EU RO MR Production Quality Assurance Certificate
No. **EMR420824CS**

This is to certify that RINAdid undertake the examination of the equipment identified below with the criteria for the Production Quality Assurance set-up in the “Rules for Testing and Certification of Marine Materials and Equipment” and the "EU RO Framework Document for the Mutual Recognition of Type Approval"

Description	**Sensors**
Product	**Pressure switch** **PICOSTAT 9B4 (PST4B)** **PICOSTAT 9M4 (PST4M)** **PICOSTAT 9K4 (PST4K)**
Manufacturer	**TRAFAG AG**
Address	**VILEMOVSKA 2129** **CZ-34701 Tachov** **CZECH REPUBLIC**
Reference standards	**EU RO MR TR - Pressure Switches**
Reference documents	**As per attachment document**

Issued in **RINA Trieste Marine** on **October 25, 2024**. *This Certificate is valid until* **October 25, 2029**

RINA Services S.p.A.
Luigi Benedetti

This certificate consists of this page and 1 enclosure

RINA Services S.p.A.
Via Corsica, 12 - 16128 Genova
Tel +39 010 53851
Fax +39 010 5351000

Product:
Pressure switch
PICOSTAT 9B4 (PST4B); PICOSTAT 9M4 (PST4M); PICOSTAT 9K4 (PST4K)

Manufacturer
TRAFAG AG

Place of Manufacturer
TRAFAG SPOL S.R.O.
Vilemovska 2129
CZ-347 01 Tachov
Czech Republic

Technical documentation

Intended Service	Intended Use: Pressure switches for use in marine control, alarm and monitoring systems on board ships subject to classification, within the limitations defined in EU RO MR Technical Requirements Tier 7
Ratings	As per attachment
Restrictions	Explosion proof (Ex) certification is not covered by this Type Approval. Applicable to pressure switches for control, alarm and monitoring systems with rated voltage not exceeding 1000 V AC or 1500 V DC. Not applicable for MODU (Mobile Offshore Drilling Units). Not applicable for fishing vessels. Final acceptance for shipboard installation remains subject to the requirements of the Classification Society responsible for the vessel and the intended application

Notes	.

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PICOSTAT 9B4 Main features
Sensor type: bellow
Measuring range: -0,6 ...3,4 to 4 ... 40 bar
Output: floating change-over contact
Switching differential: not adjustable
Repeatability: ± 0,5 % F.S. typ.
Mechanical protection: IP65
Microswitches type 33 - 42 / 84 (golden plated)

Bellow sensor (bar)	**Measuring Range**						
	-0,6 ... 3,4	0 ... 4	0 ... 6	1 ... 10	1 ... 16	2 ... 25	4 ... 40
Microswitch differential	0,2	0,2	0,2	0,6	0,4	1,0	1,2
Max. pressure	12	12	12	24	24	40	50

Technical Description:
Trafag Data Sheet: Trafag - 9B4 Picostat PST4B _ doc. n. H72367q (10/2018)
Trafag Instructions: doc. n. H73367; Trafag Drawings: C20784q, C11491f

Test Reports:
Trafag report n. V-08125 (24/10/2008); Trafag report n. V-11140 (20/06/2012)
ENL report n° 20081211.A02.01 (14/10/2008)

PICOSTAT 9M4 Main features
Sensor type: Membrane
Measuring range: 1 ...10 to 10...100 bar
Output: floating change-over contact
Switching differential: not adjustable
Repeatability: ± 2 % F.S. typ.
Mechanical protection: IP65
Microswitches type 33 - 42 (silver plated) / 84 (golden plated)

Membrane sensor (bar)	**Measuring Range**					
	1 ... 10	1 ... 16	2 ... 25	4 ... 40	6 ... 60	10 ... 100
Microswitch	0,2 ... 1,7	0,2 ... 1,7	1,2 ... 4,5	1,2 ... 4,5	4 ... 16	4 ... 16
Max. pressure	200	200	200	200	200	200

Technical Description:
Trafag Data Sheet: Trafag - 9M4 Picostat PST4M _ doc. n. H72368h (02/2017)
Trafag Drawing: C22667h

Test Reports:
Trafag report n. V-12072 (21/05/2013)

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PICOSTAT 9K4 Main features
Sensor type: Piston
Measuring range: 1 ...10 to 40...400 bar
Output: floating change-over contact
Switching differential: not adjustable
Repeatability: ± 1 % F.S. typ.
Mechanical protection: IP65
Microswitches type 33 - 42 (silver plated) / 84 (golden plated)

Piston sensor (bar)	**Measuring Range**								
	1 ... 10	1 ... 16	2 ... 25	4 ... 40	6 ... 60	10 ... 100	16 ... 160	25 ... 250	40 ... 400
Microswitch	0,4 ... 2,4	0,4 ... 2,4	1 ... 6	1 ... 6	5 ... 15	5 ... 15	12 ... 40	12 ... 40	15 ... 50
Max. pressure	100	100	100	100	200	200	400	400	600

Technical Description:
Trafag Data Sheet: Trafag - 9K4 Picostat PST4K _ doc. n. H72369h (02/2017)
Trafag Drawing: C22668i

Test Reports:
Trafag report n. V-12072 (21/05/2013)

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).*

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)).

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Notes:

1) Refer to the agreed MR Technical Requirements for additional MR TAC information that may be specifically applicable to certain products - https://www.euromr.org/technical-requirements ;
2) List of MR TACs issued by the EU ROs can be found by https://www.euromr.org/links-to-mrcertificates .
3) As per clause 9 of the Terms & Conditions for Mutual Recognition of Type Approval, the manufacturer will be required to agree that it will fulfil the obligations arising out of its quality assurance scheme as approved during production. The manufacturer certifies it has kept the accredited certification body and the EU RO that issued the MR TAC duly informed of any intended design changes or updating of the production quality assurance scheme for its consideration with regard to the validity of the MR TAC. The manufacturer will apply annually for periodical assessment by the EU RO to show that the production under the MR TAC and the quality assurance scheme are being satisfactory maintained;
4) The manufacturer should notify the RO issued the EU RO MR Certificate of any modification or changes to the equipment/ Firmware/ Operational System Software Version in order to obtain a valid Certificate.
5) MR TACs are valid for a maximum of 5 years as per clause 10 of the Terms & Conditions for Mutual Recognition of Type Approval;
6) For more information on the factors affecting the validity of MR TACs, see clause 11, 12 and 13 of the Terms & Conditions of Mutual Recognition of Type Approval.
7) For implementation of the amendments to Appendix I of Version 10.0 of the Framework Document by the EU ROs into their internal procedures and MR TAC templates, an application period of 6 months as from 1 July 2019 applies. **Applicant**

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RINA Trieste Marine October 25, 2024

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