

Sentire T CRYO

Cryogenic Applications Temperature Sensing Cable

The Sentire product line offers ultra-compact, robust cables tailored for extreme sensing environments, featuring a metallic layer-protected, loose tube design for precise, rapid measurements across a broad **temperature range, down to -190°C**. These durable cables support **Raman**, **Brillouin**, and **FBG** technologies over continuous lengths of several kilometers, ensuring strain-free performance with the standard version working based on Raman DTS. The cables, combining compactness, lightness, and flexibility in a robust package can be directly submerged into liquid nitrogen.



Temperature

Measuring temperature down to -190°C (-310°F)



Robust

Superior Crush resistance



N2

Validated by submersion in liquid nitrogen



Lightweight

Compact & lightweight design



Distance

Continuous lengths of multiple kilometers



Flexible

Designed with good flexibility for easy integration

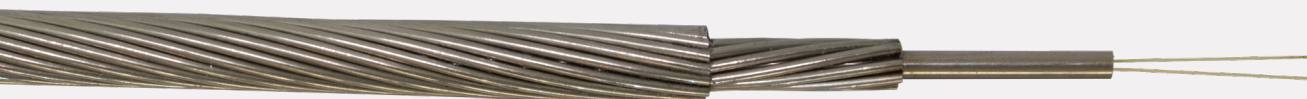
Double layer



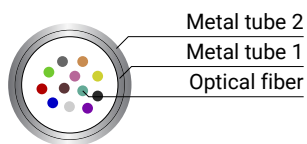
Armored



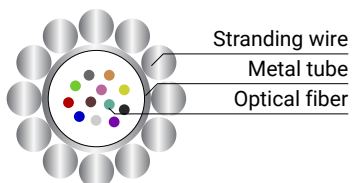
Double Armored



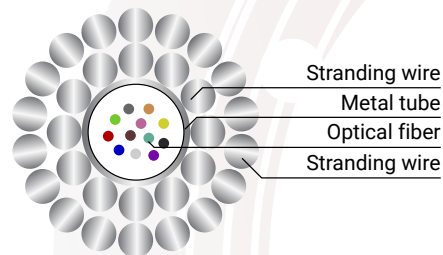
Double Layer



Armored



Double Armor



Product Features

- Compact & Lightweight
- Superior Crush Resistance
- Fast thermal response
- High flexibility
- Great tensile strength
- Great crush resistance
- Good flexibility
- High tensile strength
- Great crush resistance

Product Specification

Values stated at room temperature
(+20°C/68°F)

General Characteristics	Double Layer	Armored	Double Armor
Cable weight (+/- 5%)	24 kg/km (16.50 lbs/kft)	60 kg/km (40.30 lbs/kft)	135 kg/km (90.70 lbs/kft)
Outer diameter	2.80 mm (0.110")	4.00 mm (0.157")	5.60 mm (0.220")
Temperature rating	+85°C to -190°C (+185°F to -310°F)		
Storage temp. range	+60°C to -40°C (+140°F to -40°F)		
Installation temperature	max. 60°C (max. 140°F)		
Steel material	Stainless Steel		
Standard Fiber configurations	1 or 2 MMF OM2; other configurations available upon request		
Fiber Type / Coating	50/125/160 µm, Polyimide		



Packaging and Single Length

Standard packaging consists of wooden reels in a standing position fixed on pallets. The outer layer is protected with bubble foil and flexible cardboard. Optionally, spools provided by customer can be used. Produced single lengths are tailored to meet customer requests.



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Product Specification

Values stated at room temperature
(+20°C/68°F)

	Double Layer	Armored	Double Armor
Mechanical Characteristics			
Breaking strength (ISO 6892-1)	2.600 N (585 lbs)	6.400 N (1440 lbs)	11.000 N (2470 lbs)
Tensile strength (installation)	1.550 N (350 lbs)	3.850 N (865 lbs)	6.600 N (1480 lbs)
Tensile strength (operation)	1.300 N (290 lbs)	3.200 N (720 lbs)	5.500 N (1235 lbs)
Crush resistance (IEC 60794-1-21 E3A; long term)	12.000 N/10cm (2700 lbs/3.94")	9.000 N/10cm (2000 lbs/3.94")	9.000 N/10cm (2000 lbs/3.94")
Static bending radius (IEC60794-1-21 E11)	56 mm (2.20")	60 mm (2.36")	85 mm (3.35")
Repeated bending (IEC 60794-1-21 E6)	> 100 cycles / radius 75mm	> 400 cycles / radius 75mm	> 400 cycles / radius 100mm

Optical Characteristics

Fiber amount / Type	1 or 2 MMF OM2, 50/125/160 µm
Fiber Coating	Polyimide
Fiber attenuation at 850nm (Typical Maximum)	2.35 dB/km 3.10 dB/km
Fiber attenuation at 1300nm (Typical Maximum)	0.80 dB/km 1.20 dB/km

Length

Max. length / drum	8 000 m (26 250 ft)
Typical length / drum	2 000 m (6 560 ft)



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Accessories

Cable termination with connectors

	Double Layer	Armored	Double Armor
E2000/APC8 connector Pre-assembled on one cable end (1 fiber)	280400101	400400101	560400101
E2000/APC8 connector Pre-assembled on both cable ends (1 fiber)	2804001B2	4004001B2	5604001B2
E2000/APC8 connector Pre-assembled on one cable end (2 fibers)	280400202	400400202	560400202
E2000/APC8 connector Pre-assembled on both cable ends (2 fibers)	2804002B4	4004002B4	5604002B4

Pigtails

	Double Layer	Armored	Double Armor
Pigtail 5 m , MMF 50/125, E2000/APC8, 3 mm OD	PT3001111005	PT3001111005	PT3001111005
Pigtail 30 m , MMF 50/125, E2000/APC8, 3 mm OD	PT3001111030	PT3001111030	PT3001111030

Adapters

	Double Layer	Armored	Double Armor
Adapter E2000/APC, Simplex, Ceramic Sleeve	AD-E2000APC	AD-E2000APC	AD-E2000APC
Tube Cutter	Tube Cutter	Tube Cutter	Tube Cutter



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