



TYPE APPROVAL CERTIFICATE
No. ELE494422CS

This is to certify that the product below is found to be in compliance with the applicable requirement of the RINA type approval system.

<i>Description</i>	Temperature sensors
<i>Type</i>	Thermocouple: Model ATMTCR/TCR8 Thermoresistance: Model ATMTRR/TRR8
<i>Applicant</i>	ITALCOPPIE SENSORI S.R.L. VIA A. TONANI, 10 FRAZ. S. GIACOMO LOVARA 26030 MALAGNINO (CR) ITALY
<i>Manufacturer</i>	ITALCOPPIE SENSORI S.R.L.
<i>Place of manufacture</i>	VIA A. TONANI, 10 FRAZ. S. GIACOMO LOVARA 26030 MALAGNINO (CR) ITALY
<i>Reference standards</i>	Rules for the Classification of Ships - Part C - Machinery, Systems and fire protection - Ch.3, Sect.6, Tab.1.

Issued in **Genoa** on **January 27, 2023**. *This Certificate is valid until* **January 26, 2028**

RINA Services S.p.A.
Luigi Benedetti

This certificate consists of this page and 1 enclosure

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No. **ELE494422CS**
Enclosure - Page 1 of 1
Thermocouple: Model ATMTCR/TCR8
Thermoresistance: Model ATMTRR/TRR8

Thermocouple: model ATMTCR/TCR8

Main features:

Type K, class 1 measuring element, single / double element, hot joint ungrounded

Insert with mineral insulated (MgO) sheath $\varnothing=3\text{mm}$, ceramic terminal block

Measurement range: **0 to +800 °C**

Thermowell built-up from tube in AISI 316L with tapered tip with threaded connection

Length "L"= 50mm to 600mm; length "E" 40m (*)

Aluminium head connection. _ extension AISI 316 $\varnothing=12\text{mm}$

Thermoresistance: model ATMTRR/TRR8

Main features:

Pt100 Class A measuring element single/double element

Insert with mineral insulated (MgO) sheath $\varnothing=3\text{mm}$, nylon terminal block

Measurement range: **-50 to +300 °C**

Thermowell built-up from tube in AISI 316L with tapered tip with threaded connection

Length "L"= 50mm to 600mm; length "E" 40m (*)

Aluminium head connection. _ extension AISI 316 $\varnothing=12\text{mm}$

(*) Ref. to Dwg. N. ICATM (TRR-TCR) rev.B (05/09/16)

Test Reports:

EMILAB _ (T/C) Vibration report / insulation _ doc. n. 17-02728 (28/02/17)

EMILAB _ (RTD) Thermoresistance Vibration report / insulation _ doc. n. 17-02766 (10/04/17)

CAMAR Elettronica _ accuracy measurement (RTD) doc. n. LAT 123 17-ST-2019 and LAT 123 17-ST-2020 and Class accuracy statement according to CEI EN 60751:2009-06 (07-07-2017)

CAMAR Elettronica _ accuracy measurement (T/C type K) doc. n. LAT 123 17-ST-1345 and LAT 123 17-ST-1346 and Class accuracy statement according to CEI EN 60584-1:2014-07 (09-05-2017)

Reference documents

TAO APP dated 02/12/2022

Offer accepted on 19/12/2022

The documents above-mentioned have been archived in the Leonardo Draw Plus portal under the project:

<https://leodrawplus.rina.org/projects/30114/detail>

Remarks:

Additional clamping device to be provided for stem length above 600 mm

Electronic transmitter is not included in this Approval

Genoa January 27, 2023