

The smallest, lightest low earth orbit wires & cables qualified to ESCC 3901/026



Typical Applications

- Analog/low-frequency signals
- Box-to-box transmission
- Power distribution
- Manned/unmanned space missions

Benefits

- Proven LEO product qualified to ESCC 3901/026 and on the ESA QPL
- Reduce total launch mass with the smallest, lightest constructions
- Reliable and continuous power distribution up to 600 Vrms
- Excellent protection from extreme temperatures, ATOX, chemicals, more
- New design/installation options from high flexibility and tighter bending
- Valued reliability delivered by ESA-qualified, ISO 9001:2000-certified manufacturing facility
- Decades of 100% failure-free flight record in hundreds of global spaceflight programs

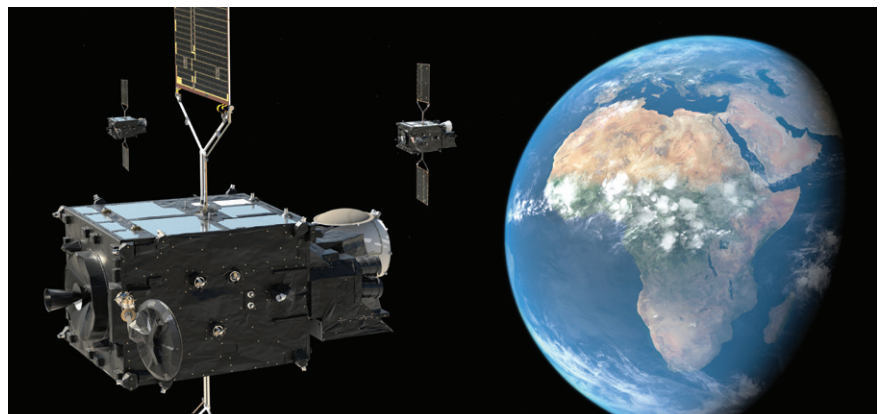
Reducing the total launch mass of a spacecraft is essential to adding more payload. As a result, wires and cables used for critical systems and subsystems must be as small and light as possible. At the same time, they must be strong and flexible enough to avoid damage during installation or degradation during missions in orbit.

Gore offers the smallest, lightest low earth orbit (LEO) wire and cable solutions without sacrificing electrical or mechanical robustness. They are qualified to ESCC 3901/026 specification and registered on the ESA Qualified Parts List (QPL).

Reduce Total Launch Mass

GORE® Space Cables, Type LEW are designed precisely to help reduce the total mass of a spacecraft during launch, saving valuable weight for more payload and other critical subsystems. Our unique designs are up to 27% smaller and up to 47% lighter than alternative wires and cables qualified to ESCC 3901/012. For a typical mission, our reduced diameters can save 35% of weight on average in spacecraft. These low-mass designs also allow for more flexibility and a tighter bend radius enabling new design and installation options in confined areas.

Type LEW are proven to operate continuously up to 600 Vrms and transmit analog or low-frequency signals for the duration of the mission (Table 1). Chemically inert and thermally resistant, these robust, low-outgassing wires and cables withstand extreme temperatures, atomic oxygen (ATOX), harsh chemicals, and other demanding conditions typically found in LEO environments. We offer 21 variants of our wires and cables ranging from sizes 28 to 16 AWG to meet your specific application needs.



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GORE® Space Cables, Type LEW

Table 1: Wire & Cable Properties

Electrical / Mechanical / Environmental

Property	Value
Maximum Operating Voltage Vrms	600
Cable Jacket Material	Single Core: Thin-Resistant Fluoropolymer Multi-Core: Extruded Fluoropolymer
Multi-Core Cable Jacket Color by Wire Size ISO/(AWG)	-/(28) Red 001/(26) Green 002/(24) Blue 004/(22) Black 006/(20) Yellow
Wire Insulation Material	Thin-Resistant Fluoropolymer
Wire Color-Coding	Single Core: Natural Multi-Core: Black, Green, Natural, Red
Conductor	Silver-Plated Copper or Copper Alloy, True Concentric
Temperature Range °C	-200 to +200

Program Heritage

For more than 60 years, Gore has provided reliable solutions in hundreds of global spaceflight programs with a 100% failure-free flight record. We work closely with major space organizations such as the ESA (European Space Agency) and NASA (National Aeronautics and Space Administration) to deliver valued reliability from an ESA-qualified and ISO 9001:2000-certified manufacturing facility.

In 1986, the ESA qualified Gore's first product for spaceflight. Since then, 10 of Gore's products have been qualified to ESCC 3901/3902/3408 specifications, and 11 are currently registered on the Qualified Parts Lists (QPL). Over the decades, our products have been used in many ESA missions — including Ariane, Envisat, MetOp, Meteosat, Sentinel, Vega, and more.

Ordering Information

GORE® Space Cables, Type LEW for LEO applications are available in the following wire and cable variants (Table 2). To order, specify **ESCC3901026XXB** with **XX** being the appropriate variant number. Visit gore.com/cable-distributors for the list of authorized global distributors.

For more information or to discuss specific characteristic limits and application needs, contact a Gore representative at gore.com/aerospace-defense-contact.

Table 2: Wire & Cable Variants

Variant No.	Shielded	No. of Cores	ISO conductor Size/ (AWG)	No. of Strands x Diameter mm	Conductor Characteristics			Shield Strand Diameter mm	Core Maximum Diameter mm	Finished Wire or Cable Characteristics	
					Maximum Diameter mm	Nominal Section mm²	Maximum Resistance Ω/km			Maximum Diameter mm	Maximum Weight kg/km
Single Wires											
01	No	1	-(28)	7 x 0.127	0.39	0.09	253	—	—	0.62	1.14
02	No	1	001/(26)	19 x 0.10 ^a	0.47	0.15	157	—	—	0.71	1.63
03	No	1	002/(24)	19 x 0.12 ^a	0.58	0.25	111	—	—	0.83	2.25
04	No	1	004/(22)	19 x 0.15 ^a	0.76	0.40	58	—	—	1.1	3.74
05	No	1	006/(20)	19 x 0.20 ^a	0.99	0.60	32	—	—	1.25	6.2
06	No	1	012/(16)	19 x 0.30 ^a	1.49	1.20	14	—	—	1.8	13.5
Twisted Pairs											
07	No	2	001/(26)	19 x 0.10 ^a	0.47	0.15	170	—	0.75	1.45	3.4
08	No	2	002/(24)	19 x 0.12 ^a	0.58	0.25	120	—	0.85	1.8	4.9
09	No	2	004/(22)	19 x 0.15 ^a	0.76	0.40	63	—	1.1	2.2	7.6
10	No	2	006/(20)	19 x 0.20 ^a	0.99	0.60	35	—	1.26	2.5	12.7
Shielded Twisted Cables (2-4 Cores)											
11	Yes	2	-(28)	7 x 0.127	0.39	0.09	258	0.079	0.7	1.75	5.9
12	Yes	2	001/(26)	19 x 0.10 ^a	0.47	0.15	170	0.079	0.75	1.95	7.1
13	Yes	2	002/(24)	19 x 0.12 ^a	0.58	0.25	120	0.079	0.85	2.2	9.0
14	Yes	2	004/(22)	19 x 0.15 ^a	0.76	0.40	63	0.079	1.1	2.45	12.6
15	Yes	2	006/(20)	19 x 0.20 ^a	0.99	0.6	35	0.079	1.26	3	19
16	Yes	3	-(28)	7 x 0.127	0.39	0.09	259	0.079	0.7	1.85	7.9
17	Yes	3	001/(26)	19 x 0.10 ^a	0.47	0.15	171	0.079	0.75	2.05	9.0
18	Yes	3	002/(24)	19 x 0.12 ^a	0.58	0.25	121	0.079	0.85	2.3	11.3
19	Yes	4	-(28)	7 x 0.127	0.39	0.09	260	0.079	0.7	2.0	9.1
20	Yes	4	001/(26)	19 x 0.10 ^a	0.47	0.15	171	0.079	0.75	2.2	11
21	Yes	4	002/(24)	19 x 0.12 ^a	0.58	0.25	122	0.079	0.85	2.4	14.3

a . Conductor variants comply with ISO 2635. AWG sizes are provided for information.

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