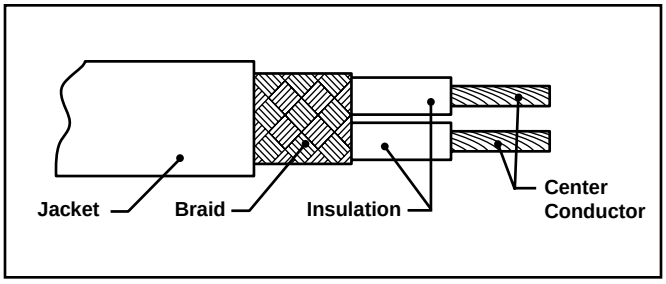
Twinax Contacts for Subminiature Cylindricals
general description, application data - size 10 &12

Amphenol®Twinax Contacts were designed for use with twinax cable in Data Bus systems. Twinax contacts provide the following benefits:

- Protection from magnetic interference
- Protection from electrostatic interference including nuclear electromagnetic pulse
- Meets parameters defined by MIL-STD-1553B
- Maintains shield integrity through a multi-pin cylindrical connector and does not require contact polarization within the insert



Cable Illustration - Twinax Contact

SIZE 10 & 12 CONCENTRIC TWINAX CONTACTS

The size 12 concentric twinax contact interface was developed for JN1104 EuroFighter contacts, and can be used in any size 12 cavity M38999 I, II or III or SJT connector.

Features:

- Operating temperature –55°C to 175°C
- Pins are scoop-proof
- Meets performance levels of M38999 connector
- 4 components, gold plated crimp termination
- For use with a variety of cables (See chart below)

Concentric Twinax Contacts Size 12

TYPICAL ELECTRICAL PERFORMANCE

Size 10 & 12 Concentric Twinax Contacts

Voltage Rating: 500 Vrms max. @ sea level

Contact Resistance:

Center @ 1 Amp, 55 millivolts max. voltage drop @ 25°C

Intermediate @ 1 Amp, 55 millivolts max. voltage drop @ 25°C

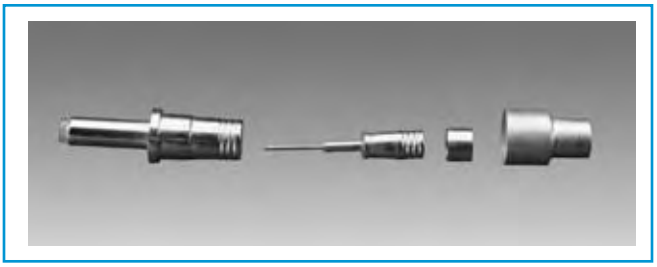
Outer @ 12 Amps, 85 millivolts max. voltage drop @ 25°C

Operating Frequency: 0–30 MHz

Dielectric Withstanding Voltage:

Center to Intermediate 800 VAC Rms @ Sea Level

Intermediate to Outer 500 VAC Rms @ Sea Level



Unassembled Components of Size 12 Concentric Twinax Contact

SIZE 10 & 12 CONCENTRIC TWINAX CONTACTS FOR USE IN D38999 CONNECTORS

For use with Cable	Concentric Twinaxial Contact Part Number (Termination Instruction Sheet)**		Contact Size	Comments	Connector Series
	Pin	Socket			
M17/176-00002, ST5M1212-002	21-33909-25 (L-2092-G)	21-33908-25 (L-2092-G)	12	JN1104 Interface	D38999 Series I, III
0024A0024, Fileca F2709-13-CA	21-33909-28 (L-2092-G)	21-33908-28 (L-2092-G)			
EPD32263A,10612, GSC-12-2548-00	21-33909-29 (L-2092-H)	21-33908-29 (L-2092-H)			
ASNE0849, 5PTM1T04-1	21-33909-81 (L-2092-AB)	21-33908-81 (L-2092-AB)			
VG95218T023D002	21-33909-91 (L-2092-AC)	21-33908-91 (L-2092-AC)			
M17/176-00002, GSC-12-2549-00		21-33640-25 (L-2092-W)	12	JN1104 Interface	D38999 Series II
0024A0024		21-33640-28 (L-2092-V)			
5M2022-003	21-33844-1 (L-1255-A)	21-33843-1 (L-1255-B)	10	Supplied with Thermal fit sleeve	D38999 Series I, III

CONTACT ORDERING: Example number given in chart above 21-33909-25 should be ordered as 21-033909-025; example number 21-33843-1 should be ordered as 21-033843-001. Adding Zeros is necessary for Amphenol ordering process on all contact numbers.

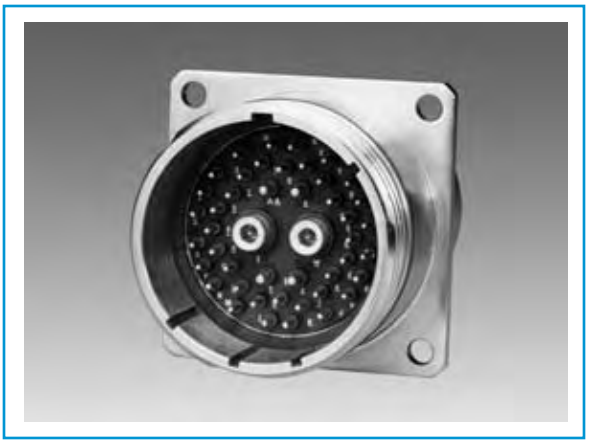
**Termination instructions are packaged with each contact and can be found on-line at: www.amphenol-aerospace.com/service instructions.asp

Twinax Contacts for Subminiature Cylindricals
general description, application data - size 8

High performance connectors within the D38999 families are the most commonly used connectors for incorporation of twinax contacts. These connectors offer wide versatility in insert arrangements for not only concentric twinax contacts, but also coax, triax, PCB, wire wrap, thermocouples and EMI filter contacts.

Other connectors available with concentric twinax contacts:

- Wire Integrated Connectors (WICS) for Data Bus Systems. Consult Amphenol Aerospace, Sidney, NY.
- ARINC 404, ARINC 600 and R27 Series rectangular connectors. Supplied by Amphenol Canada.



Subminiature MIL-DTL-38999 Series III Connector with Twinax Contacts and Standard Contacts

SIZE 8 CONCENTRIC TWINAX CONTACTS

The size 8 concentric twinax contact was developed for use in MIL-STD-1553 Airborne multiplex data bus applications which require high performance interconnect characteristics in multi-pin connectors. Ideal for this application need is the high performance Tri-Start connector with its fully scoop-proof feature of recessed pins. The concentric twinax contact is crimp terminable to twisted shielded cable. Features include:

- Provides protection from magnetic and electrostatic interference including nuclear electromagnetic pulse
- Maintains shield integrity through a multi-pin cylindrical connector and does not require contact polarization within the insert
- 175°C rated and meets performance levels of MIL-DTL-38999 Series III connectors
- MIL-C-17/176-00002 cable termination
- Gold plated full crimp termination contacts qualified to M39029/90 & /91
- Integral part of the MIL-STD-1760 interconnection system
- Also available in modified but intermateable versions for termination to a host of cables (See chart on next page)

Concentric Twinax Contacts Size 8

TYPICAL ELECTRICAL PERFORMANCE

Size 8 Concentric Twinax Contacts

Voltage Rating: 500 Vrms max. @ sea level

Contact Resistance:
Center @ 1 Amp, 55 millivolts max. voltage drop @ 25°C

Intermediate @ 1 Amp, 55 millivolts max. voltage drop @ 25°C

Outer @ 12 Amps, 75 millivolts max. voltage drop @ 25°C

Operating Frequency: 0–20 MHz

Dielectric Withstanding Voltage:
Center to Intermediate: 1000 VAC Rms @ Sea Level
Intermediate to Outer: 500 VAC Rms@ Sea Level

Short Profile Twinax vs Standard Length Twinax Contact

SHORT PROFILE TWINAX CONTACT OPTION

A Short Profile size 8 Twinax is available that can be used with a low profile right angle backshell and can offer increased packaging efficiency. Consult Amphenol Aerospace for further information.

Twinax Contacts for Subminiature Cylindricals

general description, application data - size 8, cont.

SIZE 8 CONCENTRIC TWINAX CONTACTS FOR USE IN D38999 CONNECTORS				
For use with Cable	Size 8 Concentric Twinaxial Contact Part Number (Termination Instruction Sheet)**		Comments	Connector Series
	Pin	Socket		
M17/176-00002, 5PTM1T04-2	21-33190-529 (L-1253-A)	21-33191-530 (L-1253-B)	M39029/90/91 (Amphenol) Supplied with heat shrink seal	D38999 Series I, III
M17/176-00002	T3-46T08-LD (PN-430)	T3-47T08-LD (PN-430)	M39029/90/91 (Pyle) Supplied with heat shrink seal	
M17/176-00002	21-33190 (L-1253-A)	21-33191 (L-1253-B)	Without seals	
M17/176-00002	21-33190-1 (L-1253-A)	21-33191-1 (L-1253-B)	Supplied with piggyback grommet seal	
Raychem 10612, 5M2022-003	21-33190-26 (L-1253-AA)	21-33191-26†	Without seals	
Raychem 10614, EPD22189B, 7724C8664, 05A0771, GC875TM24H, T10971	21-33190-22 (L-1253-C)	21-33191-22 (L-1253-D)	Without seals	
Raychem 10613, PAN711-6421, 23089/RC	21-33190-27 (L-1253-K)	21-33191-27 (L-1253-L)	Supplied with heat shrink seal	
Raychem 10613, PAN711-6421, 23089/RC	21-33190-29 (L-1253-K)	21-33191-29 (L-1253-L)	Supplied with piggyback grommet seal	
Raychem 10613, PAN711-6421, 23089/RC	21-33190-30 (L-1253-K)	21-33191-30 (L-1253-L)	Without seals	
GSC-12-2548-00, 7726D0664	21-33190-40 (L-1253-S)	21-33191-40 (L-1253-T)	Supplied with heat shrink sleeve	
Axon P517417	21-33190-81 (L-1253-W)†	21-33191-81 (L-1253-Y)†	Supplied with piggyback grommet seal	
Raychem 10612, 5M2022-003	21-33190-261 (L-1253-AA)	21-33191-261†	Supplied with piggyback grommet seal	
Raychem 10612, 5M2022-003	21-33190-262 (L-1253-AA)	21-33190-262†	Supplied with heat shrink seal	
Raychem 10614, 7724C8664	T3-46TB08-LD (PN-494)	T3-47TB08-LD (PN-494)	Without seals	
7820D0111 (20 AWG)	T3-467C08-LD (PN-537)	T3-47TC08-LD (PN-537)	Without seals	
Gore CXN2268	T3-46TE08-LD (PN-1001)	T3-47TE08-LD (PN-1001)	Short profile Supplied with heat shrink seal (.450)	
M17/176-00002	T3-46TD08-LD (PN-1000)	T3-47TD08-LD (PN-1000)	Short profile Supplied with heat shrink seal (.450)	
M17/176-00002	21-33910-15† (PN-1005)	21-33922-15 (PN-1005)	Short profile Without seals (.263)	
M17/176-00002	21-33617-1 (REF PN-100)		Short profile Supplied with piggyback grommet seal (.450)	
Gore CNX2702	T3-46TF08-LD (PN-1002)	T3-47TF08-LD (PN-1002)	Short profile Supplied with heat shrink seal (.450)	
M17/176-00002		P-209546-27†	Short profile Without seals (.303)	
S280W502-1, Fileca F2709-13-CA, HS5930, 0024G0024, Raychem 10602, Raychem 0024G0024	21-33190-70 (L-1253-U)	21-33191-70 (L-1253-V)	Without seals	
S280W502-1, Fileca F2709-13-CA, HS5930, 0024G0024, Raychem 10602	21-33190-71 (L-1253-U)	21-33191-71 (L-1253-V)	Supplied with piggyback grommet seal	
S280W502-1, Fileca F2709-13-CA, HS5930, 0024G0024, Raychem 10602	21-33190-72 (L-1253-U)	21-33191-72 (L-1253-V)	Supplied with heat shrink seal	
0024A0311, PIC E10244	21-33190-90†	21-33191-90 (L-1253-AD)	Without seals	
0024A0311, PIC E1024	21-33190-91†	21-33191-91 (L-1253-AD)	Supplied with piggyback grommet seal	
0024A0311, PIC E1024	21-33190-92†	21-33191-92 (L-1253-AD)	Supplied with heat shrink seal	
M17/176-00002	21-33190-625 (L-1253-AG)	21-33191-628 (L-1253-AG)	M39029/113-625 & /114-628 Supplied with heat shrink seal	

CONTACT ORDERING: Example number given in chart above 21-33190-529 should be ordered as 21-033190-529; example number 21-33190-1 should be ordered as 21-033190-001. Adding Zeros is necessary for Amphenol ordering process on all contact numbers.

**Termination instructions are packaged with each contact and can be found on-line at: www.amphenol-aerospace.com/service instructions.asp

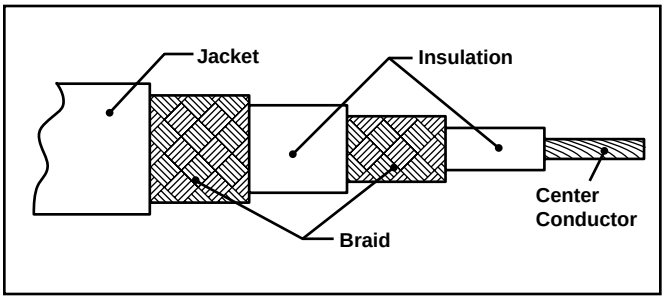
† Consult Amphenol Aerospace for current release of this contact or instruction sheet if applicable.

Triax Contacts for Subminiature Cylindricals
general description, application data

Amphenol® Triax Contacts provide additional shielding when terminated to triax cable having solid or stranded center conductors. Amphenol supplies triax contacts in sizes 8, 10 and 12 and they are ideally suited for use in D38999 Series I, II and III cylindrical connectors.

Features and benefits of Amphenol triax contacts include:

- Incorporates three conductors, designed for use with triax cable
- Each of the three conductors are separated by dielectric insulation to isolate ground planes
- Shielding effectiveness is improved with two isolated shields
- May be specified for direct connection to printed circuit boards
- May be mixed with coax, twinax and power contacts in a single connector



Cable Illustration - Triax Contact

Triax Size 8 Pin Contact

Triax Size 12 Socket Contact

TYPICAL ELECTRICAL PERFORMANCE

Size 8, 10 and 12 Triax Contacts

Contact Resistance:
Center @ 1 Amp, 120 millivolts max. voltage drop @ 25°C
Intermediate @ 1 Amp, 60 millivolts max. voltage drop @ 25°C
Outer @ 12 Amps, 90 millivolts max. voltage drop @ 25°C

Operating Frequency:
Size 12: 0-30 MHz
Size 10: 0-300 MHz
Size 8: 0-500 MHz

Dielectric Withstanding Voltage:
Center to Intermediate 800 VAC Rms @ Sea Level
Intermediate to Outer 500 VAC Rms @ Sea Level

Insulation Resistance:
1000 megohms minimum @ 25°C

SIZE 8, 10 & 12 TRIAX CONTACTS FOR USE IN D38999 SERIES I & III CONNECTORS

For use with Cable	Size	Size 8, 10, 12 Triax Contact Part Number (Termination Instruction Sheet)**		Comments
		Pin	Socket	
5M2397-002, 81264-02, RGX-179, RT-179, Champlain 81-00321A, Tensolite 28988/50823LXX-1, 7528A5314, Thermatics 12447, 28883/02060X-1	8	21-33198-3 (L-1254-F)	21-33197-3 (L-1254-E)	
752866314, 7528G6314	8	21-33198-11 (L-1254-V)	21-33197-11 (L-1254-T)	
5M2559-001, 81264-01, Tensolite 28598/9C026LT-1, Teledyne 13809	8	21-33198-4 (L-1254-D)	21-33197-4 (L-1254-C)	
ST5M1323-001, Champlain 81-00700, Teledyne 11914/1, Times AA6603, Tensolite 26895/90334X-1	8	21-33198-10 (L-1254-S)	21-33197-10 (L-1254-S)	
5M2397-002	10	21-33800-1 (L-1256-A)	21-33801-1 (L-1256-B)	
JN1088WU, JN1088WT	12	21-33909-12 (L-1256-J)	21-33908-12 (L-1256-J)	JN1104 Interface
GSC-03-81497-00	12	21-33909-23 (L-1256-M)	21-33908-23 (L-1256-M)	
GSC-03-81497-00	12	21-33909-33 (L-1256-P)	21-33908-33 (L-1256-P)	
Harbour TRX179, Times Microwave AA-6151 (RT-179), Axon RGX-179, 540-1050-000	12	21-33909-71 (L-1256-AA)	21-33908-71 (L-1256-AA)	
10602 (Twinax)	8	21-33724-15 (L-1255-C)	(consult with Amphenol for availability)	Special design with triax mating end and twinax cable termination

CONTACT ORDERING: Example number given in chart 21-33198-3 should be ordered as 21-033198-003; example number given in chart 21-33198-10 should be ordered as 21-033198-010. Adding Zeros is necessary for Amphenol ordering process on all contact numbers.

**Termination instructions are packaged with each contact and can be found on-line at: www.amphenol-aerospace.com/service instructions.asp