

Quadrax Contacts



ABS0973

ABS0974

EN3155

Description

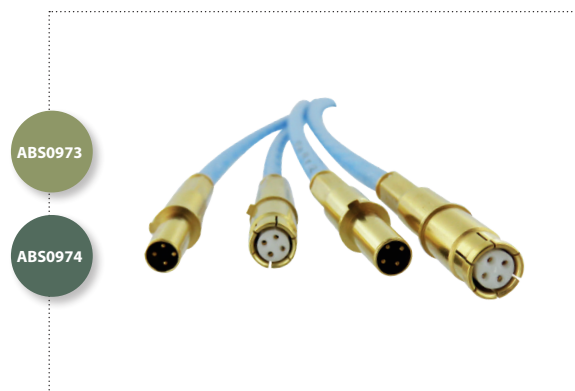
Amphenol Socapex Quadrax contacts offer several advantages for high data transfer rates, low power consumption and excellent EMI compatibility.

Main Features

- 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
- Requires modification of MIL-DTL-38999 connector to accommodate keyed contacts



*MIL-DTL-38999 series I and III Connectors
EN3645 Connectors
EN4165/SIM Connectors*



ARINC 600 Connectors

Markets & Applications



C4ISR



Commercial Aerospace



Ground Vehicle



Space



Applications :

- Ethernet
- AFDX (Avionics Full Duplex Switched Ethernet)
- Cockpit (display) and IFE

QUADRAX CONTACTS

Technical Characteristics (Extract from EN3155-074/075)

Mechanical

- Endurance: minimum 500 mating / unmating operations in any connector
- Shocks: EN2591-402 method A
- Vibrations (MIL-DTL-38999) : EN2591-40
 - Method A : sinusoidal
 - Method B (figure 3 and table 2, level J) : Random

Environmental

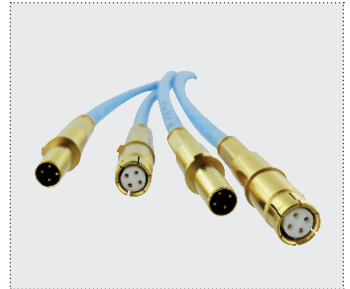
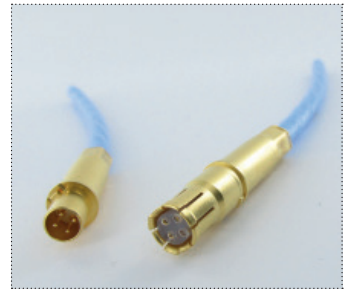
- Salt spray: 48 hours minimum
- Temperature range: -65°C, +200°C

Material

- Inner contact: copper alloy
- Body: copper alloy
- Insulator: thermoplastic
- Contact plating: gold over nickel plated

Electrical performances

- Contact resistance
 - signal contacts (low level): Initial 6mΩ, after tests 7,5mΩ
- Contact resistance at rated current:



Contact	Rated current (A)	Max contact resistance (mΩ)		
		23°C	200°C	
		Initial	After tests	
Signal contacts	1	6	7,5	10
Outer body	12	2	4	6

Dielectric withstanding voltage:

- Sea level :
 - 1000 Vrms between signal contacts
 - 500 Vrms between signal contacts and outer body
- 21000m:
 - 125 VRms between signal contacts and signal contacts and outer body
- Insulation resistance: at ambient temperature > 5000 MΩ, at high temperature > 1000 MΩ
- Characteristic impedance: 100Ω@100MHz
- Attenuation ≤ 0.3 dB@100 MHz typical per contact pair (cat 5E requirement = 0.3 dB@100 MHz)
- Crosstalk ≥ 40 dB @ 100 MHz typical (cat5E requirement = 40 dB)

QUADRAX CONTACTS

Portfolio

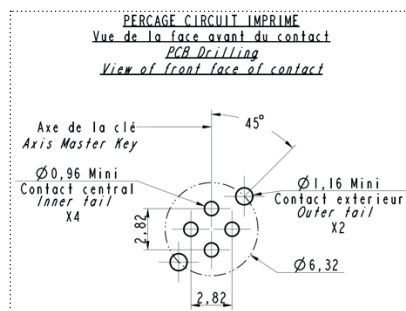
Contact Size	Cable	Contact Part Number			Inner conductor Gauge	Electrical Protocol	Crimping Tools	
		Pin	Socket	Impedance (Ohms)			Inner contact	Outer contact
8	Draka Fileca F-4703-3, F4704-4, Filotex ET 2PC236, Filotex ET2PF870, PIC Wire E50424, ABS0972, Tensolite 23450/04090X-4(LD) Draka Fileca F-4704-5, ABS1503 KD 24	900496	900361	100	24	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 CECRWC-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	900330	900338					
	Tensolite NF22Q100, NF22Q100-01, Thermax 956-5, GORE RCN 7688	900410	900411		22			
	Tensolite NF26Q100, NF26Q100-01, NF26-2Q100, PIC E51426, Wirenetics W-3714-379	600514	600516		26			
	S280W502-4/BMS13-72T03C04G024	600953	600954		24			
	Draka Fileca F-4704-6, Gore RCN 8672	600513	600515		26			
	Tensolite NF24Q100, NF24Q100-01 for 2.5 Gbps applications	600951	600952	24	Serial FPDP Applications (2.5 Gbps) (Typical app run at 150 Ohms) HDMI 1.3			
	Gore 8647	600955	600956			24		
	USB2 (28433/02171LX-4)	600987	600958			90		
	Tensolite 24450/03089X-4(LD) Gore RCN8647	050998	050999	110	24	IEEE 1394B Firewire		
	JSFY02-1, JSFY18	600959	600960			IEEE 1394B Firewire		
	Gore RCN8487, JSFY18	600961	600962			IEEE 1394B Firewire		
	Tensolite 26473/02006X-4(LD)/Gore RCN8328 (not for new designs, use 21-033450/1 series)	900327	900337	150	26			

EN3155-074 and -075 crimp contacts

Contact Size	Cable	Contact Part Number					Inner conductor Gauge	Electrical Protocol	Crimping Tools		QUALIFIED FOR USE
		Pin		Socket		Impedance (Ohms)			Inner contact	Outer contact	
		Proprietary	Standard	Proprietary	Standard						
8	ABS1503KD24 EN3375-008 EN3375-011 EN3375-012	612617	EN3155-074M08	612618	EN3155-075F08	100	24	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 B)	

Print circuit board contacts

Contact Size	Release	Type	Contact Part Number		Impedance (Ohms)
			PIN	SOCKET	
8	Rear	CI	900210	600520	100
	Rear	LI	600512	600519	



Portfolio - ARINC600, EN3545

Contact Size	Cable	Contact Part Number		Impedance (Ohms)	Inner conductor Gauge	Electrical Protocol	Crimping Tools	
		Pin	Socket				Inner contact	Outer contact
8	ABS0972 ABS1503KD24	603113	603116	100	24	Ethernet, 1000 Base-T, Gigabit Ethernet, ARINC664	M22520/2-01 with positionner 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), 24443/0120X-4(LD), NF24-2Q100, TYCO CECRWC-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	603210	603209					M22520/5-01 with Die set M22520/5-45 (Location B)
	DRAKA F4703-3	603333	603280					M22520/5-01 with Die set M22520/5-45 (Location A)

Print circuit board contacts

Contact Size	Release	Contact Part Number		Impedance (Ohms)	Connector	
		Pin	Socket		ARINC600	EN3545
8	Front	603228		100	√	
	Rear	603177	603229			√