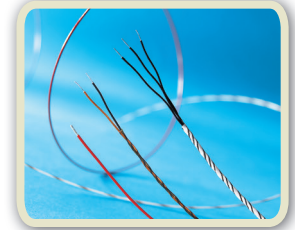


ESCC cables & harnesses made by AXON'

ESCC wires and cables

AXON' supplies a large range of wires and cables in compliance with ESA standards. Lightweight and highly resistant, they have been designed to meet the challenging requirements of the **launchers** and **satellites** including internal cabling of electronic boxes, LEO applications and cryogenic applications. From single core hook-up wires to coaxial cables and data bus cables, AXON' offers a large range of ESA wires and cables.



ESA WIRES

ESCC 3901 WIRES AND CABLES				
PRODUCT FAMILY	DESCRIPTION	OPERATING TEMPERATURE	CHARACTERISTICS	APPROVED SPACE PROJECTS
ESCC 3901 001	Polyimide insulated wires and cables	-100°C to +200°C	Large conductor gauges: AWG 12 to 16.	HOT BIRD, LISA PATHFINDER, ARIANE 5, EUROSTAR 3000
ESCC 3901 002	Lightweight polyimide insulated wires and cables	-100°C to +200°C	Smaller conductor gauges than the ESCC 3901 001 family: AWG 18 to 28.	HOT BIRD, LISA PATHFINDER, GAIA, ARIANE 5, ALPHASAT, SENTINEL 2
ESCC 3901 012	Extruded cross-linked ETFE insulated wires and cables	-100°C to +200°C	Large range of conductor gauges from AWG 12 to 30.	CBERS, SAOCOM, SENTINEL
ESCC 3901 013	PTFE insulated wires and cables	-100°C to +200°C	Internal cabling of electronic boxes. PTFE allows for a thinner jacket and improves flexibility.	PLANCK, LISA PATHFINDER
ESCC 3901 018	Polyimide / Fluorothermoplastic insulated wires and cables	-200°C to +200°C	Low Earth Orbit (LEO) applications. Jacket resistant to atomic oxygen (ATOX) environment.	GOCE, BEPI COLOMBO
ESCC 3901 019	CELLOFLON® / Polyimide insulated wires and cables	-200°C to +200°C	Cryogenic applications (optical instruments), and wherever mass is a critical issue. Celloflon® is a weight saving material with high stability across large temperature range.	EXOMARS ROVER, GALILEO
ESCC 3901 021	CELLOFLON® / Polyimide insulated shielded cables with drain wire	-200°C to +200°C	Same as 019 family. In addition, a drain wire is provided to ease shield construction.	
ESCC 3901 024	Abrasion Resistance Tape (ART®) PTFE insulated wires and cables	-200°C to +200°C	Abrasion resistant ART® PTFE AXON' tape Improved flexibility and bend radius.	VEGA LAUNCHER

ESCC 3902 WIRES AND CABLES				
PRODUCT FAMILY	DESCRIPTION	OPERATING TEMPERATURE	CHARACTERISTICS	APPROVED SPACE PROJECTS
ESCC 3902 002	Coaxial cable: CELLOFLON® PTFE dielectric	-200°C to +180°C	Coaxial line with 50 or 75 Ohms.	
ESCC 3902 002	Triaxial cable: CELLOFLON® PTFE dielectric	-200°C to +180°C	Triaxial line with 50 or 75 Ohms.	
ESCC 3902 002	Twisted pair bus cable	-200°C to +180°C	Balanced shielded line with 75, 100 or 120 Ohms.	GAIA, HOT BIRD, SENTINEL 1
ESCC 3902 003	SpaceWire quadribus cable	-200°C to +180°C	100 Ohm LVDS protocol	AMS, COROT, GAIA, ALPHASAT
ESCC 3902 004	Lightweight SpaceWire quadribus cable	-100°C to +150°C	100 Ohm LVDS protocol	EXOMARS, MTG , SOLAR ORBITER, CHEOPS

AXON' CABLE SAS

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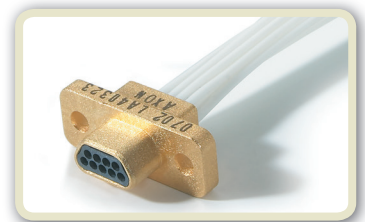
Connectors

AXON' CABLE supplies miniature Micro-D connectors and connectors for MIL-STD-1553 harnesses in compliance with ESA standards. Lightweight and small, these products are an ideal solution for space applications.

PRODUCT FAMILY	DESCRIPTION	OPERATING TEMPERATURE	CHARACTERISTICS	APPROVED SPACE PROJECTS
ESCC 3401 029 (EPPL2)	Micro-D connectors	-55°C to +125°C	1.27 mm contact spacing connectors: Small, lightweight & robust	CURIOSITY, SOLAR ORBITER, STAR TRACKERS
ESCC 3401 079 (ESCC QPL)	ACB1 Databus connectors	-55°C to +150°C	Triaxial connector for twisted shielded AWG24 pair cables	SAOCOM, AMAZONIA
ESCC 3401 086 (EPPL2)	Nano-D connectors	-55°C to +150°C	0.635 mm contact spacing connectors: extreme miniaturisation	
ESCC approval in process Production under PID: CNES-PID-A-08 and 09 covered by a CNES ASF	AXOMACH™ / High Data Rate links	-55°C to +125°C	100 Ohm high speed data link. Up to 40Gbp/s.	METEOSAT, MAVEN (NASA), MILITARY SATELLITES

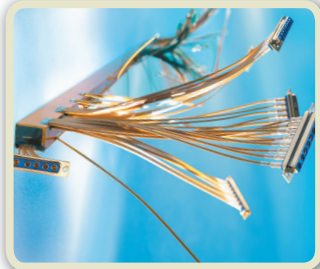
Databus 1553 harnesses and Milbus couplers

AXON' CABLE has been approved by the CNES for the manufacturing of Data bus 1553 harnesses and Milbus components: production done following a PID (CNES-PID-02) approved by CNES (under ASF). AXON' CABLE specializes in the design and manufacture of all components used in data transmission systems in compliance with the **MIL-STD-1553** standard. This is the protocol of dialogue for strategic **on-board** systems for aeronautics, space and military applications. These reliable transmission networks offer high security of data, signal integrity, weight and space saving, as well as a fast diagnostic of all equipment connected to the bus.



ESCC 3401 029 MICRO-D CONNECTOR

Power distribution systems



BUS BARS FOR POWER DISTRIBUTION IN SATELLITES

AXON' CABLE has been approved by the CNES for the manufacturing of aluminium bus bars: production done following a PID (CNES-PID-05) approved by CNES (under ASF).

As vital components for electrical power distribution in telecommunication satellites and land-based weapon systems, the **bus bars** and **battery bars** developed by AXON' ensure reliable distribution of constant energy. Bus bars and battery bars are flat which allows weight saving and better heat dissipation. They are made with silver plated pure aluminium or aluminium alloy. AXON's bus bars and battery bars equip many satellites of the EUROSTAR 3000 platform.



ESCC 3401 079 ACB1 DATABUS CONNECTORS



AXOMACH™, HIGH DATA RATE LINK UP TO 40 Gb/s

SpaceWire and low mass SpaceWire

AXON' CABLE has been approved by the CNES for the manufacturing of SpaceWire assemblies using QPL ESCC 3902.003 cable and EPLL2 ESCC 3401 029 connectors according to an approved PID: CNES-PID-03 (ASF). AXON' has also developed a low mass SpaceWire cable using ESCC 3902.004 cable and EPPL 2 ESCC 3401.029 connectors.



MILBUS 1553 HARNESS FOR SPACE APPLICATION

General electrical harnesses

AXON' CABLE has been approved by the CNES for the manufacturing of any electrical assemblies according to the PID CNES-PID-04 (ASF). The PID gives the limit of qualified processes. AXON' operators are ECSS-Q-70-08 (high-reliability hand soldering), ECSS-Q-70-26 (High-reliability hand crimping) and IPC validated.



LOW MASS SPACEWIRE