

# TYPE APPROVAL CERTIFICATE

**This is to certify:****That the Fire Technical Ancillary Equipment**

with type designation(s)

**ABL/ABS, ABL-DM, PMB 2010, WBL/WBS, WBLR/WBSR, WBL-Ü, WBS-Ü, PMF2020, DWBL/DWBS**

Issued to

**PfannenberG GmbH  
Hamburg, 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>B</b>
<b>Humidity</b>	<b>B</b>
<b>Vibration</b>	<b>A</b>
<b>EMC</b>	<b>B</b>
<b>Enclosure</b>	<b>B</b>

Issued at **Hamburg** on **2018-05-29**This Certificate is valid until **2023-05-28**.DNV GL local station: **Hamburg**for **DNV GL**Approval Engineer: **Didier Girardin**

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**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.



## Product description

### Signal Lights

#### Type

##### **ABL/ABS, ABL-DM: Flashing alarms 15 joules**

Light intensity:	214 candela (ABL-DM: 137 candela)	
Nominal voltage	ABL	230/127/110/48/42/24V AC
	ABL-DM	110V AC
	ABS	12/24/48/60V DC
Material globe	Polycarbonate (PC)	
Housing	Aluminium (Al Mg Si 1)	
Degree of protection:	IP54	

#### Type

##### **PMB 2010: Flashing light 10 joule (three different flashing combinations)**

Light intensity:	44 candela	
Nominal voltage	230/110V AC, 24/48V DC	
Material globe	Acrylic glass, Polycarbonate (PC)	
housing/base	ABS	
Degree of protection:	IP55	

#### Type

##### **KBL, WBL/WBS, WBLR/WBSR, WBL-Ü, WBS-Ü**

Light intensity:	44 candela	
Nominal voltage	WBL, WBLR, KBL	230/110/48/42/24V AC,
	WBS, WBSR, KBL	12/24/48/60/80/110 V DC (110V DC not for KBL)
	WBS-Ü	12/24/48V DC
Material globe	Polycarbonate (PC)	
housing	Aluminium (Al Mg Si 1), for type WBLR and WBSR: Polycarbonate (PC)	
Degree of protection:	IP54 (type WBLR and WBSR IP 65)	

#### Type

##### **PMF 2020: All-Round flashing light 7 joules (three different flash patterns)**

Nominal voltage	230/110V AC, 12/24V DC	
Material globe	Polycarbonate (PC)	
housing	ABS	
Degree of protection:	IP54	

#### Type

##### **DWBL/DWBS: Warning lights 2,5 joules**

Light intensity:	7,8 candela	
Nominal voltage	DWBL	230/110/48/42/24V AC,,
	DWBS	12/24/48/60/80 V DC
Material globe	Polycarbonate (PC)	
housing	Aluminium (Al Mg Si 1),	
Degree of protection:	IP54	
Flash sequence:	1Hz = 60 flashes/min	
Duty cycle:	100%	

## Application/Limitation

The Type Approval covers hardware listed under Product description. When the hardware is used in

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Certificate No: **TAA00001R1**

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.

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 Excertificate issued by a notified/recognized Certification Body

Requirements according Resolution A.1021(26) Code on Alerts and Indicators shall be observed.

## **Type Approval documentation**

See Annex

## **Tests carried out**

Applicable tests according to class guideline DNVGL-CG-0339, November 2016

## **Marking of product**

The products to be marked with:

- model name
- manufacturer name
- serial number or production order number

## **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

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**ANNEX**

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