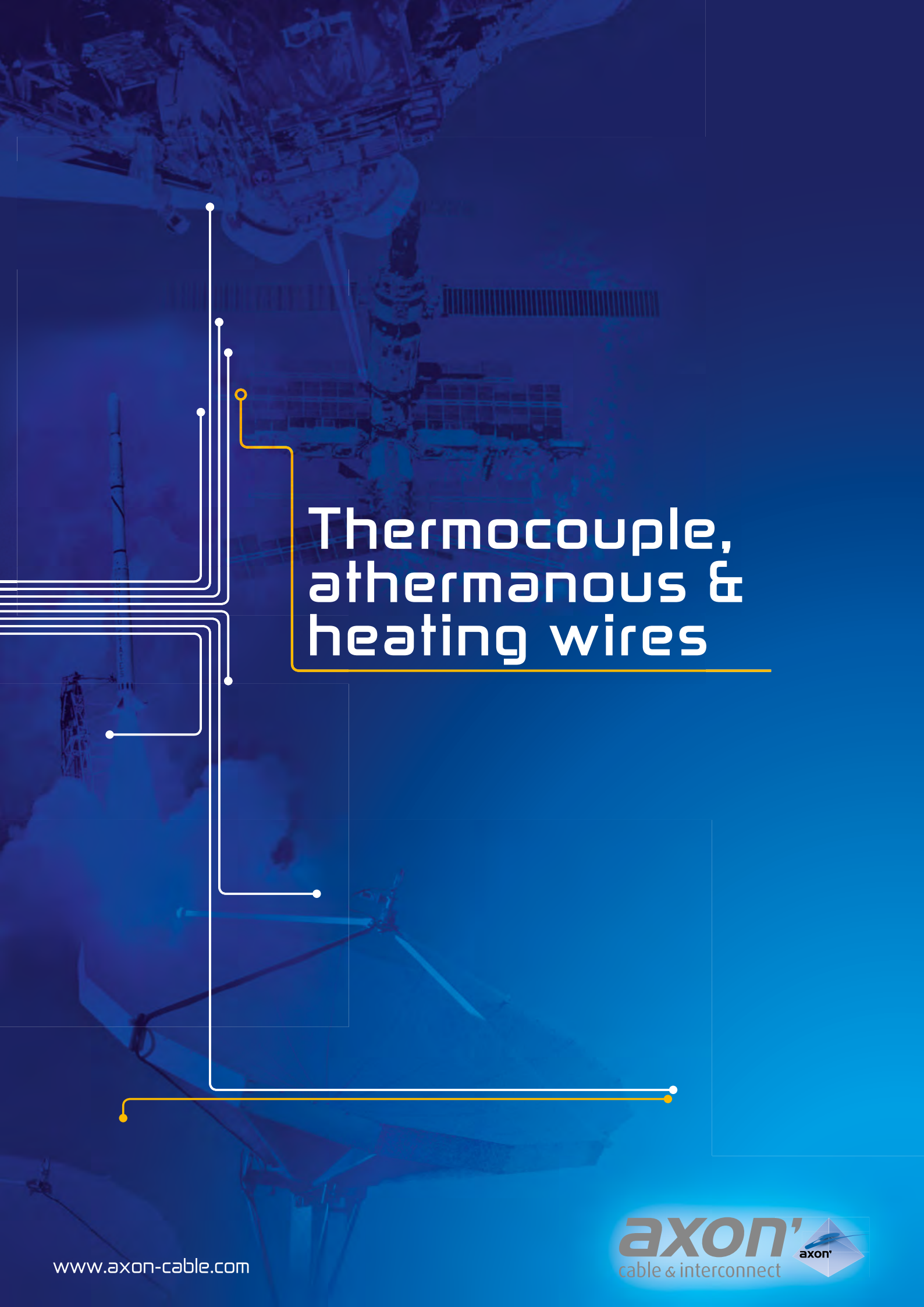


Thermocouple, athermanous & heating wires

www.axon-cable.com

axon' cable & interconnect

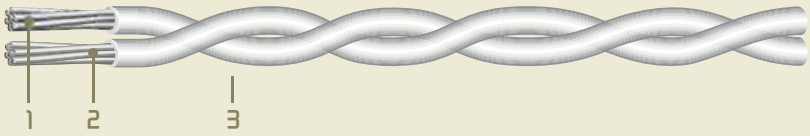
THERMOCOUPLE EXTENSION CABLES

AXON' offers thermocouple extension cables to test the thermal behaviour of satellites in a vacuum chamber.

AXON' thermocouple extension cables have the following properties:
- Made with cost effective but vacuum compatible materials including bare copper, constantan® and FEP. These thermocouple extension cables can be left inside the satellite for flight.
- Accurate and reliable: AXON' thermocouple extension cables are delivered with a calibration certificate made by qualified laboratories.
- Compatible with dedicated contacts and connectors (please contact us).

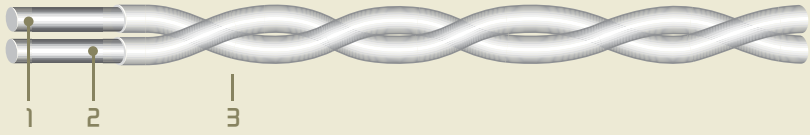
Examples of construction

Thermocouple extension cable 2xKT2407



1 - 2407 AWG Bare copper conductor,
2 - 2407 AWG Constantan® (T-type) conductor (-200°C to 350°C)*,
3 - FEP insulation (colours upon request).
Wire operating temperature: -90°C / +200°C.

Thermocouple extension cable 2xKT2801



1 - 2801 AWG Bare copper conductor,
2 - 2801 AWG Constantan® (T-type) conductor (-200°C to 350°C)*,
3 - FEP insulation (colours upon request).
Wire operating temperature: -90°C / +200°C.

24, 26 and 30 AWG also available.
For applications requiring very high temperatures, such as a rocket motor, other conductor materials* can be offered:
- J-type: Iron / Constantan® (-40°C to +750°C),
- E-type: Chromel® / Constantan® (-200°C to +900°C),
- N-type: Nicrosil® / Nisil® (-200°C to +1200°C).

*: Temperature range of the thermocouple conductors. Wire operation temperature will depend on the insulation material used. Don't hesitate to contact us for special queries.

THERMOCOUPLE EXTENSION CABLE (COPPER / CONSTANTAN®)

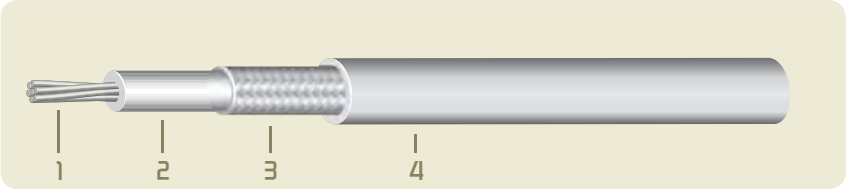
Athermanous and heating wires

Both AXON' athermanous and heating wires have the following properties:
- Can be made with any ESCC contruction available in our *ESA Wires & Cables* chapter. Custom constructions available on request.
- Compatible with dedicated contacts and connectors (please contact us).

AXON' offers cables & wires with special thermal properties to either facilitate or reduce the transmission of heat.

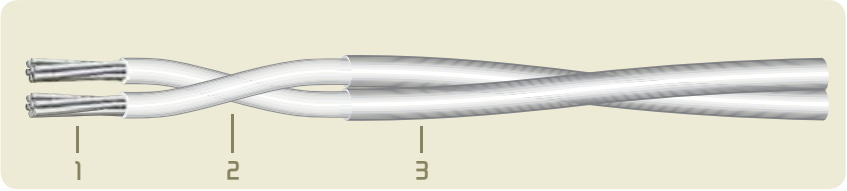
Examples of construction

Shielded jacketed single stainless steel wire



1 - Stranded stainless steel conductor,
2 - PTFE insulation,
3 - Stainless steel,
4 - PFA insulation.

Twisted pair



1 - Stranded brass conductor,
2 - Extruded PTFE insulation,
3 - Polyimide protective coating.

Designed to cover a range of thermal conductivity and linear resistance requirements, AXON' uses the following conductor types:

	Copper	Brass	Stainless steel 316L*	Kanthal
Thermal conductivity (W/mK)	400	150	15	11 (@ 50°C)
Linear resistance (Ω.m)	$1.724\ 10^{-8}$	$6.3\ 10^{-8}$	$76\ 10^{-8}$	$145\ 10^{-8}$

*Other grades of stainless steel are available

ATHERMANOUS TWISTED PAIR WIRES