



DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. **A-13179**

This is to certify that the
Pressure Controller

with type designation(s)
SILAS Controller type A7-3741-10/**** with pressure monitor 17-51P3-1604**

Manufactured by
BARTEC GmbH
BAD MERGENTHEIM, Germany

is found to comply with
Det Norske Veritas' Rules for Classification of Ships and High Speed and Light Craft
Det Norske Veritas' Offshore Standards

Application
Location classes:

Temperature	A
Humidity	A
Vibration	A
EMC	A
Enclosure	B

This Certificate is valid until **2017-06-30**.

Issued at **Høvik** on **2013-04-24**

DNV local station: **Essen CMC Southern Germany**

Approval Engineer: **Marthe Kristine Tautra Hoen**

for **Det Norske Veritas AS**

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Odd Magne Nesvåg
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.

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.

Product description

SILAS controller A7-3741-1**0/**** with pressure monitor 17-51P3-1604. Controller for pressurised apparatus with leakage compensation.

Type number:	A7-3741-1**0/****	
Rated Voltage:	AC 230 V, AC 115 V, DC 24 V	
Ambient temperature:	-20 °C to +80 °C	
Ex class:	Ex nA nC [pz] IIC T4 Gc	-20 °C to +60 °C
	Ex nA nC [pz] IIC T6 Gc	-20 °C to +40 °C
	Ex tc [p] IIIB T85 °C Dc	-20 °C to +60 °C
Protection class:	IP54	
Material:	Plastics, metal	

Application/Limitation

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 Ships Pt.4 Ch.9 Control and Monitoring Systems.

Product certificate

If specified in the Rules, ref. Pt.4 Ch.9 Sec.1, the control and monitoring system in which the above listed hardware is used shall be delivered with a product certificate. For each such delivery the certification test is to be performed at the manufacturer of the application system before the system is shipped to the yard. The test shall be done according to an approved test program. After the certification the clause for application software control will be put into force.

Clause for application software control

All changes in software are to be recorded as long as the system is in use on board. The records of all changes are to be forwarded to DNV for evaluation and approval. Major changes in the software are to be approved before being installed in the computer.

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

Environmental test report, test report no. 120238-01-01-B-02, Kriwan Testzentrum, dated 2012-06-20
Environmental test report, test report no. 120238-02-01-B-02, Kriwan Testzentrum, dated 2013-02-11
Electromagnetic compatibility test report, test report no. 120240-01-01-A-06, Kriwan Testzentrum, dated 2012-07-04
Electromagnetic compatibility test report, test report no. E36313-00-01HP, Mikes testing partners, dated 2012-08-28
Datashet, SILAS Controller, document no. 03-0330-0597-10/10-BCS-306764/1
IECEX Certificate of Conformity, Control system SILAS, document no. IECEX TUN 10.0030X issue 01, TÜV NORD CERT GmbH, dated 2012-09-14
Statement of Conformity: TÜV 09 ATEX 553359 for Control system SILAS, TÜV NORD CERT GmbH, dated 2009-07-14
TÜV 09 ATEX 553359 1st Supplement for Control system SILAS, TÜV NORD CERT GmbH, dated 2012-09-13
Operating instructions SILAS Controller, document no. A1-3741-7D0001, ver. 12, May 2011/ Rev. 0

Tests carried out

Applicable tests according to Standard for Certification No. 2.4, April 2006.

Marking of product

BARTEC and type designations A7-3741-1**0/**** and 17-51P3-1604.

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 at least every second year and at renewal of this certificate.

END OF CERTIFICATE