Certificate No:
TAA00002YU

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Peripheral Equipment

with type designation(s)
H1-Card

Issued to
Fisher-Rosemount Systems, Inc. – an Emerson Company
Round Rock, TX, USA

is found to comply with
DNV rules for classification – Ships, offshore units, and high speed and light craft

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Location classes:

Temperature	**C (tested to +60°C and -40°C)**
Humidity	**B**
Vibration	**A**
EMC	**A**
Enclosure	**Required protection according to relevant rules shall be provided upon installation on board**

Issued at **Høvik** on **2022-10-14**
This Certificate is valid until **2027-10-13**.
DNV local station: **Augsburg**

Approval Engineer: **Ståle Sneen**

for **DNV**

Marta Alonso Pontes
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

H1 with integrated power: KJ3246X1-BA1
H1 W/IP simplex terminal block: KJ3246X1-CA1
H1 W/IP redundant terminal block: KJ3246X1-DA1

Place of manufacture

Pepperl+Fuchs SE
Lilienthalstrasse 200
68307 Mannheim
Germany

Pepperl+Fuchs Asia Pte Ltd
P+F Building
18 Ayer Rajah Crescent
139942 Singapore
Singapore

Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV rules for classification of ships Pt.4 Ch.9 Control and monitoring systems.

Application/Limitation

EMC in the range 2 GHz to 6 GHz according to DNV-CG-0339, August 2021 has not been documented. EMC up to 6 GHz must additionally be documented for installation on ships contracted for construction on or after 2022-01-01.

Ex installations 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.

Ex-certification is not covered by this certificate and the following paragraph, which is for information only, is based on information received from the manufacturer, but not verified by DNV.

Information on Ex-Certification received from manufacturer – Not verified by DNV		
Equipment	Certified	Certificate No.
H1 Card: KJ3246X1-BA1 KJ3246X1-CA1 KJ3246X1-DA1	Ex ec IIC T4 Gc, Tambient = -40C to +70C	IECEx FMG 11.0016X
	Ⓔx II 3 G Ex ec IIC T4 Gc -40°C ≤ Ta ≤ 70°C	FM12ATEX0002X

Type Approval documentation

Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, November 2016.
Enclosure assembly flame tested according to UL 94 V-0.

Marking of product

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

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 after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE