DNV·GL

Certificate No:
TAA00000B9

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Monitoring System

with type designation(s)
CSI 6500 ATG Machinery Health™ Monitor

Issued to
Emerson Process Management - epro GmbH
Gronau (Westf.), Nordrhein-Westfalen, Germany

is found to comply with
DNV GL rules for classification – Ships and offshore units

Application :

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

Location classes:

Temperature	**B**
Humidity	**B**
Vibration	**A**
EMC	**A**
Enclosure	**Required protection according to the rules shall be provided upon installation on board**

This Certificate is valid until **2018-03-16**.

Issued at **Høvik** on **2016-03-17**

for **DNV GL**

DNV GL local station: **Essen**

Approval Engineer: **Ståle Sneen**

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.

Product description

CSI 6500 ATG Machinery Health™ Monitor allows for supervision of machinery by monitoring key parameters such as vibration, position, speed, and temperatures.

CSI 6500 ATG comprises the following units:

Part No.	Name	Description
A6500-SR	System Rack	19" rack with backplane for 11 universal measurement cards / temperature process cards, 1 relay card, and 2 com cards.
A6500-CC	Com Card	Ethernet and USB communication interface.
A6500-RC	Relay Card	66 Digital Inputs, 16 Relay Outputs (SPDT).
A6500-TP	Temperature Process Card	4 measuring channels for TC, RTD, 0-1V, 0-10V, 0/4-20mA.
A6500-UM	Universal Measurement Card	2 measuring channels for dynamic values, static values, and speed.

Hardware and firmware versions at time of approval:

Part No.	Hardware	Firmware
A6500-SR	03	-
A6500-CC	04	1.0.0.xxx
A6500-RC	05	1.0.0.xxx
A6500-TP	03	1.0.0.xxx
A6500-UM	03	1.0.0.xxx

Application/Limitation

Ethernet- and sensor input cables to be shielded and grounded per manufacturer's instructions.
See operating manual A6500-SR for details.

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.

Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV GL, 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 GL rules for classification of 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 GL for evaluation and approval. Major changes in the software are to be approved before being installed in the computer.

Type Approval documentation

Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, November 2015.

Marking of product

Manufacturer:	epro GmbH
Part No.:	As listed under Product description
Hardware ver.:	As listed under Product description
Serial No.:	Unique
Power supply:	24Vdc

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