

# TYPE APPROVAL CERTIFICATE

**This is to certify:****That the Rotary encoders and angle sensors**with type designation(s)  
**Encoder POG 83**

Issued to

**Baumer Hübner GmbH**  
**Berlin, Germany**

is found to comply with

**DNV GL 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 GL.**

<b>Temperature</b>	<b>D</b>
<b>Humidity</b>	<b>B</b>
<b>Vibration</b>	<b>B</b>
<b>EMC</b>	<b>B</b>
<b>Enclosure</b>	<b>C</b>

Issued at **Hamburg** on **2020-06-22**This Certificate is valid until **2025-06-21**.for **DNV GL**DNV GL local station: **Magdeburg**Approval Engineer: **Didier Girardin**

---

**Joannis Papanuskas**  
**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 GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") 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

Rotary encoders track motor shaft movement for myriad pieces of industrial equipment and commercial devices. Rotary encoders are specified for form factor, level of ruggedness, and resolution. For incremental encoders, resolution is defined as counts per turn.

Designation <sup>1)</sup>	Type <sup>1)</sup>
Optical Incremental Encoder	POG 83 – S N 6 – 1 F D ##### / 0116

- <sup>1)</sup> **Note :**  
POG 83 Rotary encoder  
S: solid shaft  
N: flange B10 without shaft seal  
6: IP66  
1: Ø11 mm Solid shaft with feather key 4mm  
Pin, radial, Pin contact, CCW  
Flange connector M23, 12 Pin, radial, Pin contact, CCW  
Supply 24 VDC, Push-Pull (HTL) circuits, 6 channels  
Pulses per revolution: 512, 1024, 2048, 4096

## Place of Manufacture

Baumer Hübner GmbH  
Max-Dohrn-Straße 2+4  
DE-10589 Berlin

## Application/Limitation

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 by inclusion in an instrument list. Reference is made to DNV GL Rules for Ships Pt.4 Ch.9 Control and Monitoring System.

## Type Approval documentation

Reports	Version	Issue date
Test report	20-15387.01	14.04.2020
<b>Technical documentation</b>		
Manual - MB266a	20A1	20.03.2020
Datasheet		11.03.2020
Assembly drawing - 75205		20.02.2019
Dimension drawing - HM19M31808		01.11.2019
Layout - 31819-01	a	21.01.2020
Electrical Part-list - 31819-01	a	20.01.2020
Schematic diagram - 31819-01	a	02.12.2019

## Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, December 2019

## Marking of product

The products to be marked with:

- manufacturer name
- model name
- serial number
- power supply ratings

Job Id: **262.1-032537-1**  
Certificate No: **TAA00002TN**

### **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