

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Electrical Indicators

with type designation(s)
XL72, XL96, XL144, XL192, BW144, BW192, BRW-2

Issued to
DEIF A/S
Skive, Midtjylland, Denmark

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.

Location classes:

Type	Temperature	Humidity	Vibration	EMC	Enclosure
XL72, XL96, XL144, XL192	D	B	A	B	Required protection acc. to relevant rules shall be provided upon installation on board
BW144, BW192	D	B	A	B	Required protection acc. to relevant rules shall be provided upon installation on board
BRW-2	D	B	B	B	Required protection acc. to relevant rules shall be provided upon installation on board

Issued at **Hamburg** on **2018-10-02**
 This Certificate is valid until **2023-09-03**.
 DNV GL local station: **Aalborg**

for **DNV GL**

Approval Engineer: **Jan Reinecke**

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Arne Schaarmann
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.



Job Id: **262.1-029463-2**
Certificate No: **TAA00001YF**
Revision No: **1**

Product description

Dimensions: XL72 (77x77mm), XL96 (102x102mm), XL144 (148.5x148.5mm), XL192 (196x196mm)
Front mount: XL96 (127.5x127.5mm), XL144 (173x173mm), BW144 (148.5x148.5mm),
BW192 (196x196mm), BRW-2 (240x415mm)
Protection: XL Front: IP 52, IP66 with gasket, XL Terminals/rear: IP20
BW, BRW-2: IP66
Power supply: 18...31.2 VDC
Interfaces: Analog interface (voltage/current) or CAN interface

Application/Limitation

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Type Approval documentation

DNV GL No	Drawing No	Rev.	Description
14	IPA No. 0182 (BW)	050127	Report: Dry heat test
13	IPA No. 0293 (BRW-2)	2008-11-20	Report: EMC and environmental tests
12	IPA No. 220-06 (XL)	2008-08-18	Report: EMC and environmental tests
11	DANAK-1910190	2008-06-12	Report: Radiated emission test for XL 144 CAN
10	DANAK-1910397	2009-01-27	Report: Compass Safe Distance measurements of BRW-2
9	DANAK-1910191	2008-06-12	Report: Radiated emission test of XL 192 Analog
8	4921250057	U	Illuminated indicators data sheet 4921250057 UK
7	4189350023	D	Illuminated indicators CAN specification 4189350023 UK
6	4921240143	W	Illuminated indicators, anemometers, TOP 4921240143 UK
5	4921290030	G	Illuminated indicators standard scale designs 4921290030 UK

Tests carried out


Applicable tests according to class guideline DNVGL-CG-0339, November 2016 and
- IEC 60945 4th edition (2002) incl. Corr.1 (2008)
- IEC 61162-1 edition 5.0 (2016)
- IEC 61162-2 edition 1.0 (1998)

Marking of product

The products to be marked with:
- manufacturer name
- model name
- serial number
- power supply ratings

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



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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