



# TYPE APPROVAL CERTIFICATE

Certificate No:  
**TAE000018K**  
Revision No:  
**2**

## This is to certify:

### That the Contactor

with type designation(s)  
**ESB...**

Issued to

**ABB Stotz-Kontakt GmbH**  
**Heidelberg, Baden-Württemberg, Germany**

is found to comply with

**DNV 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.**

**Rated voltage (V) 400**  
**Rated current (A) 9 - 30 (400 V/ AC3)**  
**Frequency (Hz) DC, 50 - 60**

Issued at **Hamburg** on **2022-07-27**

for **DNV**

This Certificate is valid until **2027-07-26**.

DNV local station: **Augsburg**

Approval Engineer: **Thomas Hartmann**

.....  
**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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") 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

Contactor type: ESB16...N, ESB20...N, ESB25...N, ESB40...N, ESB63...N, ESB100...N  
 ESB24..., ESB40..., ESB63

#### Ratings main contacts ESB...N:

Contactor type		ESB16...N	ESB20...N	ESB25...N	ESB40...N	ESB63...N	ESB100...N
Insulation voltage $U_i$		400 V			500 V		
Operational voltage $U_e$		220 V DC 250 V AC			220 V DC 400 V AC		
Frequency		DC, 50/60 HZ					
Operational current $I_e$ AC-1/AC-7a		16 A	20 A	25 A	40 A	63 A	100 A
Operational power AC-1	230 V – 1 ph	3,7 kW	4,6 kW	5,8 kW	9,2 kW	14,5 kW	23 kW
	400 V – 3 ph	--	--	17,3 kW	27,7 kW	43,6 kW	69,3 kW
Opera. current $I_e$ AC-3/AC-7b	230 V – 1 ph	6 A	9 A	9 A	22 A	30 A	--
	400 V – 3 ph	--	--	9 A	22 A	30 A	--
Operational power AC-3	230 V – 1 ph	0,9 kW	1,3 kW	1,3 kW	3,7 kW	5 kW	--
	400 V – 3 ph	--	--	4 kW	11 kW	15 kW	--

#### Ratings main contacts ESB...:

Contactor type		ESB24...	ESB40...	ESB63...
Insulation voltage $U_i$		500 V		
Operational voltage $U_e$		220 V DC 400 V AC		
Frequency		DC, 50/60 HZ		
Operational current $I_e$ AC-1/AC-7a		24 A	40 A	63 A
Operational power AC-1	230 V – 1 ph	5,3 kW	8,8 kW	13,8 kW
	400 V – 3 ph	16 kW	26 kW	41 kW
Opera. current $I_e$ AC-3/AC-7b	230 V – 1 ph	9 A	22 A	30 A
	400 V – 3 ph	9 A	22 A	30 A
Operational power AC-3	230 V – 1 ph	2,2 kW	5,5 kW	8 kW
	400 V – 3 ph	4 kW	11 kW	15 kW

#### Auxiliary contacts (type EH 04N + EH04):

- Conventional free air current  $I_{th}$ : 6 A
- rated operational voltage  $U_e$ : up to 500 V AC

#### Coil systems:

- Rated control voltage  $U_c$ : 8 V AC/DC up to 415 V AC/DC
- Type of coil: DC, with a built-in rectifier.

Further ratings acc. manufacturer documentation. The contactor can be used in conjunction with programmable logic controller. Operating instruction of the manufacturer to be observed.

## Application/Limitation

Temperature class: D (-25 to 70°C)  
Humidity class: A (up to 96% humidity)  
Vibration class: A (5-100 Hz)

If several contactors are mounted adjacently in a switchboard, a distance piece EBS DIS must be attached to every third contactor in the row.

## Type Approval documentation

Rev:1

Design drawings:

EH04-11N complete ghe3401383\_02; EH04-20N complete ghe3401383\_01; ESB\_N all SPI ghe3206655; ESB 100\_20N\_complete\_ghe 390110 I ; ESB 100\_20N\_dimension\_ghe 390040 I ; ESB100\_40N\_cover ghe3901107 ; ESB 100\_40N\_dimension\_ghe 3900402 ; ESB100N\_housing\_ghe3901310\_drw; ESB 16\_20N\_assembly 1 SBB53032 I D300 I ; ESB 16\_20N\_coil\_I SBB530320D300 I ; ESB 16\_20N\_dimension\_I SBBS0S I 86D300 I ; ESB16\_20N\_yoke\_I sbb530309d4001; ESB20\_PCB\_1SBB530292D3001\_B; ESB20\_PCB\_schematic\_I SBB530292D4201-A ; ESB25N carrier complete ghe3201153; ESB25N coil complete ghe3201501; ESB25N complete ghe3201151; ESB25N cover ghe3206652; ESB25N Dimension ghe3200453; ESB40\_63N cover ghe3406652; ESB40N carrier complete ghe3401156; ESB40N coil complete ghe3401501; ESB40N complete ghe3401151; ESB63N carrier complete ghe3601156; ESB63N coil complete ghe3601501; ESB63N complete ghe3601151;

IEC Test Reports:

CB\_EH04N\_00901-CB2017CQCC-075166; CB\_ESB100N\_IEC6094 7 00901-CB2017CQC-078400; CB\_ESB 100N\_IEC9 I 095\_0090 I -CB20 I 7CQC-078399 ; CB\_ESB16\_20N\_IEC6094 7 00901-CB2017CQC-078402 ; CB\_ESB 16 20N\_IEC6 I 095\_0090 I -CB20 I 7CQC-07840 I ; CB\_ESB25N\_IEC6094 7 00901-CB2017CQC-075164\_update ; CB\_ESB25N\_IEC6 I 095\_0090 I -CB20 I 7CQC-075 I 62 ; CB\_ESB40N\_63N\_IEC6094 7 00901-CB2017CQC-075163\_update ; CB\_ESB40N\_63N\_IEC6 I 095\_0090 I -CB20 I 7CQC-075 I 6 I

Environmental Test Reports:

Dielectric\_after Environmental\_D2018014 ; EMC\_ESB20\_3808-320; Glowwire\_EH04-N\_GW2016003; Glowwire\_ESB20-N\_GW2017003; Glowwire\_ESB25\_40\_63\_100-N\_GW2016002; Over\_Under\_Voltage\_O\_U2018012; PaConsult\_IS- 10034-BE-ESB 100 MS 132; Power supply variation tests\_O\_U2018011; Surge\_ESB25\_40\_63\_100-N\_D2017005

Certificates:

2CDC103043M6801c\_Installation\_Instruction; 2CDC103051C0201\_en\_E\_catalog\_installation\_contactors ; Datasheet\_Housing\_EH04-N\_Latamid 6 H2 G\_20-V2HF.pdf; Datasheet\_Housing\_ESB20-N\_TechnyI C 52GI V20; Datasheet\_Housing\_ESB25 40 63\_100-N\_Ultramid B3UGM2 I 0

Test Specification:

BMP\_Testspec\_V2-3\_05\_06\_2018

Rev:2

CB Test Certificate CN42954; CB Test Certificate CN 48614; CB Test Certificate CN48615; CB Test Certificate CN42953; Extr\_Database\_EndTest\_ESB; Fotos Label ESB (TAE000018K; ESB-EN\_Installation\_instruction; I\_catalog\_installation\_contactors; PaConsult Test report; EU Declaration of Conformity 1SAD938506-0302

## Tests carried out

Type tests according to IEC 60947-4-1 Sequence I, II, III, IV and V. Power supply variations, Inclination test, Vibration test, Insulation resistance test, Damp heat test, Dry heat test, Low temperature test and high voltage test.

## Marking of product

ABB Stotz-Kontakt GmbH – Type designation – Rated voltage – Breaking capacity.

## Periodical assessment

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

The main elements of the assessment are:



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- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine Tests (RT) checked (if not available tests according to 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.

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