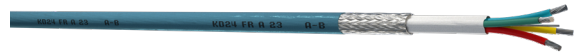


Star quad inflight ABS1503 KD24 (F4704-05)



Cables specification: ABS1503

Cable, electrical, shielded quad, for digital data transmission, severe EMI conditions, +200 °C



Cable characteristics



-65 +125°C



Excellent



FAR25_ ABD0031

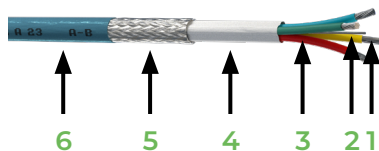
Environmental

- Operating temperature: -65°C to 125°C (ambient temperature + current heating)
- Storage temperature: -65°C to +200°C
- Resistant to Aircraft fluids (oils, hydrocarbons, kerosene, skydrols...), Chemical agents
- Abrasion resistance

Electrical

- Maximum voltage: 600 V AC
- Characteristic Impedance Z_c RMS: $100 \pm 15 \Omega$ [1-100 MHz] at 20°C
- Velocity of propagation > 0,70 C at 31,25MHz
- Maximum capacity unbalance pair to ground: 330 pF max./100 m (1 pF max./ft)
- Mutual capacitance: 60 pF/m max (18,3 pF/ft max.) at 1 kHz

Cable design



1. Stranded conductor: Silver plated copper
2. Fluoropolymer filler
3. Insulation: Fluoropolymer
4. PTFE 1/2 sintered tape
5. Silver plated copper Braid
6. Fluoropolymer

Identification

- Core color
- Pair n° 1: Core 1-R: Red (Tx +) Core 1-B: Blue (Tx -)
- Pair n° 2: Core 2-Y: Yellow (Rx +) Core 2-G: Green (Rx -)
- Cable color: Light blue, UV laser markable

Marking

KD 24 FR A xx
1 2 3 4

A-B

1. Short Designation
2. Gauge
3. Country of Origin
4. Manufacturer (A: Draka)
- xx: Manufacturing year
- A-B: extremity code

Specifications

Cable specification

ABS1503 Cable, electrical, shielded quad, for digital data transmission, severe EMI conditions, +200°C

Technical Specification

EN3375-001

Compliant to ABD0031

Flammability, Smoke and Toxicity requirements and 14 CFR FAR25-1713

Transmission parameters

Frequency In MHz	Attenuation at 25°C Maximal value in dB/100m dB/100ft		Unbalance attenuation LCL Minimal value in dB	Near end crosstalk (NEXT) Minimal value in dB/100m
1	2.1	0.65	$30 - 10 \log (F/100)$ Calculations that result in LCL values greater than 40 dB can be revert to a requirement of 40 dB minimum	68
4	4.3	1.31		59
10	6.6	2.01		53
16	8.7	2.65		50
20	9.7	2.96		48
31.25	12.5	3.8		46
62.5	18.0	5.5		41
100	23	7.01		38

LCTL (Min.):

$0,1 < F < 1 \text{ MHz} = 40 \text{ dB}$

$1 < F < 10 \text{ MHz} = 40 - 10 \log(F)$

$10 < F < 100 \text{ MHz} = 30 \text{ dB}$

SRL (Min.):

$1 < F < 10 \text{ MHz} = 20 + 5 \log(F)$

$10 < F < 20 \text{ MHz} = 25 \text{ dB}$

$20 < F < 100 \text{ MHz} = 25 - 7 \log(F/20) \text{ in dB}$

Transfer Impedance (Max.):

0.01MHz to 5 MHz = $2.0 \cdot 10^{-2} \Omega/\text{m}$	(0.61 $\Omega/100\text{ft}$)
at 10 MHz = $3.0 \cdot 10^{-2} \Omega/\text{m}$	(0.92 $\Omega/100\text{ft}$)
at 20 MHz = $4.5 \cdot 10^{-2} \Omega/\text{m}$	(1.37 $\Omega/100\text{ft}$)
at 50 MHz = $10 \cdot 10^{-2} \Omega/\text{m}$	(3.05 $\Omega/100\text{ft}$)
at 100 MHz = $40 \cdot 10^{-2} \Omega/\text{m}$	(12.2 $\Omega/100\text{ft}$)

Dimensional

Conductor diameter				Loop resistance max. at 20°C		Insulation diameter				Braid strand diameter		Cable outer diameter		Weight max.	
min.		max.		Ω/km	$\Omega/1000\text{ft}$	min.		max.		nominal		max.		kg/km	Lbs/1000ft
mm	inch	mm	inch			mm	inch	mm	inch	mm	inch	mm	inch		
0.598	0.0235	0.656	0.0258	192	58,5	1.35	0.0531	1.52	0.0598	0.1	0.0039	5	0.1968	41	27.55

Bending radius

Permissible bend radius	AWG 24
Static (installed) use	24 mm minimum
Dynamic use	47 mm minimum



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