

# TYPE APPROVAL CERTIFICATE

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**This is to certify:**

**That the Pilot Device**

with type designation(s)  
**Pilot device**

Issued to

**BARTEC GmbH**  
**BAD MERGENTHEIM, Germany**

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

**Application :**

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

This Certificate is valid until **2016-12-31**.

Issued at **Høvik** on **2015-10-05**

DNV GL local station: **Augsburg**

Approval Engineer: **Nicolay Horn**

for **DNV GL**

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**Marit Laumann**  
**Head of Section**

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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

I Potentiometer with terminals for rail-mounted installation Type 07-3371-1\*\*\*/\*

Technical data:

Rated insulation	500V
Rated operating	AC/DC 320 V Max
Resistance:	1 k $\Omega$ to 10 k $\Omega$ .
Ex protection class:	II 2G Ex de IIC / I M2 Ex de I
Ambient Temperature:	-55 °C to +60 °C
IP protection class:	IP67 in conjunction with actuating element Type 05-0003-****/*
Enclosure material:	Thermoplastic
Certification:	PTB 05 ATEX 1064U, IECEx PTB 10.0017U

II Potentiometer with terminals for panel-mounted installation Type 07-3373-1\*\*\*/\*, 07-3373-4\*\*\*/\*

Technical data:

Rated insulation	500V
Rated operating	AC/DC 320 V Max
Resistance:	1 k $\Omega$ to 10 k $\Omega$ .
Ex protection class:	II 2G Ex d e IIC Gb / I M2 Ex d e I Mb
Ambient Temperature:	-55 °C to +60 °C
IP protection class:	IP67 in conjunction with actuating element Type 05-0003-****/*
Enclosure material:	Thermoplastic
Certification:	PTB 05 ATEX 1064U, IECEx PTB 10.0017U

III Potentiometer with cable for installation on panel (front installation) Type 07-3373-3\*\*\*/\*

Technical data:

Rated insulation	500V / 400 V (standard version)
Rated operating	AC/DC 320 V Max
Resistance:	1 k $\Omega$ to 10 k $\Omega$ .
Ex protection class:	II 2G Ex d IIC T6 Gb
Ambient Temperature:	-55 °C to +60 °C
IP protection class:	IP67 in conjunction with actuating element Type 05-0003-****/*
Enclosure material:	Thermoplastic
Certification:	PTB 05 ATEX 1065 X , IECEx PTB 11.0053 X

IV Potentiometer for installation on panel (front installation) with cover for connection cable Type 07-3373-5\*\*\*/\*

Technical data:

Rated insulation	500V / 400 V (standard version)
Rated operating	AC/DC 320 V Max
Resistance:	1 k $\Omega$ to 10 k $\Omega$ .
Ex protection class:	II 2G Ex d IIC T6 Gb
Ambient Temperature:	-55 °C to +60 °C
IP protection class:	IP66 in conjunction with actuating element Type 05-0003-****/*
Enclosure material:	Thermoplastic
Certification:	PTB 11 ATEX 1010 X , IECEx PTB 11.0025 X

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V Actuating elements Type 05-0003-00\*\*/\*\*\*\*

Technical data:

Ex protection class:	Ex II 2G Ex e II, Ex II 2D Ex td A21 IP65, IP66, IP67, T80 °C
Ambient Temperature:	-55 °C to +70 °C (Zone 1), -20 °C to +70 °C (Zone 21)
IP protection class:	Up to IP67
Material:	Enclosure: Thermoplastic
	Sealing: EPDM, NRB for increased resistance to oil.
Certification:	IECEX CLM 14.0005U, CLM 13 ATEX 3010 U, PTB 00 ATEX 3114 U
Description of elements:	Position selector switch, Double pushbutton actuator, Pushbutton, Mushroom pushbutton, Emergency Stop, Locking mushroom pushbutton, Lock (DOM), Lock (RONIS), Position, Selector switch (BS), Position selector switch, Key switch, Lamp Illuminated button actuator, Potentiometer Actuator, Blanking plug.

VI Comex Control stations Type 07-351\*\_\*\*\*\*\*/\*\*\*\*/\*\*\*\*

Technical data:

Rated insulation	Max 600 / 690 V*
Rated Current:	Max 16 A
PE conductor	4 x 2.5 mm <sup>2</sup>
Ex protection class:	II 2G Ex ed IIC T6, II 2D Ex tD A21 IP65, IP66, IP67, T80 °C
Ambient Temperature:	-55 °C to +60 °C (-20 °C to +60 °C for zones 21 and 22)
IP protection class:	Up to IP66 / IP67
Enclosure material:	Thermoplastic
Certification:	CLM 14 ATEX 3073X / PTB 00 ATEX 1068 / IECEX CLM 14.0029X

\* See application limitation

VII Control stations Type 07-31\*\*\_\*\*\*\*\*/\*\*\*\*, 07-3S\*\*\_\*\*\*\*\*/\*\*\*\*

Technical data:

Rated insulation	Max 1000 V*
Rated Current:	Max 160 A (Gas) max. 125 A (Dust)
Type of connections:	Terminals 2.5 mm <sup>2</sup>
Conductor area:	Max. 125 mm <sup>2</sup>
Ex protection class:	II 2G Ex de ia/ib [ia/ib] mb q IIA, IIB, IIC, T6, T5, T4 Ex tD [iaD/ibD] A21 IP65, T80 °C, T95 °C, T130 °C
Ambient	-55 °C to +80 °C (-20 °C to +60 °C for zones 21 and 22)
IP protection class:	Up to IP66 / IP67
Enclosure material:	Thermoplastic
Certification:	PTB 02 ATEX 1159 / IECEX PTB 10.0043

\* See application limitation

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VIII Illuminated button with terminals for panel-mounted installation Type 07-3361-1\*\*\*/\*\*\*\*

Technical data:

Rated insulation	300V		
Rated operating voltage:	AC 12 V to 250 V ( $T_a \leq +50\text{ °C}$ )		
	DC 12 V to 60 V ( $T_a \leq +50\text{ °C}$ )		
	AC/DC 12 V to 24 V ( $T_a \leq +60\text{ °C}$ )		
Lamp:	LED: red, green, yellow, white, blue		
Ex protection class:	II 2G Ex d e IIC Gb / I M2 Ex d e I Mb II 2 G Ex d e ia IIC Gb / I M2 Ex d e ia I Mb		
Ambient Temperature:	-55 °C to +50 °C (+60 °C AC/DC 12 to 24 V)		
Contact Element:	Rated Voltage	Utilisation category	Rated operating current
	230 V	AC-15	1 A
	24 V	DC-13	0.25 A
IP protection class:	IP67 in conjunction with actuating element Type 05-0003-****/****,		
Enclosure material:	Thermoplastic		
Certification:	PTB 97 ATEX 1064 U, IECEx PTB 10.0014 U		

IX Illuminated button with terminals for panel-mounted installation Type 07-3363-1\*\*\*/\*\*\*\*, Type 07-3363-4\*\*\*/\*\*\*\*

Technical data:

Rated insulation	300V		
Rated operating voltage:	AC 12 V to 250 V ( $T_a \leq +50\text{ °C}$ )		
	DC 12 V to 60 V ( $T_a \leq +50\text{ °C}$ )		
	AC/DC 12 V to 24 V ( $T_a \leq +60\text{ °C}$ )		
Lamp:	LED: red, green, yellow, white, blue		
Ex protection class:	II 2G Ex d e IIC Gb / I M2 Ex d e I Mb II 2 G Ex d e ia IIC Gb / I M2 Ex d e ia I Mb		
Ambient Temperature:	-55 °C to +50 °C (+60 °C AC/DC 12 to 24 V)		
Contact Element:	Rated Voltage	Utilisation category	Rated operating current
	230 V	AC-15	1 A
	24 V	DC-13	0.25 A
IP protection class:	IP67 in conjunction with actuating element Type 05-0003-****/****,		
Enclosure material:	Thermoplastic		
Certification:	PTB 97 ATEX 1064 U, IECEx PTB 10.0014 U		

X Illuminated button with cable for installation on panel (front installation) Type 07-3363-3\*\*\*/\*\*\*\* 1)

Technical data:

Rated insulation	300V		
Rated operating voltage:	AC 12 V to 250 V ( $T_a \leq +50\text{ °C}$ )		
	DC 12 V to 60 V ( $T_a \leq +50\text{ °C}$ )		
	AC/DC 12 V to 24 V ( $T_a \leq +60\text{ °C}$ )		
Lamp:	LED: red, green, yellow, white, blue		
Ex protection class:	Ex II 2G Ex d IIC T6		
Ambient Temperature:	-55 °C to +50 °C (+60 °C AC/DC 12 to 24 V)		
Contact Element:	Rated Voltage	Utilisation category	Rated operating current
	230 V	AC-15	1 A
	24 V	DC-13	0.25 A
IP protection class:	IP67 in conjunction with actuating element		
Enclosure material:	Thermoplastic		
Certification:	PTB 97 ATEX 1065 X		

1) See Application /limitation

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XI Illuminated button for installation on panel (front installation) with cover for connection cable Type 07-3363-5\*\*\*/\*\*\*\*

Technical data:

Rated insulation	300V		
Rated operating	AC 12V to 250V, DC 12V to 60V, AC/DC 12V to 24 V		
Lamp:	LED, red, green, yellow, white, blue.		
Ex protection class:	II 2G Ex d e IIC T6 Gb, II 2 D Ex tb IIIC T80°C Db IP66		
Ambient Temperature:	-55 °C to +50 °C (-55 °C on request), +60 °C (AC/DC 12V to 24V)		
Contact Element:	Rated Voltage	Utilisation category	Rated operating current
	230 V	AC-15	1 A
	24 V	DC-13	0.25 A
IP protection class:	IP66 in conjunction with actuating element Type 05-0003-****/****		
Enclosure material:	Thermoplastic		
Certification:	PTB 11 ATEX 1010 X, IECEx PTB 11.0025X		

For details: See manufacturer datasheet.

## Application / Limitation

The Ex class shown can only be regarded as information and can not replace the requirement for Ex certificate case by case.

With Uimp=6kV the max. rated voltage is 600 V when used in IT (ship) net. It can be used in applications with directly earthed systems with rated voltage of 400/690 V.

Modules delivered with cables above 3 meters must be certified / reviewed case by case.

## Type Approval documentation

Technical Info:

BARTEC datasheets 03-0330-0431/A-07/10-BCS-240844, 03-0330-0431/A-07/10-BCS-240845, 03-0330-0431/A-07/10-BCS-240908, 03-0330-0191/A-10/2014-BCS-200865/1, ../2, ../3, ../4, ../5 & ../6, , 03-0330-0189/A-10/2014-BCS-200863/1, & ../2, 03-0330-0295/A-07/10-BCS-217100, 03-0330-0192 /A-07/10-BCS-200856, 03-0330-0296/A-07/10-BCS-217101, 03-0330-0828-10/2014-BCS-374342/1 & /2 , 03-0330-0826-10/2014-BCS-374340/1 & /2, 03-0330-0829-10/2014-BCS-374343/1 & /2.

Test reports /certificates:


PTB EC-Type Eximination Certificate nos. PTB 97 ATEX 1064 U, PTB 97 ATEX 1064 X, PTB 05 ATEX 1064 U, PTB 05 ATEX 1065 X, CML 13 ATEX 3010 U, CML 14 ATEX 3073 X, IECEx PTB 10.0017 U, IECEx PTB 10.0014 U, PTB 02 ATEX 1159 / IECEx PTB 10.0043, PTB 11 ATEX 1010 X, IECEx PTB 11.0025X, IECEx CML 14.0005 U, IECEx CML 14.0029 X, KRIWAN Report no. 110592\_01\_B.

## Tests carried out

Type tests in accordance with EN 50014, EN 50018, EN 50019, IEC 60079-0, IEC 60079-1, IEC 60079-7 & IEC 60079-11. Shock test in accordance with IEC 60068-2-27.

## Marking of product

BARTEC - Type designation - Ratings (if applicable)



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## **Periodical assessment**

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval is complied with and that no alterations are made to the product design or choice of materials.

The main elements of the survey are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Production Sample Tests (PST) and Routines (RT) checked (if not available tests according to PST and RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Assessment to be performed at least every second year.

END OF CERTIFICATE