DNV·GL

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

Certificate No:
MRA000002G

In accordance with Article 10.1 of EU Regulation 391/2009

This Certificate is issued to

Yokogawa Electric Corporation

Musashino, Tokyo, Japan

for
Temperature Gauges/Sensors/Transmitters

with type designation(s)
YTA610-J- and YTA710-J-series temperature transmitter

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

Intended service
Temperature transmitters intended for a wide range of temperature sensors.
See product description on page 2.

Temperature [°C]:	**-25°C to 70°C**
Vibration:	**±1 mm / 0.7 g (for general applications)**
EMC:	**All locations including bridge and open deck**
IP Code:	**IP66 / IP67**

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 **2025-05-11**.

Issued at **Høvik** on **2020-05-12**

DNV GL local station: **Yokohama** for **DNV GL**

Approval Engineer: **Ståle Sneen**

Marta Alonso Pontes
Head of Section

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.
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 GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") 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.

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Job Id: **262.4-000173-1**
Certificate No: **MRA000002G**

Product description

The YTA610-J- and YTA710-J-series temperature transmitters for Thermocouples, 2-, 3-, and 4-wire RTDs, ohms and DC millivolts inputs. The transmitter outputs 4 to 20 mA DC with digital communication HART protocol. Optionally available in explosion protected type.

Ordering code: YTA610-J**abcdef**/**g**/WCE/**g** or YTA710-J**abcdef**/**g**/WCE/**g**, where

a = Market
- **A** – Global market
- **B** – Chinese market

b = Sensor input
- **1** – Single sensor input
- **2** – Double sensor input

c = Housing material
- **A** – Aluminium, low copper cast aluminium alloy, coated
- **C** – Stainless steel, ASTM CF-8M

d = Electrical connection
- **0** – G1/2 female
- **2** – 1/2 NPT female
- **4** – M20 female

e = Integral indicator
- **D** – Digital indicator with local operating switch
- **N** – None

f = Mounting bracket
- **B** – SUS304 stainless steel 2-inch horizontal pipe mounting bracket
- **D** – SUS304 stainless steel 2-inch vertical pipe mounting bracket
- **J** – SUS316 stainless steel 2-inch horizontal pipe mounting bracket
- **K** – SUS316 stainless steel 2-inch vertical pipe mounting bracket
- **N** – None

g = Option codes
- **WCE** – Marine certificate, EU-RO Mutual Recognition Type Approval
- □□□ – Optional specification

Hardware and firmware revision at time of certificate issuance:
HW: S1
FW: R1.04.01

Manufactured by

Yokogawa Manufacturing Corporation, Kofu Office
155, Takamurocho, Kofu-shi
Yamanashi-ken 400-8558, Japan

Yokogawa Electric Asia Pte Ltd
No.5 Bedok South Road
Singapore 469270, Republic of Singapore

Yokogawa Electric China Co., Ltd.
No.365 Xinglong Street, Suzhou City
Jiangsu Province 215126, China

Application/Limitation

The Type Approval covers hardware listed under type designation.

Ambient temperature limits according to maker's specifications:
-40°C to 85°C (without digital indicator)
-30°C to 80°C (with digital indicator)

The temperature transmitter shall be powered by the 4-20 mA loop by a 24 Vdc instrument power supply.

Ex-certification is not covered by this certificate. Application in hazardous area to be approved in each case according to the Rules and Ex-Certification/ Special Condition for Safe Use listed in valid Ex-certificate issued by a notified/recognized Certification Body.

Type Approval documentation

Marking of product

The products to be marked with:
- manufacturer name
- model name
- serial number
- power supply ratings

Other conditions

The temperature transmitters have been verified for compliance with EU Mutual Recognition Technical Requirements for Temperature gauges and transmitters version 0.1, dated 2016-04-01. The testing covers IACS UR E10 Rev.7, including 5 g / 11 ms impact (shock) test according to IEC 60068-2-27.

Environmental test parameters		DNV GL location classes
Temperature:	-25°C and 70°C	D
Vibration:	±1.0 mm / 0.7 g, for general applications	A
Humidity:	95%RH @ 55°C, damp heat cyclic	B
EMC:	All locations including bridge and open deck	B
Enclosure:	IP66 / IP67 (IP-ratings according to IEC 60529)	C

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 will be performed annually and at renewal of the 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 GL;*
- *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)).

END OF CERTIFICATE