



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 DEK 16.0078X Issue No: 3 Certificate history:
Status: **Current** Issue No. 3 (2019-07-16)
Date of Issue: **2019-07-16** Page 1 of 4 Issue No. 2 (2018-06-08)
Applicant: **Beckhoff Automation GmbH & Co. KG** Issue No. 1 (2017-06-13)
Hülsthorstweg 20 Issue No. 0 (2017-01-30)
33415 Verl
Germany

Equipment: **Fieldbus Components Type BK ..., Type KL ..., Type KS ..., Type EK ..., EL ... and Type ES ...**

Optional accessory:

Type of Protection: **Ex nA and Ex tc**

Marking: Ex nA IIC T4 Gc and
Ex tc IIIC T135 °C Dc

*Approved for issue on behalf of the IECEx
Certification Body:*

R. Schuller

Position:

Certification Manager

*Signature:
(for printed version)*

Date:

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 Certification B.V.
Meander 1051,
6825 MJ Arnhem
The Netherlands





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Manufacturer: **Beckhoff Automation GmbH & Co. KG**
Hülsthorstweg 20
33415 Verl
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 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 60079-15 : 2010 Edition:4 | Explosive atmospheres - Part 15: Equipment protection by type of protection "n" |
| IEC 60079-31 : 2013 Edition:2 | Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t" |

*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:

[NL/DEK/ExTR16.0109/00](#) [NL/DEK/ExTR16.0109/01](#) [NL/DEK/ExTR16.0109/02](#)
[NL/DEK/ExTR16.0109/03](#)

Quality Assessment Report:

[DE/BVS/QAR16.0010/02](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Fieldbus Components Type BK ..., Type KL ..., Type KS ... Type EK ..., EL ... and Type ES ... for use in I/O and Fieldbus systems.

The type code, the ambient temperature range and the temperature class of the modules shall be taken from Table 1, see Annex.

Electrical data

The electrical data of the supply and the input and output circuits shall be taken from Table 1, see Annex.

SPECIFIC CONDITIONS OF USE: YES as shown below:

For Ex nA:

The Fieldbus Components shall only be used in an area of not more than pollution degree 2, as defined in IEC 60664-1.

The Fieldbus Components shall be installed in a suitable enclosure providing a degree of protection of at least IP54 according to IEC 60079-15, taking into account the environmental conditions under which the equipment will be used.

Provisions shall be made to prevent the rated voltages from being exceeded by transient disturbances of more than 119 V.

The Fieldbus Components may only be removed or inserted when the system supply and the field supply are switched off, or when the location is known to be non-hazardous.

The Fieldbus Components may only be disconnected or connected when the system supply is switched off, or when the location is known to be non-hazardous.

Address selectors and ID switches may only be adjusted when the system supply is switched off, or when the location is known to be non-hazardous.

For Ex t:

The Fieldbus Components shall be installed in a suitable enclosure providing a degree of protection of IP54 according to IEC 60079-31 for group IIIA or IIIB and IP6X according to IEC 60079-31 for Group IIIC, taking into account the environmental conditions under which the equipment is used.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Addition of modules Type EK ... and EL ... for use in I/O and Fieldbus systems.

Annex:

[223859600 Annex 1.pdf](#)

**Annex 1 to Certificate of Conformity IECEx DEK 16.0078X
Testreport NL/DEK/ExTR16.0109/03**

Table 1

| Description | Type/Beckhoff No. | Temp. code | Ambient Range | Technical Data | Supply Volt. |
|--|-------------------|------------|---------------|----------------|--------------|
| PROFIBUS "Economy plus" Bus Coupler | BK3120 | T4 | -25...+60°C | ---- | ---- |
| | BK3115 | T4 | -25...+60°C | ---- | ---- |
| | KL9031-GL | T4 | -25...+60°C | ---- | 24Vdc |
| 2-channel digital input terminal 24 V DC for Namur sensors | KL/KS1352 | T4 | -25...+60°C | 24Vdc | ---- |
| Up/down counter 24 V DC, 100 kHz | KL/KS1501 | T4 | -25...+60°C | 24Vdc | ---- |
| 8-channel digital output terminal 24 V DC | KL/KS2408 | T4 | -25...+60°C | 24Vdc/0.5A | ---- |
| 2-channel pulse width output terminal 24 V DC | KL/KS2502 | T4 | -25...+60°C | 24Vdc/0.1A | ---- |
| 2-channel analog input terminal 0...20 mA | KL/KS3012 | T4 | -25...+60°C | 0 ... 20mA | ---- |
| 4-channel analog input terminal 4...20 mA | KL/KS3054 | T4 | -25...+60°C | 4 ... 20mA | ---- |
| 4-channel analog output terminal 4...20 mA | KL/KS4424 | T4 | -25...+60°C | 4 ... 20mA | ---- |
| Potential supply terminal, 24 V DC, with diagnostics | KL/KS9110 | T4 | -25...+60°C | ---- | 24Vdc |
| End terminal | KL9010 | T4 | -25...+60°C | ---- | ---- |
| EtherCAT Coupler | EK1100 | T4 | -25...+60°C | ---- | 24Vdc |
| | EK1105 | T4 | -25...+60°C | ---- | ---- |
| EtherCAT Coupler with ID switch for E-bus terminals | EK1101 | T4 | -25...+60°C | ---- | 24Vdc |
| | EK1105 | T4 | -25...+60°C | ---- | ---- |
| 2-port EtherCAT junction | EK1122 | T4 | -25...+60°C | ---- | ---- |
| PROFINET RT Bus Coupler | EK9300 | T4 | -25...+60°C | ---- | ---- |
| | CX8000 | T4 | -25...+60°C | ---- | ---- |
| | CX8095 | T4 | -25...+60°C | ---- | ---- |
| | CX5125 | T4 | -25...+60°C | ---- | 24Vdc |
| 2-channel digital input terminal 24Vdc, filter 3.0 ms, 1-wire system | EL/ES1002 | T4 | -25...+60°C | 24Vdc | ---- |
| 4-channel digital input terminal 24Vdc, filter 3.0 ms, 1-wire system | EL/ES1004 | T4 | -25...+60°C | 24Vdc | ---- |
| 8-channel digital input terminal 24Vdc, filter 3.0 ms, 1-wire system | EL/ES1008 | T4 | -25...+60°C | 24Vdc | ---- |
| 2-channel digital input terminal NAMUR | EL/ES1052 | T4 | -25...+60°C | 8,2Vdc | ---- |
| 4-channel digital input terminal NAMUR | EL/ES1054 | T4 | -25...+60°C | 8,2Vdc | ---- |
| 2-channel digital input terminal with oversampling | EL/ES1262 | T4 | -25...+60°C | 24Vdc | ---- |
| 8-channel digital output terminal 24 V DC, 0.5 A | EL/ES2008 | T4 | -25...+60°C | 24Vdc, 0.5 A | ---- |
| 4-channel digital output terminal 24 V DC, 0.5 A, with diagnostics | EL2014 | T4 | -25...+60°C | 24Vdc, 0.5 A | ---- |
| 2-channel digital output terminal 24 V DC, 2 A | EL/ES2022 | T4 | -25...+60°C | 24Vdc, 2 A | ---- |
| 2-channel pulse width current terminals 24 V DC | EL/ES2535-0002 | T4 | -25...+60°C | 24Vdc, ±2 A | ---- |
| 4-channel digital output terminal 30 V AC/DC, 2 A, solid state | EL2794 | T4 | -25...+60°C | 30Vac/dc, 2 A | ---- |
| HD EtherCAT Terminal, 16-channel digital output 24 V DC, 0.5 A | EL2809 | T4 | -25...+60°C | 24Vdc, 0.5 A | ---- |
| 4-channel analog input terminal 0...20 mA, single-ended, 12 bit | EL/ES3044 | T4 | -25...+60°C | 0 ... 20mA | ---- |
| 4-channel analog input terminal -10 V...+10 V, differential input, 16 bit | EL/ES3104 | T4 | -25...+60°C | -10 ... +10V | ---- |
| 4-channel analog input terminal 4...20 mA, single-ended, 16 bit, 4 x 2-wire system | EL/ES3154 | T4 | -25...+60°C | 4 ... 20mA | ---- |
| 2-channel analog input terminal 4...20 mA, single-ended, 16 bit, 4 x 2-wire system | EL/ES3182 | T4 | -25...+60°C | 4 ... 20mA | ---- |
| 4-channel thermocouple input terminal with open-circuit recognition | EL3314 | T4 | -25...+60°C | ---- | ---- |
| 1-channel precise load cell analysis (resistor bridge), 24 bit | EL3356-0010 | T4 | -25...+60°C | ---- | ---- |
| 2-channel analog input terminal -10...+10 V with oversampling | EL/ES3702 | T4 | -25...+60°C | -10 ... +10V | ---- |
| 4-channel analog output terminal 0...20 mA, 12 bit | EL/ES4014 | T4 | -25...+60°C | 0 ... 20mA | ---- |
| 2-channel analog output terminal 4...20 mA, 12 bit | EL/ES4022 | T4 | -25...+60°C | 4 ... 20mA | ---- |

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|--|-------------|----|-------------|--------------|-------|
| 2-channel analog output terminal - 10...+10 V with oversampling | EL/ES4732 | T4 | -25...+60°C | -10 ... +10V | ---- |
| 2-channel incremental encoder interface, 32 bit | EL/ES5152 | T4 | -25...+60°C | ---- | ---- |
| Serial interface RS422/RS485 | EL/ES6021 | T4 | -25...+60°C | ---- | ---- |
| Serial Communication terminal, 1 channel, RS485, timestamp receive | EL6021-1001 | T4 | -25...+60°C | 12Vdc | 24Vdc |
| | EL6002 | T4 | -25...+60°C | ---- | ---- |
| License key terminal for TwinCAT 3.1 | EL6070 | T4 | -25...+60°C | ---- | ---- |
| Ethernet switch port terminal | EL6601 | T4 | -25...+60°C | ---- | ---- |
| | EL6605 | T4 | -25...+60°C | ---- | ---- |
| System terminal, surge filter system and field supply | EL/ES9550 | T4 | -25...+60°C | 24Vdc | 24Vdc |