



EUROPEAN UNION RECOGNISED ORGANISATION (EU RO) MUTUAL RECOGNITION TYPE APPROVAL CERTIFICATE

Certificate No:
MRA0000042

In accordance with Article 10.1 of EU Regulation 391/2009

This Certificate is issued to
ifm electronic gmbh
Essen, Germany

for
Temperature Transmitters

with type designation(s)
TA21xx, TA23xx, TA24xx, TA26xx

The product is found to comply with
EU RO Mutual Recognition Technical Requirements for Temperature Gauges and Transmitters

Intended service
The temperature transmitters are intended for use in control and monitoring systems subject to classification.

Temperature [°C]: -25 to 70
Vibration: ±1.6 mm / 4.0 g
EMC: All locations including bridge and open deck
IP Code: IP 56

This is to certify:

that the Product referred to herein has been inspected for the Manufacturer, pursuant to the relevant requirements of the European Union Recognised Organisation Mutual Recognition procedure, required by Article 10.1 of EU Regulation 391/2009, and has been found in accordance with those requirements.

This Certificate is valid until **2027-11-02**.

Issued at **Hamburg** on **2022-11-03**

DNV local station: **Augsburg**

for **DNV**

Approval Engineer: **Dariusz Lesniewski**

.....
Joannis Papanuskas
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Product description

2-, 3- or 4-wire temperature transmitter

product family	article number	operating voltage	output function OU2	process connection	installation length	measuring range
TA21xx	TA2105	18...32	4...20 mA	G 1/4"	25 mm	-50...150 °C
	TA2115	18...32	4...20 mA	G 1/4"	50 mm	-50...150 °C
	TA2135	18...32	4...20 mA	G 1/4"	100 mm	-50...150 °C
	TA2145	18...32	4...20 mA	G 1/4"	150 mm	-50...150 °C
TA24xx	TA2405	18...32	4...20 mA	G 1/2"	30 mm	-50...150 °C
	TA2415	18...32	4...20 mA	G 1/2"	50 mm	-50...150 °C
	TA2417	18...32	4...20 mA	G 1/2"	50 mm	-50...150 °C
	TA2435	18...32	4...20 mA	G 1/2"	30 mm	-50...150 °C
	TA2437	18...32	4...20 mA	G 1/2"	100 mm	-50...150 °C
	TA2445	18...32	4...20 mA	G 1/2"	150 mm	-50...150 °C
	TA2447	18...32	4...20 mA	G 1/2"	150 mm	-50...150 °C
TA23xx	TA2303	18...32	4...20 mA	1/2" NPT	30 mm	-58...302 °F
	TA2313	18...32	4...20 mA	1/2" NPT	50 mm	-58...302 °F
	TA2333	18...32	4...20 mA	1/2" NPT	100 mm	-58...302 °F
	TA2343	18...32	4...20 mA	1/2" NPT	150 mm	-58...302 °F
TA26xx	TA2603	18...32	4...20 mA	1/4" NPT	25 mm	-58...302 °F
	TA2613	18...32	4...20 mA	1/4" NPT	50 mm	-58...302 °F
	TA2633	18...32	4...20 mA	1/4" NPT	100 mm	-58...302 °F
	TA2643	18...32	4...20 mA	1/4" NPT	150 mm	-58...302 °F

Firmware: SW EEPROM 1.0.6
FL TAxxxx ST V2.03

Suitable connectors for operation are ifm-connectors of the EVM-Family designated as follows:

X	XX	X	X	XX	X	XX	X	XXXX	X	XX
[1]	[2;3]	[4]	[5]	[6;7]	[8]	[9;10]	[11]	[12;13;14;15]	[16]	[17;18]

[1]	A	= cable with connector
[2;3]	DO	= socket
[4]	A	= angled
	G	= straight
[5]	H	= M12 (A-coded)
[6;7]	04	= four contacts
	05	= five contacts
[8]	0	= no LEDs
[9;10]	VA	= stainless steel nut
[11]	S	= Standard
[12;13;14;15]		= length in m, 5m max. (filled with leading 0's if required, e.g. "0002", "02,5", "0,25")
[16]	H	= PUR, free from halogen
[17;18]	04	= four cores
	05	= five cores

Manufactured by

ifm prover USA, Inc.
420 Lapp Road, Malvern
19355 Pennsylvania, USA

Application/Limitation

The Type Approval covers all hardware listed under Product description. The temperature transmitters are intended for marine use in control, alarm, monitoring and instrumentation systems subject to classification.

The operating voltage of the sensor must be protected against surge.

Type Approval documentation

Marking of product

The products to be marked with:

- manufacturer name
- model name
- power supply, output current range, temperature range (+factory setting), probe length, process connection
- product code (with serial number and date of manufacture)

Other Conditions

The temperature transmitters have been verified for compliance with EU Mutual Recognition Technical Requirements TEMPERATURE GAUGES AND TRANSMITTERS version 0.2, dated 2022-01-01.

Environmental test parameters

Temperature: -25°C and +70°C

Vibration: ±1.6 mm / 4.0 g

EMC: All locations including bridge and open deck

Enclosure: IP56 (IP ratings according to IEC 60529)

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed annually and at renewal of this certificate.

Generic Statement for EU RO MR Type Approval Certificate

When a product is presented with this EU RO MR Type Approval Certificate for given application, its acceptability with regards to the limitations stated in the certificate conditions defined in 1b, 1c and 1d of the applied Technical Requirement will be evaluated by the EU RO in charge of classing the ship or being in charge of the unit/system certification.

In accordance with Article 10 of Regulation (EC) No 391/2009 of the European Parliament and of the Council of 23 April 2009 "on common rules and standards for ship inspection and survey organizations", the following organizations, recognized by the EU on this date, have agreed on the technical and procedural conditions under which they will mutually recognize this certificate:

- American Bureau of Shipping (ABS);
- Bureau Veritas (BV);
- China Classification Society (CCS);
- Croatian Register of Shipping (CRS);
- DNV;
- Indian Register of Shipping (IRS);
- Korean Register (KR);
- Lloyd's Register Group Ltd. (LR);
- Nippon Kaiji Kyokai General Incorporated Foundation (ClassNK);
- Polish Register of Shipping (PRS);
- RINA Services S.p.A. (RINA);
- Russian Maritime Register of Shipping (RS).

The scheme for the mutual recognition of class certificates for materials, equipment and components laid down by Article 10(1) of Regulation (EC) No 391/2009 is only enforceable within the Union in respect of ships flying the flag of a Member State. As far as foreign vessels are concerned, the acceptance of relevant certificates remains at the discretion of relevant non-EU flag States in the exercise of their exclusive jurisdiction, notably under the United Nations Convention on the Law of the Sea (UNCLOS). (In accordance with COMMISSION IMPLEMENTING REGULATION (EU) No 1355/2014 amending Regulation (EC) No 391/2009 - recital (25)).