

Translation

(1) EC-Type Examination Certificate

- (2) Equipment and protective systems intended for use in potentially explosive atmospheres – Directive 94/9/EC
- (3) No. of EC-Type Examination Certificate: **BVS 14 ATEX F 002**
- (4) Equipment: **Thermal overload relay type TF140DU-***
- (5) Manufacturer: **ABB STOTZ-KONTAKT GmbH**
- (6) Address: **Eppelheimer Straße 82, 69123 Heidelberg, Germany**
- (7) The design and construction of this equipment and any acceptable variation thereto are specified in the appendix to this type examination certificate.
- (8) The certification body of DEKRA EXAM GmbH, notified body no. 0158 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament and the Council of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive. The examination and test results are recorded in the Test and Assessment Report BVS PP 14.2117 EG.

- (9) The Essential Health and Safety Requirements are assured by compliance with:

EN 60079-0: 2012	Explosive atmospheres – Part 0: Equipment, General requirements
EN 60079-1: 2007	Explosive atmospheres – Part 1: Equipment protection by flameproof enclosure ‘d’
EN 60079-7: 2007	Explosive atmospheres – Part 7: Equipment protection by increased safety ‘e’
EN 60079-31: 2009	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure ‘t’
EN 60079-14: 2008	Explosive atmospheres – Part 14: Electrical installations – design, selection and erection
EN 60947-1: 2007	Low-voltage switchgear and control gear – Part 1: General rules
EN 60947-4-1: 2010	Low-voltage switchgear and control gear – Part 4-1: Contactors and motor starters
EN 60947-5-1: 2004	Low-voltage switchgear and control gear – Part 5-1: Control circuit devices and switching elements

- (10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the appendix to this certificate.
- (11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.
- (12) The marking of the equipment shall include the following:



DEKRA EXAM GmbH
Bochum, 2014-07-09

Signed: Dr. Eickhoff

Signed: Dr. Wittler

Certification body

Special services unit

- (13) Appendix to
- (14) **EC-Type Examination Certificate**
BVS 14 ATEX F 002
- (15) 15.1 Subject and type

Thermal overload relay type TF140DU-*

15.2 Description

A thermal overload relay (bi-metallic overload relay) has been installed, which has a delaying effect and a phase failure protection, so that the switches of the safety device (protective device for indirect temperature control) can be used to protect motors in order to avoid non-permitted temperatures. The thermal overload relays are three-pole relays with bi-metallic triggers. The motor current flows through the bi-metallic triggers and heats them up – both directly and indirectly. In case of an overload, the bi-metallic elements are bent due to the temperature increase and then, with a thermal delay, release auxiliary contacts further on in the circuit. The thermal relays are short-circuit resistant, sensitive to phase failure and provided with a setting scale in amps which allows to define the present nominal current of the motor with certain limits.

The type series TF140DU-* consists of 4 modules which differ in their current setting ranges, reaching from 90 A to 142 A. The individual types of each module are of identical electrical and mechanical construction. In the full labelling, the asterisk (*) will be replaced by the maximum rated operating current which can be set and which stands for the following values:

Type	Order number	Current setting range
TF140DU-90	1SAZ431201R1001	66 – 90
TF140DU-110	1SAZ431201R1002	80 – 110
TF140DU-135	1SAZ431201R1003	100 – 135
TF140DU-142	1SAZ431201R1004	110 – 142

15.3 Parameters

Electrical parameters

Number of poles: 3
 Number of aux. contacts break contact: 1
 Number of aux. contacts make contact: 1
 Rated insulating voltage (U_i): 690 V
 Rated operating voltage (U_e): main circuit 690 V AC
 aux. circuit 500 V AC / 440 V DC
 Rated operating current (I_e): depends on type of series TF140DU-*, 66 A...110A

For each module of the respective current setting range there is an own curve in place that shows the release time in relation to x-time the nominal current (two-poles or three-poles) in compliance with the requirements of explosion protection.

Current type: AC, DC
 Rated surge voltage strength: main circuit 8 kV
 aux. circuit 6 kV
 Release class: 10

The release class of all modules is identical.

Other parameters

Contamination class: 3
 Degrees of protection: IP20
 Terminals: screw-type terminals
 Ambient temperature range: -25 °C...+55 °C

The ambient temperature range of all modules and variants is identical. Contrary to 60947-4-1 the ambient temperature range has been extended.

(16) Test and Assessment Report

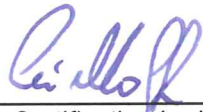
BVS PP 14.2117 EG as of 2014-07-09

(17) Special conditions for safe use

None

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 EXAM GmbH
44809 Bochum, 2014-07-09
BVS-Alt/Ma A 20140421

A handwritten signature in blue ink, appearing to read "C. Hoff", is written above a horizontal line.

Certification body

A handwritten signature in blue ink, appearing to read "V. Hoff", is written above a horizontal line.

Special services unit

Translation

(1) 1st Supplement to the EC-Type Examination Certificate

- (2) Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC Supplement accordant with Annex III number 6
- (3) No. of EC-Type Examination Certificate: **BVS 14 ATEX F 002**
- (4) Equipment: **Thermal overload relay type TF140DU-***
- (5) Manufacturer: **ABB STOTZ-KONTAKT GmbH**
- (6) Address: **Eppelheimer Straße 82, 69123 Heidelberg, Germany**
- (7) The design and construction of this equipment and any acceptable variation thereto are specified in the appendix to this supplement.
- (8) The certification body of DEKRA EXAM GmbH, notified body no. 0158 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament and the Council of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive. The examination and test results are recorded in the Test and Assessment Report BVS PP 14.2117 EG.
- (9) The Essential Health and Safety Requirements are assured by compliance with:
- | | |
|---------------------------|--|
| EN 60079-0: 2012 | Equipment, General requirements |
| EN 60079-1: 2007 | Equipment protection by flameproof enclosure 'd' |
| EN 60079-7: 2007 | Equipment protection by increased safety 'e' |
| EN 60079-31: 2009 | Equipment dust ignition protection by enclosure 't' |
| EN 60079-14: 2008 | Electrical installations – design, selection and erection |
| EN 60947-1: 2007 | General rules |
| EN 60947-4-1: 2010 | Contactors and motor starters |
| EN 60947-5-1: 2004 | Control circuit devices and switching elements |
- (10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the appendix to this certificate.
- (11) This supplement to the EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.
- (12) The marking of the equipment shall include the following:

 **Ex II (2) GD**

DEKRA EXAM GmbH
Bochum, dated 2015-02-03

Signed:

Certification body

Signed:

Special services unit

- (13) Appendix to
- (14) **1st Supplement to the EC-Type Examination Certificate
BVS 14 ATEX F 002**
- (15) 15.1 Subject and type

Thermal overload relay type TF140DU-*

15.2 Description and type code

The ATEX devices receive a new type code with a new order number. The devices can be modified according to the descriptive documents as mentioned in the pertinent Test and Assessment Report and receives then the description:

Type	Order number	Current setting range [A]
TF140DU-90-V1000	1SAZ431301R1001	66 – 90
TF140DU-110-V1000	1SAZ431301R1002	80 – 110
TF140DU-135-V1000	1SAZ431301R1003	100 – 135
TF140DU-142-V1000	1SAZ431301R1004	110 – 142

15.3 Parameters

Unchanged

- (16) Test and Assessment Report
BVS PP 14.2117 EG as of 2015-03-02

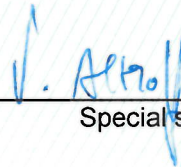
- (17) Special conditions for safe use
Unchanged

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 EXAM GmbH
44809 Bochum, 2015-02-03
BVS-Alh/Mu A 20150109



Certification body



Special services unit