

ESCC 3901-002-P SERIES

Wires and Cables specification:

ESA/SCC N° 3901 and ESA/SCC N° 3901/002



Wires and cables for use in satellites and other space applications



Cable characteristics



-100 +200°C



Excellent



FAR25_
ABD0031

Environmental

- Operating temperature: -100°C to 200°C (ambient temperature + current heating)
- Non-flammable
- Very good solderability
- High resistance to chemical agents, fluids and space radiations
- The 2 µm thick layer of silver-plating on the conductor and the shield provide the best protection against the Red Plague phenomenon

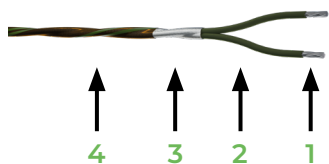
Electrical

- Maximum operating Voltage: 600 Vac
- Insulation Resistance of Core: > 750 MΩ km at 20°C (after 500V-1min)

Mechanical

- The wrapped construction technology allows very thin wall insulation yielding weight and space savings as well as higher performances
- Superior mechanical resistance eliminating handling and installation damage
- Good strippability
- The polyimide jacket insures a good mechanical and electrical protection of the helical screen.
- Bending radius: 10 times outer diameter

Cable design



1. Conductor(s): Silver-plated Copper or Silver-plated Copper Alloy
2. Polyimide tape + Polyimide Top Coat
3. Spiral Shield – Silver-plated copper
4. Polyimide Tape

Identification

Color Coding according to ESCC specification

Wire Size (AWG)	Core* color	Jacket assemblies	Color shielded	Stripe color on jacket
28 & 16	Brown	Amber	White	Brown
26	Black	Amber	White	Black
24	Khaki-Beige	Amber	Light blue	White
22	Red	Amber	White	Red
20	Green	Amber	White	Green
18	Yellow	Amber	White	Yellow

*Other core colours are available on request.

Identification of a cable for a given wire size is achieved by combining the color of the jacket with the color of the stripes. The number of stripes determines the number of cores.

Option/ Inspection level

The ESA Generic Specification prescribes 3 levels of lot acceptance which, in order of decreasing testing requirements, are designated «B1», «B2», «B3» Should the lowest «standard» level be considered insufficient, then add «B2» or «B1» to Draka Fileca references

Example: F A3901-2-P-2-28HG-B2

Ordering code

F A3901-X-X-XX-XX-XX
1 2 3 4 5

Example: F A3901-2-P-1-26HG

1. Space Family
2. Number of Conductors
3. AWG
4. G: Jacketed
HG: Shielded & Jacketed
5. Control Level:
B1 - Optional
B2 - Optional
B3 - By Default

Specifications

- ESA/SCC N° 3901 and ESA/SCC N° 3901/002
- ESA Certificate of Qualification since 1979

Dimensional

Light weight, radiation resistant, shielded cables

Draka Part Number	AWG*	Number of Cores	ESA/ESCC	Conductor Silver-plated Copper		Nom. Core Ø	Shield Strand Ø	Max. Linear Resistance at 20°C	Max. Outer Ø	Max. Weight
				Stranding (nb x mm)	Nom. Cross Section					
				nb x mm	nb x mm					
F A3901-2-P-1-28HG	28	1	3901/002-74-B3	19x0.08 ⁽¹⁾	0.10	0.63	0.08	242	1.02	2.95
F A3901-2-P-1-26HG	26	1	3901/002-75-B3	19x0.10 ⁽¹⁾	0.15	0.73	0.08	148	1.09	3.75
F A3901-2-P-1-24HG	24	1	3901/002-76-B3	19x0.12 ⁽¹⁾	0.21	0.83	0.08	105	1.19	4.65
F A3901-2-P-1-22HG	22	1	3901/002-77-B3	19x0.16	0.38	1.03	0.08	50.9	1.39	6.75
F A3901-2-P-1-20HG	20	1	3901/002-78-B3	19x0.20	0.60	1.23	0.08	32.2	1.59	9.30
F A3901-2-P-1-18HG	18	1	3901/002-79-B3	19x0.25	0.93	1.48	0.10	20.6	1.87	13.65
F A3901-2-P-2-28HG	28	2	3901/002-80-B3	19x0.08 ⁽¹⁾	0.10	0.63	0.08	254	1.67	5.50
F A3901-2-P-2-26HG	26	2	3901/002-81-B3	19x0.10 ⁽¹⁾	0.15	0.73	0.08	155	1.87	7.40
F A3901-2-P-2-24HG	24	2	3901/002-82-B3	19x0.12 ⁽¹⁾	0.21	0.83	0.10	110	2.10	9.80
F A3901-2-P-2-22HG	22	2	3901/002-83-B3	19x0.16	0.38	1.03	0.10	53.5	2.50	14.00
F A3901-2-P-2-20HG	20	2	3901/002-84-B3	19x0.20	0.60	1.23	0.10	33.8	2.90	19.40
F A3901-2-P-2-18HG	18	2	3901/002-85-B3	19x0.25	0.93	1.48	0.12	21.6	3.40	28.20
F A3901-2-P-3-28HG	28	3	3901/002-86-B3	19x0.08 ⁽¹⁾	0.10	0.63	0.10	254	1.81	7.90
F A3901-2-P-3-26HG	26	3	3901/002-87-B3	19x0.10 ⁽¹⁾	0.15	0.73	0.10	155	2.02	10.60
F A3901-2-P-3-24HG	24	3	3901/002-88-B3	19x0.12 ⁽¹⁾	0.21	0.83	0.10	110	2.24	13.30
F A3901-2-P-3-22HG	22	3	3901/002-89-B3	19x0.16	0.38	1.03	0.10	53.5	2.67	19.20
F A3901-2-P-3-20HG	20	3	3901/002-90-B3	19x0.20	0.60	1.23	0.12	33.8	3.14	28.40
F A3901-2-P-3-18HG	18	3	3901/002-91-B3	19x0.25	0.93	1.48	0.15	21.6	3.67	42.00

*Closest American Wire Gauge

⁽¹⁾Silver-plated Copper Alloy



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