

38999

III

HD

Dualok

II

I

SJT

Accessories

Aquacon

Herm/Seal

PCB

HIGH
SPEED

Fiber
Optics

Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix | Pyle

26500
Pyle

5015
Crimp Rear
Release
Matrix

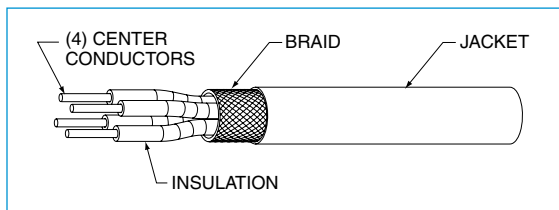
22992
Class I

Back-
Shells

Options
Others

Amphenol® Quadrax Contacts -Offer several advantages for high data transfer rates, low power consumption and excellent EMI compatibility:

- Four strategically spaced inner contacts form two 100 or 150 Ohm matched impedance differential pairs
- Outer contact has rugged wall section for durability
- Available in size 8 crimp termination style
- Also available in size 8 with PC tails (see page 233)
- Requires modification of MIL-DTL-38999 connector to accommodate keyed contacts



Cable Illustration - Quadrax Contact



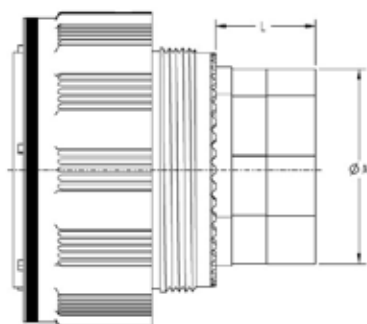
Quadrax Pin with 8P8C "RJ45" Jack



Quadrax Pin Size 8 and MIL-DTL-38999 Series III Connector

Guide for selecting a Backshell:

When ordering backshells, to avoid interference between the piggyback grommets which are used on all size 8 cavities and the backshell the below keepout dimensions must be adhered to. (based on existing arrangements)

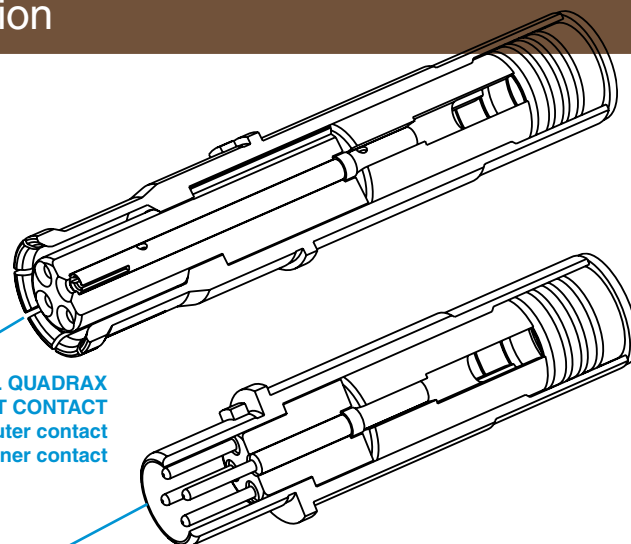


Size	A Dia Min	L Min
17	.734	.540
19	.869	.540
21	.869	.540
23	1.088	.540
25	1.234	.540

Suggested Strain Relief - Insert Arrangements 9-5 or 19-18 with Quadrax Contacts

Due to the piggyback grommet interference with normal strain reliefs on the shell size 9 only, the recommended strain relief for the connector is: Amphenol part number TGW-R-5309-10 (OD Cad) or TGF-R-5309-10 (Electroless nickel) - shell size 9 only. For 19-18 insert pattern, recommended backshell: Glenair 367-221-NF. This is recommended due to the proximity of the size 8 contacts in relation to the shell.

Also see Quadrax contacts for ARINC 600 and R27 Rack and Panel Connectors on pages 265 and 266.



**TYPICAL QUADRAX
SOCKET CONTACT**
has socket outer contact
with a socket inner contact

TYPICAL QUADRAX PIN CONTACT
has pin outer contact with a pin
inner contact

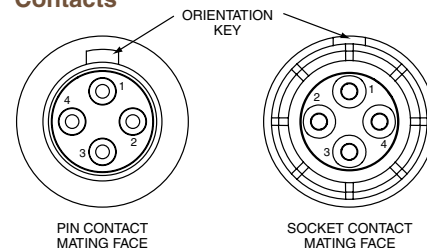
Quadrax Contacts are gold plated, crimp termination

Finish of mating contact parts: supplied with 0.000050 min. gold over nickel on mating parts. Consult Amphenol for availability of other finishes.

Quadrax Size 8 Contact Performance:

- Bandwidth: Up to 1.25 GHz
- Data Rate: Exceeding 2.5 Gbps.
- Voltage Rating: 500 Vrms max. @ sea level
- Dielectric Withstanding Voltage: 1000 VAC rms between all inner contacts @ sea level, 500 VAC rms between inner and outer contacts @ sea level

Suggested Numbering for Quadrax Contacts



Differential Pairs, contacts 1-3, 2-4.

See page 243 for part number ordering of popularly used 38999 Series III connectors with 100 ohm quadrax contacts.

Quadrax differential pairs are 1 and 3, 2 and 4.

Quadrax Contacts for MIL-DTL-38999

Series III, Application Data

TV-R Series, MIL-DTL-38999 Series III* Connectors

QUADRAX CONTACTS FOR USE IN TV-R CONNECTORS								
Cable	Contact Part Number (Termination Instruction Sheet)**		Impedance (Ohms)	Inner Conductor (AWG)	Contact Size	Electrical Protocol††	Crimping Tools	
	Pin	Socket					Inner Contact	Outer Contact
Draka Fileca F-4703-3, F4704-4, Filotex ET 2PC236, Filotex ET2PF870, PIC Wire E50424 ABS0972, Tensolite 23450/04090X-4(LD) Draka Fileca F-4704-5, ABS1503 KD 24	21-033384-021 (L-2119-A)	21-033385-021 (L-2119-A)	100	24	8	Ethernet, 1000 Base-T Gigabit Ethernet	M22520/2-01 with Positioner M22520/2-37 or with Daniels Positioner K709	M22520/5-01 with Die Set M22520/5-45 (Location A)
Tensolite NF24Q100, NF24Q100-01, 24443/9P025X-4(LD), S280W502-4, 24443/03130X-4(LD), 24443/C20714X-4(LD), 24450/0120X-4(LD), NF24-2Q100, TYCO CEC-RWC-18664, GORE GSC-01-81869-01, 24443/03166X-4(LD), Thermax T956-4T200, Pic Wire E51424, Thermax MX100Q-24, NF24Q100-01-200C (Space), BMS13-72T03C04G024	21-033384-051 (L-2119-D)	21-033385-051 (L-2119-D)		24		Ethernet, 1000 Base-T Gigabit Ethernet		
Tensolite NF22Q100, NF22Q100-01, Thermax 956-5, GORE RCN 7688	21-033384-061 (L-2119-H)	21-033385-061 (L-2119-H)		22		Ethernet (100 Mbps), 1000 Base-T Gigabit Ethernet (1 Gbps)		
Tensolite NF26Q100, NF26Q100-01, NF26-2Q100, PIC E51426, Wirenetics W-3714-379	21-033384-071 (L-2119-AB)	21-033385-071 (L-2119-AB)		26		Ethernet (100 Mbps), 1000 Base-T Gigabit Ethernet (1 Gbps)		
S280W502-4/BMS13-72T03C04G024	21-033384-141 (BACC47GM1)	21-033385-141 (BACC45GN1)		24				
Draka Fileca F-4704-6, Gore RCN 8672	21-033384-151 (L-2119-AW)	21-033385-151 (L-2119-AW)		26		Ethernet (100 Mbps), 1000 Base-T Gigabit Ethernet (1 Gbps)		
Tensolite NF24Q100-01 (same as 21-03338() -51, uses EMI Piggyback)	21-033384-161 (L-2119-BE)	21-033385-161 (L-2119-BE)		24		Ethernet (100 Mbps), 1000 Base-T Gigabit Ethernet (1 Gbps)		
Gore RCN8513, JSFY18-3	21-033384-171 (L-2119-BN)	21-033385-171 (L-2119-BN)		22		Ethernet (100 Mbps), 1000 Base-T Gigabit Ethernet (1 Gbps)		
Tensolite NF22Q100 Special Box pattern, only mates with 21-0333() -181	21-033384-181 (L-2119-BP)	21-033385-181 (L-2119-BP)		22		Ethernet (100 Mbps), 1000 Base-T Gigabit Ethernet (1 Gbps)		
Tensolite NF24Q100, NF24Q100-01 for 2.5 Gbps applications	21-033384-191 (L-2119-BS)	21-033385-191 (L-2119-BS)		24		*Serial FPDP Applications (2.5 Gbps) (Typical app run at 150 Ohms) • HDMI 1.3		
Gore RCN 8647	21-033384-301	21-033385-301		24				
USB2 (28433/02171LX-4)	21-033384-101†	21-033385-101†	90			USB2.0 (480 Mbps)		
Tensolite 24450/03089X-4(LD) Gore RCN8647	21-033384-211	21-033385-211	110	24		IEEE 1394B Firewire		
JSFY02-1, JSFY18	21-033384-221	21-033385-221		24		IEEE 1394B Firewire		
Gore RCN8487, JSFY18	21-033384-231	21-033385-231		24		IEEE 1394B Firewire		
Tensolite 24450/03089X-4(LD) Same as 21-03338() -211 but Box pattern, mates with 21-03338() -241 only	21-033384-241†	21-033385-241†		24		IEEE 1394B Firewire		
F-4703, ABS1503KD24	21-033384-281	21-033385-281	100			Meets EN3155-074		
Tensolite 26473/02006X-4(LD)/Gore RCN8328 (not for new designs, use 21-033450/1 series)	21-033384-31 (L-2119-B)	21-033385-031 (L-2119-B)	150	26				

CHART CONTINUES ON NEXT PAGE
QUADRAX CONTACT DATA

Contacts are inserted by hand. Refer to termination instructions listed. Contacts are removed with a removal tool. Recommended tool is MIL-I-81969/14-06, Daniels DRK-264-8. Refer to termination instructions listed. Finish of mating contact parts: Contact part numbers shown in the chart above are supplied gold plated per ASTM B488 Type II, Code C, .000050 min. thick over nickel plate per AMS-QQ-N-290, Class 2, .000030/.000150 thick.

Daniels crimping tools available from Daniels Mfg. Corp. 6103 Anno Ave., Orlando, FL 32809

* Requires modified connector to accommodate keyed contacts.

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

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

†† Test reports available for indicated protocols. Consult Amphenol Aerospace. Typical applications run at 150 Ohms

38999

III

HD

Dualok

II

I

SJT

Accessories

Aquacon

Herm/Seal

PCB

HIGH SPEED

Fiber Optics

Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix | Pyle

26500
Pyle

5015
Crimp Rear
Release
Matrix

22992
Class 1

Back-
Shells

Options
Others