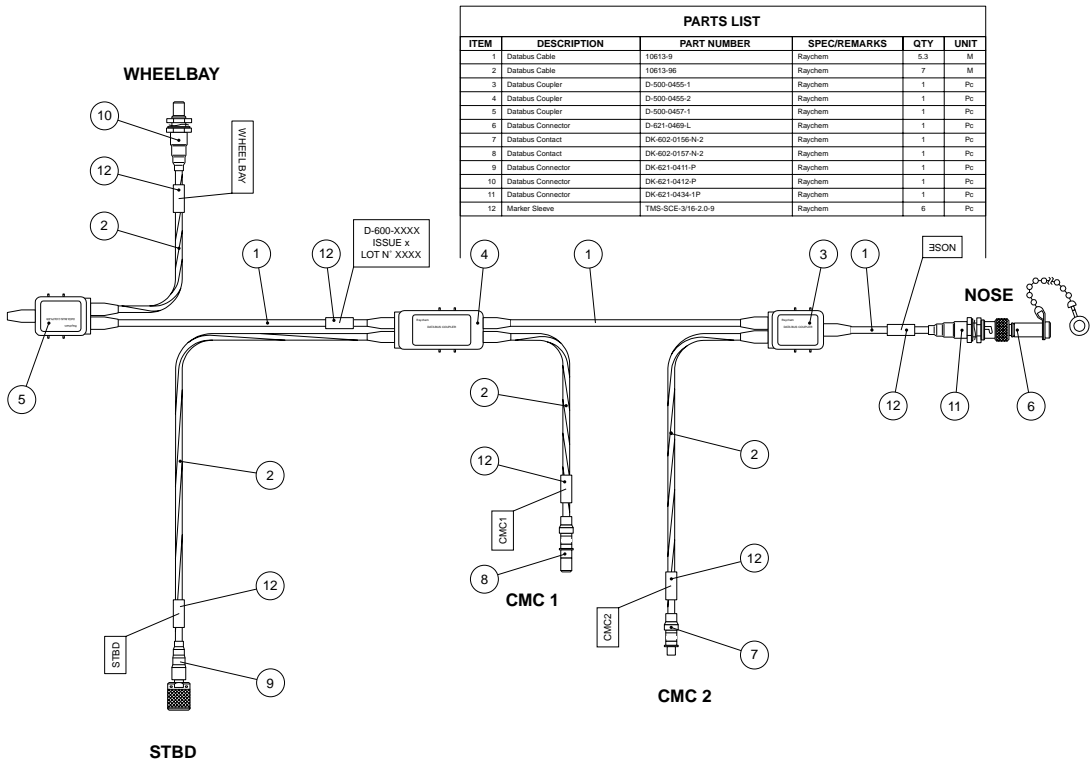


Fax-on-demand

US only (800) 260-9099

Outside US (650) 257-2301

Visit our website at www.tycoelectronics.com



Users should independently evaluate the suitability of the product for their application.
Before ordering check with factory for most current data.



Data Bus (MIL-STD-1553B) Components

Accessories



Applications

Tyco Electronics manufactures all the products needed to build a MIL-STD-1553B data bus network. In addition to the main components (couplers, connectors, contacts, and cables), Tyco Electronics supplies the accessory components that may be necessary to complete a data bus system.

These include:

- Bus and stub terminators (spliced-in and connectorized D-621 series).
- Cable splice kits.
- EMI/environment-resistant connector caps.
- Braid terminators and strain relief tubing (for rework applications).



Features and benefits

- A single source for all harness components.
- Products designed to work together.



Available in:

Americas

Europe

Asia Pacific



Fax-on-demand

US only (800) 260-9099

Outside US (650) 257-2301

Fax ID

9030

Description

Accessories

bulletin

Visit our website at www.tycoelectronics.com**Product selection**

Splice-in



D-621 plug



D-621 jack

Bus and stub terminators**Spliced-in****12-inch cable**

77-ohm 10612 cable	D-500-0463-612
77-ohm 10613 cable	D-500-0463-613
77-ohm 10614 cable	D-500-0463-614
77-ohm 7724E2664 cable	D-500-0463-E26

**D-621 Series—plug****Threaded****Bayonet A****Bayonet B****Bayonet C****Bayonet D**

77-ohm pin contact	D-621-0413	D-621-0453	D-621-0454	D-621-0455	D-621-0456
77-ohm socket contact	D-621-0415	D-621-0469	D-621-0470	D-621-0471	D-621-0472
3000-ohm pin contact	D-621-0417	D-621-0457	D-621-0458	D-621-0459	D-621-0476
3000-ohm socket contact	D-621-0407	D-621-0473	D-621-0474	D-621-0475	D-621-0460

D-621 Series—jack**Threaded****Bayonet A****Bayonet B****Bayonet C****Bayonet D**

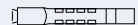
77-ohm pin contact	D-621-0418	D-621-0477	D-621-0478	D-621-0479	D-621-0480
77-ohm socket contact	D-621-0406	D-621-0461	D-621-0462	D-621-0463	D-621-0464
3000-ohm pin contact	D-621-0423	D-621-0481	D-621-0482	D-621-0483	D-621-0484
3000-ohm socket contact	D-621-0424	D-621-0465	D-621-0466	D-621-0467	D-621-0468

D-621 Series—L**Lanyard 7"****Connector caps****D-621 Series****Threaded****Bayonet A****Bayonet B****Bayonet C****Bayonet D**

Plug cap for jack connector	D-600-0083	D-600-0068	D-600-0068	D-600-0068	D-600-0065
Supplied with 7" Lanyard					

**Cable splice kits****Cables****Flexible crimp**

All data bus cables	D-150-0708-5
---------------------	--------------



Data Bus (MIL-STD-1553B) Components

Accessories (cont'd.)

Connector and terminator compatibility					
Panel thickness	Connector	Contact	Terminator reference	Mate with Standard connector	Long reach connector
POLARITY A					
77 Ohm bus terminator	Plug	Pin	D-621-0453(L)	DK-621-0434-1S	DK-621-0550-1S
	Plug	Socket	D-621-0469(L)	DK-621-0434-1P	DK-621-0550-1P
	Jack	Pin	D-621-0477(L)	DK-621-0433-1S	
	Jack	Socket	D-621-0461(L)	DK-621-0433-1P	
3K Ohm stub terminator	Plug	Pin	D-621-0457(L)	D-621-0434-1S	DK-621-0550-1S
	Plug	Socket	D-621-0473(L)	DK-621-0434-1P	DK-621-0550-1P
	Jack	Pin	D-621-0481(L)	DK-621-0433-1S	
	Jack	Socket	D-621-0465(L)	DK-621-0433-1P	
POLARITY B					
77 Ohm bus terminator	Plug	Pin	D-621-0454(L)	DK-621-0436-2S	DK-621-0548-2S
	Plug	Socket	D-621-0470(L)	DK-621-0436-2P	DK-621-0548-2P
	Jack	Pin	D-621-0478(L)	DK-621-0435-2S	
	Jack	Socket	D-621-0462(L)	DK-621-0435-2P	
3K Ohm stub terminator	Plug	Pin	D-621-0458(L)	DK-621-0436-2S	DK-621-0548-2S
	Plug	Socket	D-621-0474(L)	DK-621-0436-2P	DK-621-0548-2P
	Jack	Pin	D-621-0482(L)	DK-621-0435-2S	
	Jack	Socket	D-621-0466(L)	DK-621-0435-2P	
POLARITY C					
77 Ohm bus terminator	Plug	Pin	D-621-0455(L)	DK-621-0438-3S	DK-621-0546-3S
	Plug	Socket	D-621-0471(L)	DK-621-0438-3P	DK-621-0546-3P
	Jack	Pin	D-621-0479(L)	DK-621-0437-3S	
	Jack	Socket	D-621-0463(L)	DK-621-0437-3P	
3K Ohm stub terminator	Plug	Pin	D-621-0459(L)	DK-621-0438-3S	DK-621-0546-3S
	Plug	Socket	D-621-0475(L)	DK-621-0438-3P	DK-621-0546-3P
	Jack	Pin	D-621-0483(L)	DK-621-0437-3S	
	Jack	Socket	D-621-0467(L)	DK-621-0437-3P	
POLARITY D					
77 Ohm bus terminator	Plug	Pin	D-621-0456(L)	DK-621-0440-4S	DK-621-0551-4S
	Plug	Socket	D-621-0472(L)	DK-621-0440-4P	DK-621-0551-4P
	Jack	Pin	D-621-0480(L)	DK-621-0439-4S	
	Jack	Socket	D-621-0464(L)	DK-621-0439-4P	
3K Ohm stub terminator	Plug	Pin	D-621-0460(L)	DK-621-0440-4S	DK-621-0551-4S
	Plug	Socket	D-621-0476(L)	DK-621-0440-4P	DK-621-0551-4P
	Jack	Pin	D-621-0468(L)	DK-621-0439-4S	
	Jack	Socket	D-621-0484(L)	DK-621-0439-4P	
77 Ohm bus terminator	Plug	Pin	D-621-0413(L)	DK-621-0412-S	DK-621-0512-S
	Plug	Socket	D-621-0415(L)	DK-621-0412-P	DK-621-0512-P
	Jack	Pin	D-621-0418(L)	DK-621-0411-S	
	Jack	Socket	D-621-0406(L)	DK-621-0411-P	
3K Ohm stub terminator	Plug	Pin	D-621-0417(L)	DK-621-0412-S	DK-621-0512-S
	Plug	Socket	D-621-0407(L)	DK-621-0412-P	DK-621-0512-P
	Jack	Pin	D-621-0423(L)	DK-621-0411-S	
	Jack	Socket	D-621-0424(L)	DK-621-0411-P	