

Translation

EU-Type Examination Certificate Supplement 1

Change to Directive 2014/34/EU

2 Equipment intended for use in potentially explosive atmospheres
Directive 2014/34/EU

3 EU-Type Examination Certificate Number: **BVS 15 ATEX E 075 X**

4 Product: **Flameproof electric motors type 3KTC 180-225
3KTCR 180-225-**, 3KTCP 180-225 and 4KTC 250-315,
4KTCR 250-315-**, 4KTCP 250-315**

5 Manufacturer: **BARTEC VARNOST, d.o.o.**

6 Address: **Cesta 9. avgusta 59, 1410 Zagorje ob Savi, Slovenia**

7 This supplementary certificate extends EC-Type Examination Certificate No. BVS 15 ATEX E 075 X to apply to products designed and constructed in accordance with the specification set out in the appendix of the said certificate but having any acceptable variations specified in the appendix to this certificate and the documents referred to therein.

8 DEKRA EXAM GmbH, Notified Body number 0158, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential Report No. BVS PP 15.2162 EU.

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:


| | |
|----------------------------|---------------------------------|
| EN IEC 60079-0:2018 | General requirements |
| EN 60079-1:2014 | Flameproof enclosure "d" |
| EN 60079-7:2015 | Increased Safety "e" |

Except in respect of those requirements listed under item 18 of the appendix.

10 If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Special Conditions for Use specified in the appendix to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of the product shall include the following:

| | | | | |
|---|------------------------------|----|---------------------------------|----|
|  | II 2G Ex db IIC T* Gb | or | II 2G Ex db eb IIC T* Gb | or |
| | II 2G Ex db IIB T* Gb | or | II 2G Ex db eb IIB T* Gb | or |
| | I M2 Ex db I Mb | or | I M2 Ex db eb I Mb | |

*) see parameters

DEKRA Testing and Certification GmbH
Bochum, 2019-07-03

Signed: Jörg-Timm Kilisch

Managing Director

13 **Appendix**

14 **EU-Type Examination Certificate**

**BVS 15 ATEX E 075 X
Supplement 1**

15 **Product description**

15.1 **Subject and type**

Flameproof electric motors type 3KTC 180-225, 3KTCR 180-225, 3KTCP 180-225 and 4KTC 250-315, 4KTCR 250-315, 4KTCP 250-315

Type designation to *1)KT*2)*3) *4)*4)*4) *5)*5) *6)/*6) _ *7)*7)

- 1): Motor generation
 - 3: Third generation
 - 4: Fourth generation
- 2): Explosion Group
 - B: Flameproof enclosure for Group IIB
 - C: Flameproof enclosure for Group IIC
- 3): Enclosure variant
 - R: Mining motor with standard housing
 - P: Mining motor with screened housing
- 4): Frame size

| | |
|-----|--------|
| 180 | 180 mm |
| 200 | 200 mm |
| 225 | 225 mm |
| 250 | 250 mm |
| 280 | 280 mm |
| 315 | 315 mm |
- 5): Length of stator assembly
- 6): Quantity of poles
- 7): Swan neck execution

15.2 **Description**

With this supplement the certificate is changed to Directive 2014/34/EU.
(Annotation: In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Supplementary Certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016.)

Reasons for the supplement:

- Change to the new Directive 2014/34/EU
- Update to the current standards
- Version with extended connecting tube between connection box and motor (swan neck execution)

15.3.1.2 Electrical parameters (voltage-source converter)

| | | |
|---|----------------------------|-----|
| Maximum permitted input voltage | Rated voltage of the motor | V |
| Minimum switching frequency | 1.2 | kHz |
| Current limiting value | $1.5 \times I_N$ | |
| Maximum overload time / Time for operation below minimum frequency ² | 60 | s |
| Output frequency | up to 87 | Hz |

² The maximum overload time and the permitted time for operation below the minimum output frequency are in relation with a period of 10 minutes.

15.3.1.3 Monitoring circuit

| | |
|--|---|
| Temperature sensors (ptc thermistors) | According to the specifications given in the certificate of the trigger unit and the electrical design. |
| Circuits of the resistance thermometer (Pt100) | According to the specifications given in the certificate of the trigger unit and the electrical design. |

15.3.2 Thermal ratings

| Permitted ambient temperature range | | | |
|-------------------------------------|---|---|---|
| Motor type | Group II Ex db | Group II Ex db eb | Group I Ex db / Ex db eb |
| 3KTC180 - 225 | $-50\text{ °C} \leq T_a \leq +60\text{ °C}$ | $-20\text{ °C} \leq T_a \leq +60\text{ °C}$ | $-20\text{ °C} \leq T_a \leq +40\text{ °C}$ |
| 4KTC250 - 315 | | | |
| 3KTCR180 - 225 | | | |
| 4KTCR250 - 315 | | | |
| 3KTCP180 - 225 | | | |
| 4KTCP250 - 315 | | | |

The electrical data, the temperature class, the surface temperature and the ambient temperature range of the respective version is determined by a routine test carried out by the manufacturer.

16 Report Number

BVS PP 15.2162 EU, as of 2019-07-03

17 Special Conditions for Use

- 17.1 The lengths of the flameproof joints are in parts longer and the gaps of the flameproof joints are in parts smaller than the values of table 2 and 3 of EN 60079-1:2014. For information of the dimensions of the flameproof joints contact the manufacturer.
- 17.2 Fasteners with a minimum yield stress of 640 N/mm² must be used for the closing of the flameproof enclosure.
- 17.3 Motors which have to be equipped with a direct temperature control must be monitored by a separate certified trigger unit.
- 17.4 Before setting-up operation it has to be ensured that no inadmissible over voltage caused by converter supply may occur at the terminals of the motor.

Clearances and creepage distances inside the terminal box do not permit an overvoltage cause by the converter which increase:

- $3.1 \times U_N$ for rated voltages $\leq 600\text{ V}$
- $2.04 \times U_N$ for rated voltages $> 600\text{ V}$ and $\leq 1100\text{ V}$

The insulating system of the motor may require an additional limitation of a periodic over voltage.

18 **Essential Health and Safety Requirements**

The Essential Health and Safety Requirements are covered by the standards listed under item 9. For this product the standard EN IEC 60079-0:2018 is equivalent to the harmonized standard EN 60079-0:2012 + A11:2013 in terms of safety.

19 **Drawings and Documents**

Drawings and documents are listed in the confidential report.

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

DEKRA Testing and Certification GmbH
Bochum, 2019-07-03
BVS-Wlo/Mu A 20180372



Managing Director