

[1]

TYPE EXAMINATION CERTIFICATE

- [2] Product Intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU
- [3] Type Examination Certificate Number: **Presafe 18 ATEX 12094X** **Issue 3**
- [4] Product: **Built-in modules for communication system**
- [5] Manufacturer: **Kongsberg Maritime AS**
- [6] Address: **Kirkegårdsveien 45, Carpus, P.O. box 483
NO-3601 Kongsberg, Norway**
- [7] This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- [8] DNV Product Assurance AS certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014.
- The examination and test results are recorded in confidential reports listed in item 16.
- [9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN IEC 60079-0:2018 and EN 60079-7:2015/A1: 2018
- Where additional criteria beyond those given here have been used, they are listed at item 18 in the Schedule.
- [10] If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.
- [11] This TYPE EXAMINATION CERTIFICATE relates only to the design of the specified equipment and not to specific items of equipment subsequently manufactured
- [12] The marking of the product shall include the following:

 **II 3 G Ex ec IIC T4 Gc -20°C ≤ Ta ≤ +55°C**

Date of issue:
2022-04-26

Asle Kaastad
For DNV Product Assurance AS
The Certificate has been digitally signed.
See www.dnv.com/digitalsignatures for info



[13] **Schedule**

[14] **Type Examination Certificate No:** Presafe 18 ATEX 12094X Issue 3

[15] **Description of Product**

The investigated modules are I/O module, termination unit or controller modules, intended for different application as parts of communication system/station. The built-in modules covered by this certificate are:

RDIO420S	Remote Digital Input Output	24Vdc, max 0.9A, power dissipation 10W
RMP420	Remote Multipurpose I/O	24Vdc, 10W, Loop current max 1A per channel
RMP422i	Remote Multipurpose I/O	24Vdc, 10W, Loop current max 1A per channel
RMP422Si	RMP422S (S version)	24Vdc, 10W, Loop current max 1A per channel
RCU502i	Remote Control Unit	24Vdc, 20W power dissipation
RHUB200-5	RBUS Hub	24Vdc, 100mA
BUS-TERM	BUS-Termination	24Vdc
RMC-TERM	Remote Media Converter Termination	24Vdc
RMC-ST	Remote Media Converter-ST	24Vdc, 80mA
EFI-16	Earth Fault Indicator	24Vdc, max 100mA

External cabinet is to be provided in the end application. Marking code with X-suffix indicates Specific condition of use. Ambient range is specified for.

Service temperature is determined to be $T_s = 70^\circ\text{C}$. At end-installation of the modules in a cabinet, no enclosure's part in normal operation, shall have temperature exceeding T_s . The max ambient 55°C is specified for the end-product which is built up by enclosure and the modules.

Type designation

See above

Electrical Data

See above

Degrees of protection (IP Code)

(Refer to Specific condition of use)

Ambient temperature:

$-20^\circ\text{C} \leq T_a \leq +55^\circ\text{C}$

Routine tests

None

[16] **Report No.:** 319956

[17] **Specific Conditions of Use**

1. The modules must be built into a cabinet which complies with requirements of the standards EN 60079-0 & EN 60079-7.
2. The modules must be used in an area of not more than pollution degree 2
3. Interface to the EFI-16 in hazardous area zone 2 shall only be by the analogue output terminals AO1 (0-10V) or AO2 (+/-10V). The relay output terminals shall not be used.
4. Connecting / disconnecting wires or cables and operating buttons / switches are not allowed when the module is energized unless area is known to be non-hazardous.

5. All Network and Serial line cables connected to the RJ45 connectors on the RCU shall be cabinet internal. No direct field cables shall be used.
6. All screw terminals are 2.5 mm² that must be fastened with a torque of 0.4-0.5 Nm.

[18] **Essential Health and Safety Requirements**

Met by compliance with the requirements mentioned in item 9.



[19] Drawings and documents

Number	Title	Rev.	Date
436933	Document List	G	Nov. 2021
436932	*EX label for KM modules Label Drawing	B	03.12.2021
318395	BUS-TERM PCB Assembly	D	March 2011
318383	BUS-TERM Circuit Diagram	B	April 2008
318362	BUS-TERM BOM	2.1.0	April 2008
321499	EFI-16 PCB Assembly	C	Dec. 2018
321498	EFI-16 Circuit Diagram	C	Oct. 2017
321493	EFI-16 BOM	1.3.0	Dec. 2018
377649	RCU502i PCB Assembly	C1	April 2018
421773	RCU502i Circuit Diagram	B2	Dec. 2018
421769	RCU502i BOM	1.2.1	March 2020
319905	RDIO420S PCB Assembly	B	June 2008
317499	RDIO420S Circuit Diagram	C1	Feb. 2018
316522	*RDIO420S BOM	1.2.1	2022-01-24
464094	*NA1249 Toplevel Circuit diagram	A	2021.03.01
464095	*NA1249 RHUB200-5 prod.ver.2 Assy primary side	A	2021.03.10
464101	*RHUB200-5 Prod.ver.2 BOM	2.1.0	2022-01-05
346012	RMC-TERM PCB Assembly	B	Nov. 2010
346011	RMC-TERM Circuit Diagram	A	April 2010
346008	RMC-TERM BOM	1.1.1	March 2016
392400	RMC-ST PCB Assembly	C	Nov. 2015
392401	RMC-ST Circuit Diagram	C	Nov. 2015
392396	RMC-ST BOM	2.4.0	March 2014
431087	RMP420 PCB Assembly	A1	May 2019
431085	RMP420 Circuit Diagram	A1	May 2019
431089	*RMP420 BOM	5.1.1	2022-01-24
408411	RMP422I PCB Assembly	B	Sept. 2017
408410	RMP422I Circuit Diagram	E	Sept. 2017
408443	*RMP422I BOM	1.3.1	2022-01-24
408411	RMP422SI PCB Assembly	B	Sept. 2017
408410	RMP422SI Circuit Diagram	E	Sept. 2017
408407	*RMP422SI BOM	1.3.1	2022-01-24

[20] Certificate History

Issue	Description	Issue date	Report no.
0	Original issue *)	2018-06-07	D0000930-01
1	Minor technical changes for some modules. The changes do not make impact on electrical parameters and the type of protection.	2019-07-03	D0003961-00
2	Minor changes by updating the descriptive drawings from rev E to F & updation towards the latest harmonized standards for EN 60079-0:20018	2020-08-25	D0003961-01
3	Minor change the documents. Update the type RHUB200-5. Add IECEx certificate.	2022-04-26	319956

*) Transition from former certificate Nemko 14 ATEX 1504X to Presafe certificate. Refer to Project History in associated test report

END OF CERTIFICATE