

ARIANE 6: RA6S - Axx - Cx / RA6U - Axx - Cx

Wires and Cables specification: A6-TS-1380100-X-0001



Cables for geostationary orbit launchers:
satellites and general space applications.



Cable characteristics



-200 +200°C



Excellent



FAR25_
ABD0031

Environmental

- Operating temperature: -200°C to 200°C
- Non-flammable
- Current Rating: The currents shown in the tables for single wire generate a temperature in a vacuum environment.

According to ESA/SCC specifications, those current values may be considered up to an ambient temperature of 150°C.

- Derating factors must be applied for cables and wires in bundles
- High resistance to chemical agents, fluids and space radiations

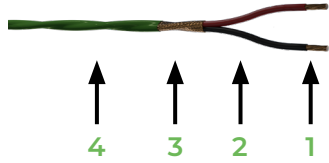
Electrical

- Maximum operating Voltage: 600 Vac
- Insulation Resistance of Core: > 750 MΩ km at 20°C (after 500V-1min)
- Transfer impedance: 0.025 Ohm/m from 1 kHz to 5 MHz (RA6S)

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

Cable design



1. Conductor(s): Bare Copper or Bare Copper Alloy
2. Polyimide tape + Polyimide Top Coat
3. Bare Copper Braid
4. Polyimide Tape + PTFE Tape

Identification

Color of Wires

Number of wires	Color of wires
1	Red
2	Red + Black
3	Red + Black + Green
4	Red + Black + Green + Yellow
5	Red + Black + Green + Yellow + Brown

Ordering code

RA6 $\bar{1}$ - A $\bar{2}$ x - C $\bar{3}$

1. U: Unshielded
S: Shielded
2. AWG
3. Number of wires

Color of Jacket

Wire size (AWG)	Color of jacket
12	White
14	Purple
16	Brown
18	Yellow
20	Green
22	Red
24	Blue

Specifications

- A6-TS-1380100-X-0001- AG
- ESA/SCC N° 3901 and ESA/SCC N° 3901/002

Dimensional

Reference	Shield	Wire size AWG	No. of wires	Nb x diameter of strands	Conductor diameter	Conductor section	Conductor linear resistance	Diameter of shield strand	Wire diameter	Cable diameter	Cable weight
					max.	nom.	max.		max.	max.	max.
					mm	mm	mm ²		Ω/km	mm	mm
RA6U-A12-C1	No	12	1	45 x 0.30	2.6	3.2	6.6	N/A	2.8	2.8	33
RA6U-A16-C1		16	1	19 x 0.30	1.7	1.3	15.8	N/A	1.9	1.9	14
RA6U-A18-C1		18	1	19 x 0.25	1.4	0.9	23	N/A	1.6	1.6	11
RA6U-A18-C2			2	19 x 0.25	1.4	0.9	23	N/A	1.6	3.2	22
RA6U-A20-C1		20	1	19 x 0.20	1.1	0.6	35	N/A	1.3	1.3	7.5
RA6U-A20-C2			2	19 x 0.20	1.1	0.6	35	N/A	1.3	2.6	15
RA6U-A22-C1		22	1	19 x 0.16	0.9	0.4	51	N/A	1.1	1.1	5
RA6U-A24-C1		24	1	19 x 0.12	0.7	0.2	110.0	N/A	0.9	0.9	3

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					max.	nom.	max.		max.	max.	max.
					mm	mm	mm ²		Ω/km	mm	mm
RA6S-A12-C2	Yes	12	2	45 x 0.30	2.6	3.2	6.6	0.10 ± 0.01	2.8	6.6	83.9
RA6S-A12-C5			5	45 x 0.30	2.6	3.2	6.6	0.15 ± 0.01	2.8	8.7	209.91
RA6S-A14-C2		14	2	27 x 0.30	2	1.9	10.1	0.10 ± 0.01	2.2	5.2	54.33
RA6S-A16-C2		16	2	19 x 0.30	1.7	1.3	15.8	0.10 ± 0.01	1.9	4.5	42.06
RA6S-A18-C2		18	2	19 x 0.25	1.4	0.9	23	0.10 ± 0.01	1.6	3.9	32.21
RA6S-A20-C2		20	2	19 x 0.20	1.1	0.6	35	0.10 ± 0.01	1.3	3.4	23.01
RA6S-A22-C1		22	1	19 x 0.16	0.9	0.4	51	0.10 ± 0.01	1.1	2.83	11
RA6S-A22-C2			2	19 x 0.16	0.9	0.4	51	0.10 ± 0.01	1.1	3	22
RA6S-A22-C4			3	19 x 0.16	0.9	0.4	51	0.10 ± 0.01	1.1	3.2	29
RA6S-A22-C3			4	19 x 0.16	0.9	0.4	51	0.10 ± 0.01	1.1	3.4	34
RA6S-A24-C2		24	2	19 x 0.12	0.7	0.2	110.0	0.10 ± 0.01	0.9	2.6	17.0
RA6S-A24-C3			3	19 x 0.12	0.7	0.2	110.0	0.10 ± 0.01	0.9	2.7	20.0
RA6S-A24-C4			4	19 x 0.12	0.7	0.2	110.0	0.10 ± 0.01	0.9	2.9	25.0



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