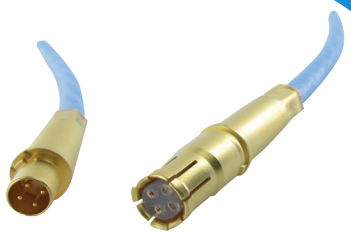
Amphenol SOCAPEX

Quadrax Contacts



ABS0973 ABS0974 EN3155

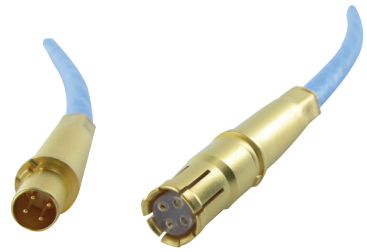
Description

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

EN3155



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

ABS0973
ABS0974

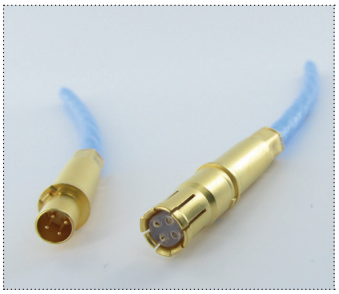
ARINC 600 Connectors

Markets & Applications

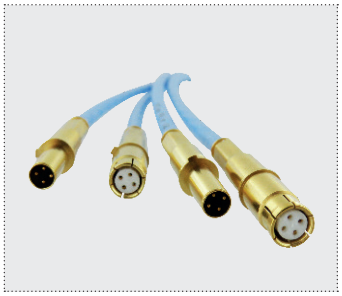
C4ISR | Commercial Aerospace | Ground Vehicle | Space

Applications :

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



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 : sinusoïdal
  - 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 plasting: gold over nickel plated

Electrical performances
- Contact resistance
  - signal contacts (low level): Initial 6mΩ, after tests 7,5mΩ

Contact resistance at rated current:

		Max contact resistance (mΩ)		
		23°C	200°C	
Contact	Rated current (A)	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 ambiant 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)

Portfolio

Contact Size	Cable	Contact Part Number		Impedance (Ohms)	Inner conductor Gauge	Electrical Protocol	Crimping Tools	
		Pin	Socket				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	Ethernet (100 Mbps), 1000 Base-T Gigabit Ethernet (1 Gbps)		
	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	Ethernet (100 Mbps), 1000 Base-T Gigabit Ethernet (1 Gbps)		
	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	24	USB2.0 (480 Mbps)		
	Tensolite 24450/03089X-4(LD) Gore RCN8647	050998	050999	110		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			

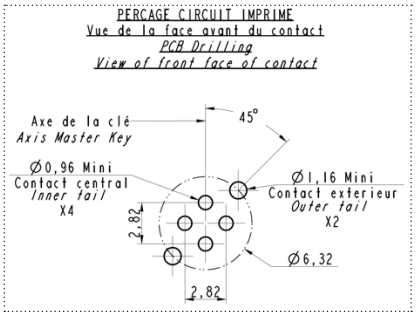
EN3155-074 and -075 crimp contacts

EN3155 QUALIFIED

Contact Size	Cable	Contact Part Number				Impedance (Ohms)	Inner conductor Gauge	Electrical Protocol	Crimping Tools	
		Pin		Socket					Inner contact	Outer contact
		Proprietary	Standard	Proprietary	Standard					
8	ABS1503KD24	600963	EN3155-074M8A	600964	EN3155-075F08A	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)
		603085	EN3155-074M08	603086	EN3155-075F08					

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			√

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