User's Manual

Disconnector unit

SR852

Manual SR852.x.x, Rev. 4

Gönnheimer Elektronic GmbH
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Zertifiziertes Qualitäts-Managemantsystem nach DIN EN ISO 9001
Zert. Reg. Nr. Q1 0297038
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Content

The symbols WARNING, CAUTION, NOTE

 **Warning**	This symbol warns of a serious hazard. Failure to observe this warning may result in death or the destruction of property.
 **Caution**	This symbol warns of a possible failure. Failure to observe this caution may result in the total failure of the device or the system or plant to which it is connected.
 **Note**	This symbol highlights important information.

Safety Measures: to read and to comply

 **Warning**	Warning! Extreme caution is advised when handling this device. High electrical discharge is possible and can be fatal. Work on electrical installations and apparatus in operation is generally forbidden in hazardous locations, with the exception of intrinsically safe circuits. In special cases work can be done on non-intrinsically safe circuits, on the condition that during the duration of such work no explosive atmosphere exists. Only explosion protected certified measuring instruments may be used to ensure that the apparatus is voltage-free. Grounding and short-circuiting may only be carried out, if there is no explosion hazard at the grounding or short circuit connection.

Operation instruction for Explosion protected device

Application and Standards

This instruction manual applies to explosion-protected devices of types below. This apparatus is only to be used as defined and meets requirements of EN 60079 particularly EN 60079-14 "electrical apparatus for potentiality explosive atmospheres".

Use this manual in hazardous locations, which are hazardous due to gases and vapours according to the explosion group and temperature class as stipulated on the type label. When installing and operating the explosion protected distribution and control panels you should observe the respective nationally valid regulations and requirements.

General Instructions

Work on electrical installations and apparatus in operation is generally forbidden in hazardous locations, with the exception of intrinsically safe circuits. In special cases work can be done on non-intrinsically safe circuits, on the condition that during the duration of such work no explosive atmosphere exists.

Only explosion protected certified measuring instruments may be used to ensure that the apparatus is voltage-free. Grounding and short-circuiting may only be carried out, if there is no explosion hazard at the grounding or short circuit connection.

To achieve an impeccable and safety device operation, please take care for adept transportation, storage and mounting, as well as accurate service and maintenance. Operation of this device should only be implemented by authorised persons and in strict accordance with local safety standards.

The electrical data on the type label and if applicable, the "special conditions" of the test certificates BVS 17 ATEX E 016X and IECEx BVS 17.0006X are to be observed.

For outdoor installation it is recommended to protect the explosion protected distribution and control panel against direct climatic influence, e.g. with a protective roof. The maximum ambient temperature is 40°C, if not stipulated otherwise.

The SR852 must not be used in areas affected by charge-producing processes, mechanical friction and separation processes, electron emission (e.g. in the vicinity of electrostatic coating equipment), and pneumatically conveyed dust.

Terminal compartment in Increased Safety

When closing, it is to be ensured that the gaskets of the terminal compartment remain effective, thus maintaining degree of protection IP 65. Close unused entries by impact-proof stopping plugs, which are secured against self-loosening and turning.

Do not open the device in Ex area, as long the device is energized.

Inside area with explosive dust do clean the inner of the housing of the dust before closing the housing.

Maintenance Work

The gaskets of Ex e enclosures are to be checked for damages and replaced, if required. Terminals, especially in the Ex e chamber are to be tightened. Possible changes in colour point to increased temperature. Cable glands, stopping plugs and flanges are to be tested for tightness and secure fitting.

Intrinsically Safe Circuits

Erection instructions in the testing certificates of intrinsically safe apparatus are to be observed. The electrical safety values stipulated on the type label must not be exceeded in the intrinsically safe circuit. When interconnecting intrinsically safe circuits it is to be tested, whether a voltage and/or current addition occurs. The intrinsic safety of interconnected circuits is to be ensured. (EN 60079-14, section 12)

1 Device description

The disconnector unit SR852 is designed to separate non intrinsically safe interconnections direct in hazardous area in combination with a purging system.

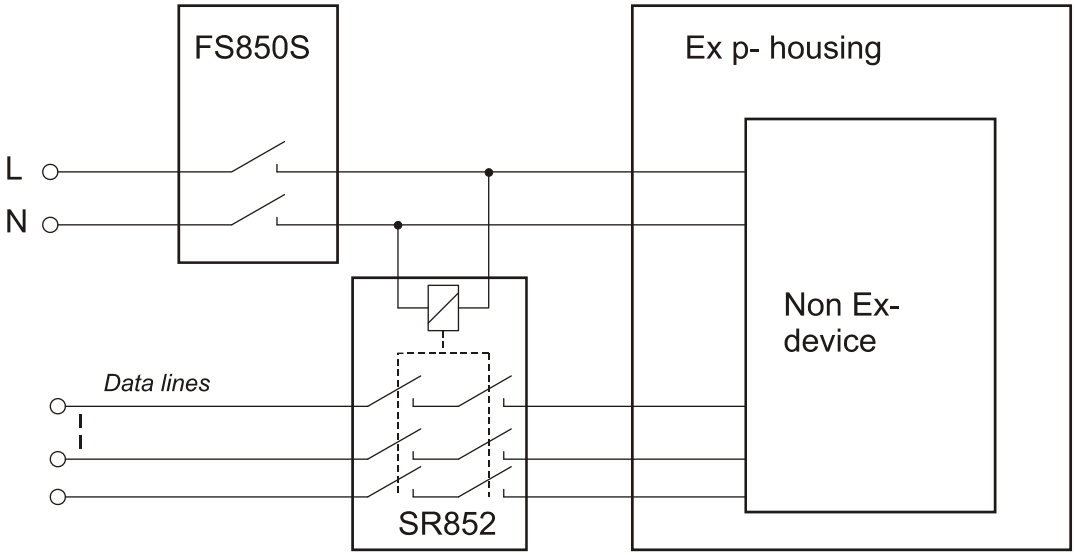


Figure 1: Powering off scheme

1.1 Conformity with standards

The explosion proof indicators type SR852 meets requirements of listed standards in the attachment (Declaration of conformity). They were developed, manufactured and tested in accordance with state-of-the-art engineering practice and ISO9001:2008.

2 Mounting

The SR852 could be used in hazardous area Zone 1 / 21.

The device has 4 drillings on the backside for mounting.

Caution

Please fulfil the following Standard of Compliance: Local installation standards and the regulative EN 60079-14.

2.1 Connection and startup

2.1.1 Connection hints

The following clamping torqueses have to be observed.

Min. und Max. clamping torque	Min. 0,3 Nm max. 0,4 Nm
Min. und Max. wire cross- section	inflexible: 0,2 – 2,5 mm² flexible: 0,2 – 2,5 mm²

The following items have to be observed.

Caution

LINE VOLTAGE !
Extreme caution is advised when handling this device. High electrical discharge is possible and can be fatal.
Take note the regulative EN 60079-14 and the Ex type certificates BVS 17 ATEX E 016X and IECEx BVS 17.0006X.
Do not exceed terminal safety limits of each terminal. See limits in technical details or declarations of conformity.

2.1.2 Line voltage disconnection

The SR852 can shut off line voltages up to 250V / 3A.

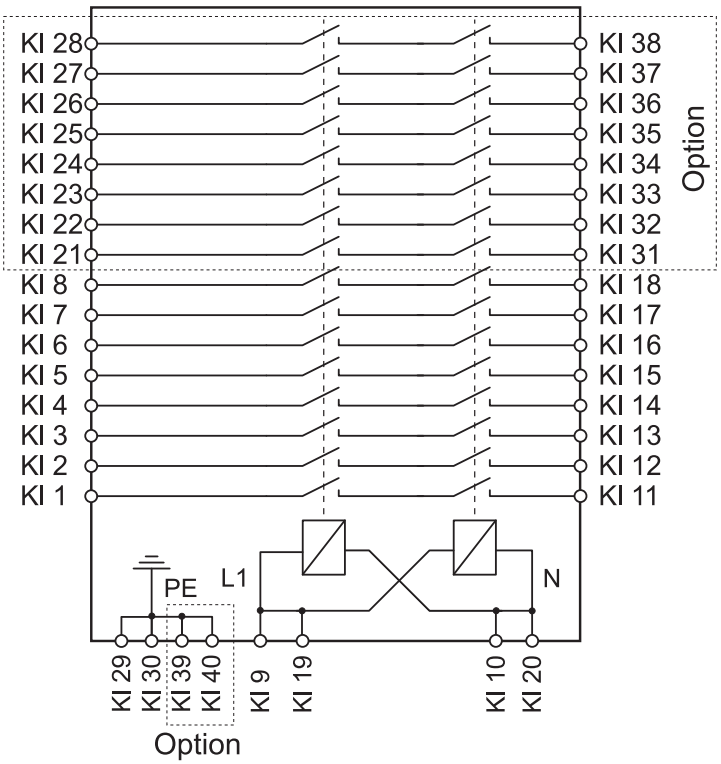
Warning

Do not exceed the maximum load (3A) of the relais contacts <u>at any time</u>.

Example: switch-mode power supplies have an Switch-On current many times bigger than the nominal current consumption. In these cases the current has to be limited by a NTC resistor for instance to avoid a current rush beyond the clamps limit.

Ignoring of this point of view causes the risk of damaged relays contacts (always closed) and therefore the **lost of explosion proof**!

2.2 Block diagram



Block diagram SR852.x.x

3 Appendix

3.1 Technical Details

		SR852
General	Mounting	Inside hazardous area
	Ex-protection	II 2 G; Ex eb mb IIC T6 Gb II 2 G; Ex eb mb IIC T4 Gb II 2 D; Ex tb IIIC T80°C Db II 2 D; Ex tb IIIC T130°C Db
	Device group	II 2 G / II 2 D
	EC type certifiacte	BVS 17 ATEX E 016X IECEx BVS 17.0006X
	Ambient temperature	-20°C .. 40°C bei T6 / T80°C -20°C .. 70°C bei T4 / T130°C
Housing	Dimensions	120 x 120 x 90 mm
	Housing material	Aluminum, powder coated
	Colour	RAL 7035
	Protection class	IP65
	Threads for cable glands	M16x1,5 und M20x1,5
Electrical specification	Supply voltage [V]	SR852.0.x: 110 - 230V AC; 48 ..62Hz SR852.6.x: 24V AC/DC
	Power consumption	ca. 1 W at 8 contacts ca. 2 W at 16 contacts
	Maximum load of relays contacts	Max. 250V AC, 3A* Max. 30V DC, 3A*

*total for all contacts max. 24A!

3.2 Terminal limits

Type SR852.x.x

Clamp	Limit Um	SR852
1 bis 8, 11 bis 18 21 bis 28 31 bis 38	250V AC	Relay contacts 250V/3A*
9, 19 und 10, 20	250V AC	mains, supply voltage on front plate
29, 30, 39, 40		PE

*total for all contacts max. 24A!

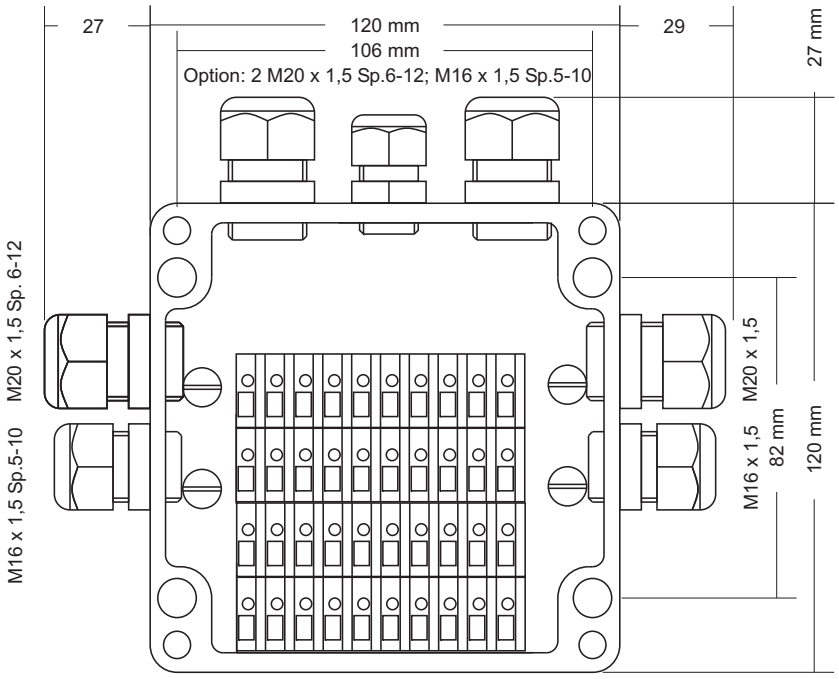
3.3 Type code

SR852 .x .x

Mains:
110 - 230V AC ..... **.0**
24V AC/DC ..... **.6**

Relay contacts:
8 Relay contacts ..... **.0**
16 Relay contacts ..... **.1**

3.4 Dimensions



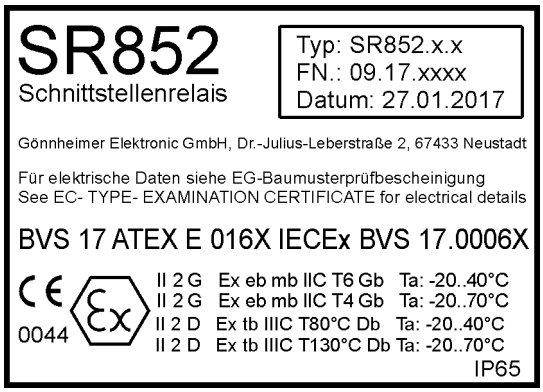
Housing height: 90 mm

3.5 Transport, Storing, Repairs and Disposal

Transport	Vibration-free in origin package, do not pitch, handle carefully
Storing	Store the device dry, inside of the origin package
Disposal	When the explosion proof multipurpose distribution, switching and control units are eventually disposed of, the national regulations governing the disposal of waste materials in the country concerned must be rigorously observed.
Repairs	Defective parts may only be replaced by the Manufacturer or by personnel specially trained and supervised by the Manufacturer. Only genuine spare parts from the Manufacturer may be fitted.

3.6 Type signs

3.6.1 Type sign SR852.x.x



Translation

1 # EU-Type Examination Certificate

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

3 EU-Type Examination Certificate Number: **BVS 17 ATEX E 016 X**

4 Product: **Disconnector type SR852.x.x**

5 Manufacturer: **Gönnheimer Elektronic GmbH**

6 Address: **Dr.-Julius-Leber-Str. 2, 67433 Neustadt an der Weinstraße, Germany**

7 This product and any acceptable variations thereto are 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 17.2023 EU.

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

EN 60079-0:2012 + A11:2013	**General requirements**
EN 60079-7:2015	**Increased Safety "e"**
EN 60079-18:2015	**Encapsulation "m"**
EN 60079-31:2014	**Protection by Enclosure "t"**

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 eb mb IIC T* Gb ***see Parameters**
II 2D Ex tb IIIC T* Db

DEKRA EXAM GmbH
Bochum, 2017-02-08

Signed: Dr. Franz Eickhoff
Certifier

Signed: Dr. Michael Wittler
Approver

DEKRA EXAM GmbH, Dinnendahlstrasse 9, 44809 Bochum, Germany,
telephone +49.234.3696-105, Fax +49.234.3696-110, zs-exam@dekra.com

13 **Appendix**

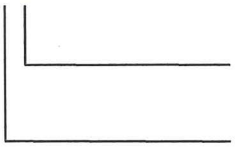
14 **EU-Type Examination Certificate**

BVS 17 ATEX E 016 X

15 **Product description**

15.1 **Subject and type**

Disconnector type SR852.x.x



0 8 Relay contacts
1 16 Relay contacts
0 Supply voltage 110 VDC – 230 VDC
6 Supply voltage 24 V AC/DC

15.2 **Description**

The disconnector unit SR852 is designed to separate non-intrinsically safe connections in combination with a purging system. The purge system controls the SR852. When the purge system detects a fault, the power to the SR852 will be switched off and the SR852 will disconnect external signals from the Ex p cabinet.

Listing of all components used referring to older standards

Subject and type	Certificate	Standards
Empty enclosure type AL-KE 25.** ** **	PTB 98 ATEX 3101 U	EN 60079-0:2009 EN 60079-7:2007 EN 60079-31:2009
Empty enclosure type MBA…Ex	IBExU 10 ATEX 1158 U	EN 60079-0:2012 EN 60079-7:2007 EN 60079-31:2009
Empty enclosure type HALPEX	IBExU 14 ATEX 1127 U	EN 60079-0:2012 EN 60079-7:2007 EN 60079-31:2009
Terminal Blocks Types FRONT 2,5-H/…-EX and FRONT 2,5-V/…-EX	KEMA 00 ATEX 2053 U	EN 60079-0:2012 +A11:2013 IEC 60079-7:2015

15.3 **Parameters**

15.3.1 Electrical data

Power supply:

Nominal voltage	up to or	230 V AC 24 V AC/DC
Nominal power		2 W

Switching contacts:

Nominal voltage	up to	230 V AC
Nominal current		3 A

DEKRA EXAM GmbH, Dinnendahlstrasse 9, 44809 Bochum, Germany,
telephone +49.234.3696-105, Fax +49.234.3696-110, zs-exam@dekra.com

15.3.2 Thermal data

Ambient temperature range	Temperature class	Maximum surface temperature
-20 °C ≤ T_a ≤ +40 °C	T6	T80°C
-20 °C ≤ T_a ≤ +70 °C	T4	T130°C

16 Report Number

BVS PP 17.2023 EU, as of 2017-02-08

17 Special Conditions for Use

The empty enclosure with coating according to PTB 98 ATEX 3101 U must not be used in areas affected by charge-producing processes, mechanical friction and separation processes, electron emission (e.g. in the vicinity of electrostatic coating equipment), and pneumatically conveyed dust.

18 Essential Health and Safety Requirements

The Essential Health and Safety Requirements are covered by the standards listed under item 9.

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 EXAM GmbH
Bochum, dated 2017-02-08
BVS-Pe/Mu A 20160473

Certifier

Approver

DEKRA EXAM GmbH, Dinnendahlstrasse 9, 44809 Bochum, Germany,
telephone +49.234.3696-105, Fax +49.234.3696-110, zs-exam@dekra.com

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	IECEx BVS 17.0006X issue No.:0	Certificate history:
Status:	**Current**	
Date of Issue:	**2017-02-23**	Page 1 of 3
Applicant:	**Gönnheimer Elektronic GmbH** Dr.-Julius-Leber-Str. 2 67433 Neustadt an der Weinstraße **Germany**	
Equipment: *Optional accessory:*	**Disconnector type SR852.x.x**	
Type of Protection:	**Equipment protection by encapsulation "m", Equipment dust ignition protection by enclosure "t", Equipment protection by increased safety "e"**	
Marking:	Ex eb mb IIC T* Gb Ex tb IIIC T* Db *see Parameters	

Approved for issue on behalf of the IECEx Certification Body: Dr Franz Eickhoff

Position: Deputy Head of Certification Body

Signature:
(for printed version)

Date: 2017-02-23

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

DEKRA EXAM GmbH
Dinnendahlstrasse 9
44809 Bochum
Germany

DEKRA EXAM GmbH

IECEx Certificate of Conformity

Certificate No.: IECEx BVS 17.0006X

Date of Issue: **2017-02-23** Issue No.: **0**

Manufacturer: **Gönnheimer Elektronic GmbH**
Dr.-Julius-Leber-Str. 2
67433 Neustadt an der Weinstraße
Germany

Additional Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:
The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Edition: 6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-18 : 2014 Edition: 4.0	Explosive atmospheres – Part 18: Equipment protection by encapsulation “m”
IEC 60079-31 : 2013 Edition: 2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
IEC 60079-7 : 2015 Edition: 5.0	Explosive atmospheres – Part 7: Equipment protection by increased safety "e"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:
DE/BVS/ExTR17.0009/00

Quality Assessment Report:

DE/TUN/QAR10.0006/06

IECEx Certificate of Conformity

Certificate No.: IECEx BVS 17.0006X

Date of Issue: **2017-02-23** Issue No.: **0**

Schedule

EQUIPMENT:
Equipment and systems covered by this certificate are as follows:

Subject and Type

See Annex

Description

See Annex

Parameters

See Annex

SPECIFIC CONDITIONS OF USE: YES as shown below:

The empty enclosure with coating according to IECEx PTB 08.0005U must not be used in areas affected by charge-producing processes, mechanical friction and separation processes, electron emission (e.g. in the vicinity of electrostatic coating equipment), and pneumatically conveyed dust.

Annex: BVS_17_0006X_Gönnheimer_Annex.pdf

IECEx Certificate of Conformity

Certificate No.: **IECEx BVS 17.0006X**
Annex

Subject and Type

Disconnector type SR852.x.x

0	8 Relay contacts
1	16 Relay contacts
0	Supply voltage 110 VDC – 230 VDC
6	Supply voltage 24 V AC/DC

Description

The disconnector unit SR852 is designed to separate non-intrinsically safe connections in combination with a purging system. The purge system controls the SR852. When the purge system detects a fault, the power to the SR852 will be switched off and the SR852 will disconnect external signals from the Ex p cabinet.

Listing of all components used referring to older standards

Subject and type	Certificate	Standards
Empty enclosure type AL-KE 25.** ** **	IECEx PTB 08.0005U	IEC 60079-0:2011 IEC 60079-7:2015 IEC 60079-31:2013
Empty enclosure type MBA...Ex	IECEx IBE 14.0020U	IEC 60079-0:2011 IEC 60079-7:2006 IEC 60079-31:2013
Empty enclosure type HALPEX	IECEx IBE 14.0040U	IEC 60079-0:2011 IEC 60079-7:2006 IEC 60079-31:2013
Terminal Blocks Types FRONT 2,5-H/...-EX and FRONT 2,5-V/...-EX	IECEx KEM 07.0023U	IEC 60079-0:2011 IEC 60079-7:2015

[1] No applicable technical differences

[2] Technical differences evaluated and found satisfactory

Parameters

Electrical data

Power supply:

Nominal voltage	up to or	230 V AC 24 V AC/DC
Nominal power		2 W

Switching contacts:

Nominal voltage	up to	230 V AC
Nominal current		3 A

IECEx Certificate of Conformity

Certificate No.: **IECEx BVS 17.0006X**

Annex

Thermal data

Ambient temperature range	Temperature class	Maximum surface temperature
-20 °C ≤ T_a ≤ +40 °C	T6	T80°C
-20 °C ≤ T_a ≤ +70 °C	T4	T130°C