

Documentation | EN

KL9300, KL9301 and KL9302

Diode Array Bus Terminals

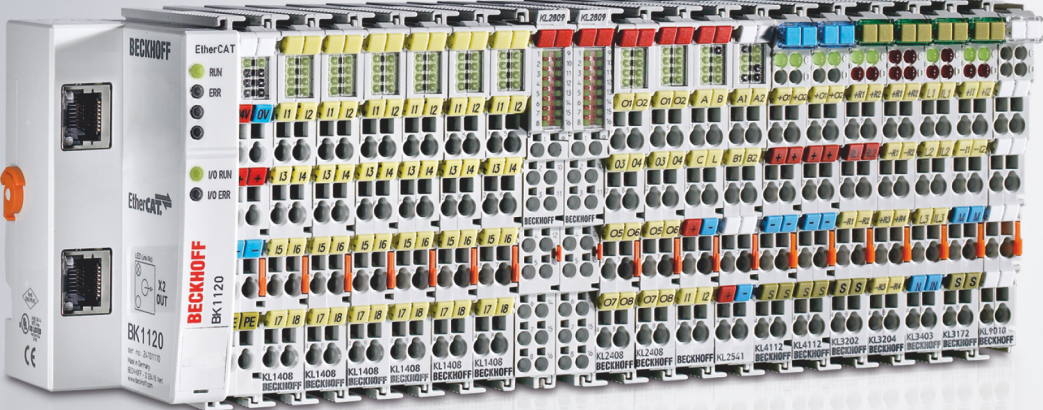


Table of contents

| | |
|--|-----------|
| 1 Foreword | 5 |
| 1.1 Notes on the documentation | 5 |
| 1.2 Safety instructions | 6 |
| 1.3 Documentation issue status | 7 |
| 1.4 Suggestions or proposals for documentation | 7 |
| 2 Product overview | 8 |
| 2.1 KL9300 - Introduction | 8 |
| 2.2 KL9301 - Introduction | 9 |
| 2.3 KL9302 - Introduction | 10 |
| 2.4 Technical data | 11 |
| 3 Mounting and wiring | 12 |
| 3.1 Instructions for ESD protection | 12 |
| 3.2 Installation on mounting rails..... | 13 |
| 3.3 Disposal | 15 |
| 3.4 Installation instructions for enhanced mechanical load capacity..... | 16 |
| 3.5 Connection | 17 |
| 3.5.1 Connection system..... | 17 |
| 3.5.2 Wiring | 19 |
| 3.5.3 Shielding | 20 |
| 3.5.4 KL9300 – contact assignment..... | 21 |
| 3.5.5 KL9301 – contact assignment..... | 22 |
| 3.5.6 KL9302 – contact assignment..... | 23 |
| 3.6 ATEX - Special conditions (extended temperature range)..... | 24 |
| 3.7 IECEx - Special conditions | 25 |
| 3.8 Continuitive documentation for ATEX and IECEx | 26 |
| 4 Appendix | 27 |
| 4.1 Beckhoff Identification Code (BIC) | 27 |
| 4.2 Support and Service..... | 29 |

1 Foreword

1.1 Notes on the documentation

Intended audience

This description is only intended for the use of trained specialists in control and automation engineering who are familiar with the applicable national standards.

It is essential that the documentation and the following notes and explanations are followed when installing and commissioning these components.

The qualified personnel is obliged to always use the currently valid documentation.

The responsible staff must ensure that the application or use of the products described satisfy all the requirements for safety, including all the relevant laws, regulations, guidelines and standards.

Disclaimer

The documentation has been prepared with care. The products described are, however, constantly under development.

We reserve the right to revise and change the documentation at any time and without prior announcement.

No claims for the modification of products that have already been supplied may be made on the basis of the data, diagrams and descriptions in this documentation.

Trademarks

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Patent Pending

The EtherCAT Technology is covered, including but not limited to the following patent applications and patents: EP1590927, EP1789857, EP1456722, EP2137893, DE102015105702 with corresponding applications or registrations in various other countries.



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1.2 Safety instructions

Safety regulations

Please note the following safety instructions and explanations!
Product-specific safety instructions can be found on following pages or in the areas mounting, wiring, commissioning etc.

Exclusion of liability

All the components are supplied in particular hardware and software configurations appropriate for the application. Modifications to hardware or software configurations other than those described in the documentation are not permitted, and nullify the liability of Beckhoff Automation GmbH & Co. KG.

Personnel qualification

This description is only intended for trained specialists in control, automation and drive engineering who are familiar with the applicable national standards.

Signal words

The signal words used in the documentation are classified below. In order to prevent injury and damage to persons and property, read and follow the safety and warning notices.

Personal injury warnings

⚠ DANGER

Hazard with high risk of death or serious injury.

⚠ WARNING

Hazard with medium risk of death or serious injury.

⚠ CAUTION

There is a low-risk hazard that could result in medium or minor injury.

Warning of damage to property or environment

NOTICE

The environment, equipment, or data may be damaged.

Information on handling the product



This information includes, for example:
recommendations for action, assistance or further information on the product.

1.3 Documentation issue status

| Version | Comment |
|---------|-----------------|
| 1.0.0 | • First release |

Firmware and hardware versions

| Documentation Version | KL9300, KS9300 | | KL9301, KS9301 | | KL9302, KS9302 | |
|-----------------------|----------------|----------|----------------|----------|----------------|----------|
| | Firmware | Hardware | Firmware | Hardware | Firmware | Hardware |
| 1.0.0 | 00 | 02 | 00 | 01 | 00 | 01 |

The firmware and hardware versions (delivery state) can be taken from the serial number printed on the side of the terminal.

Syntax of the serial number

Structure of the serial number: WW YY FF HH

WW - week of production (calendar week)

YY - year of production

FF - firmware version

HH - hardware version

Example with serial number 30 08 00 01:

30 - week of production 30

08 - year of production 2008

00 - firmware version 00

01 - hardware version 01

1.4 Suggestions or proposals for documentation

If you have any suggestions or proposals for our documentation, please send us an e-mail stating the documentation title and version number to: documentation@beckhoff.com

2 Product overview

2.1 KL9300 - Introduction

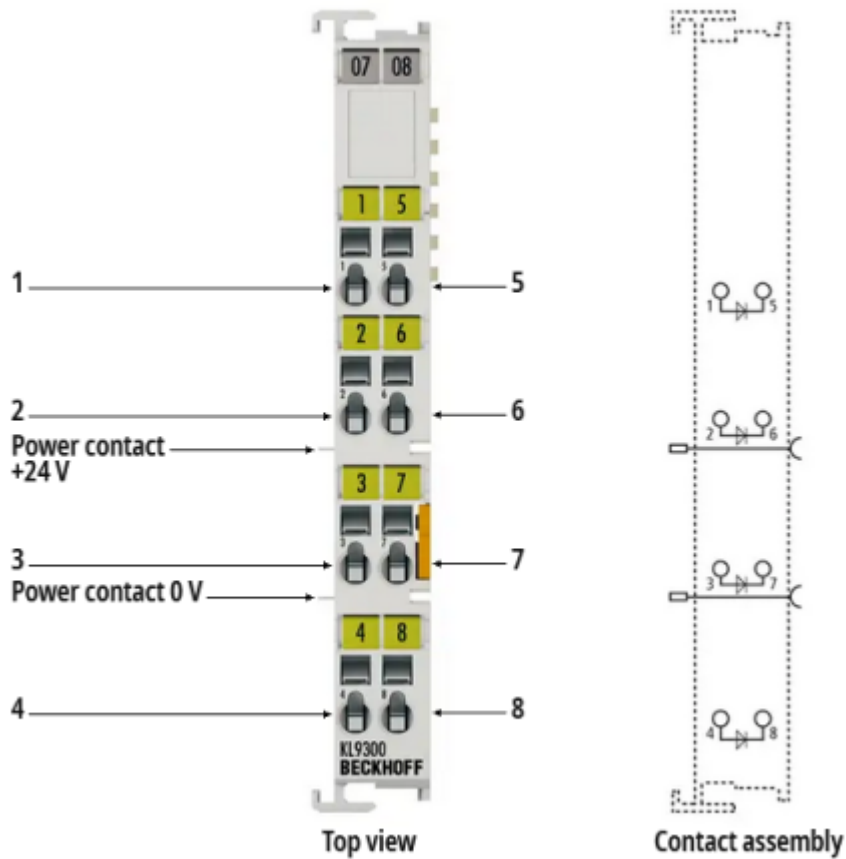


Fig. 1: KL9300

Diode array terminal

The KL9300 Bus Terminal contains four potential-free diodes that can be used as free-wheeling or decoupling diodes. Through direct integration into the Bus Terminal assembly, the compact design of the Bus Terminal is retained for the whole application. Wiring is simplified significantly.

2.2 KL9301 - Introduction

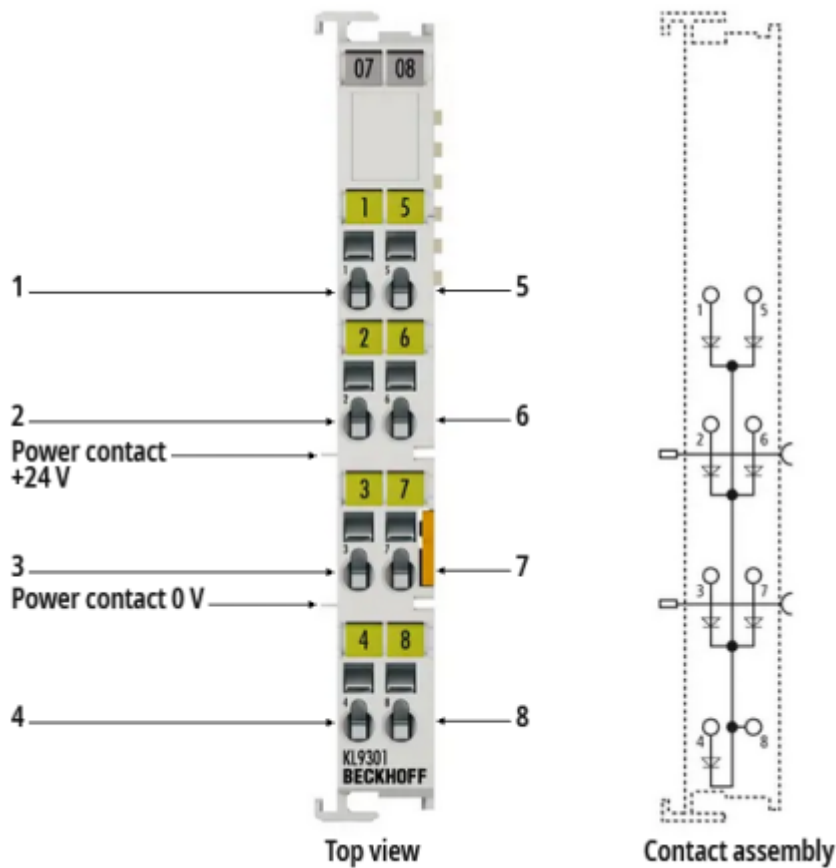


Fig. 2: KL9301

Diode array terminal

The KL9301 Bus Terminal contains a diode array consisting of a total of seven diodes with a common cathode. The diode array can be used as a free-wheeling or decoupling array. Through direct integration into the Bus Terminal assembly, the compact design of the Bus Terminal is retained for the whole application. Wiring is simplified significantly.

2.3 KL9302 - Introduction

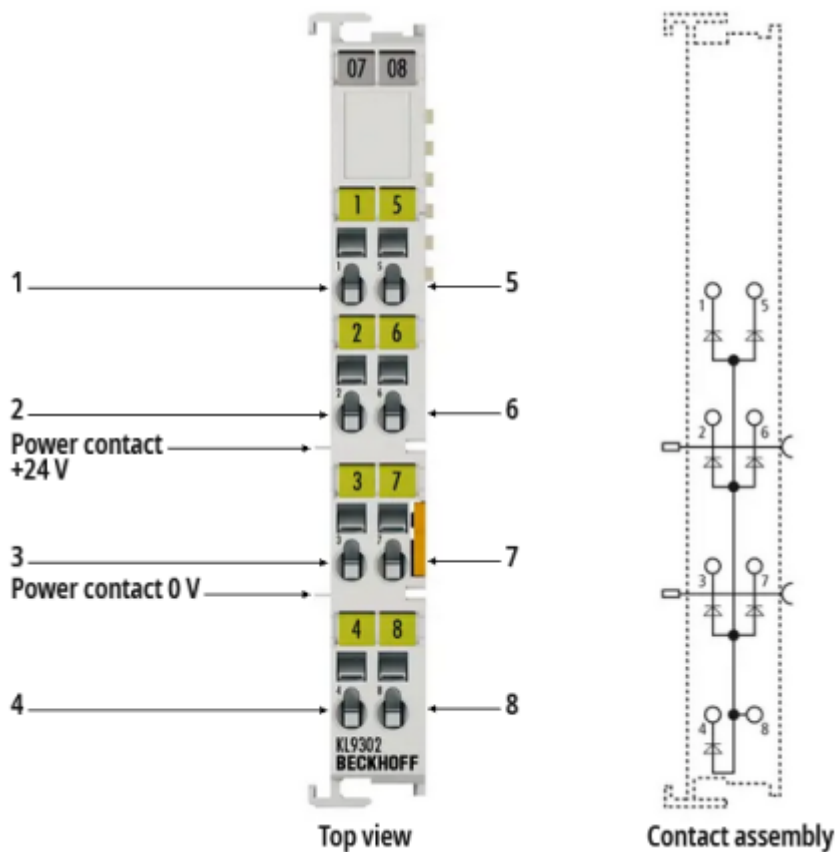


Fig. 3: KL9302

Diode array terminal

The KL9302 Bus Terminal contains a diode array consisting of a total of seven diodes with a common anode. The diode array can be used as a free-wheeling or decoupling array. Through direct integration into the Bus Terminal assembly, the compact design of the Bus Terminal is retained for the whole application. Wiring is simplified significantly.

2.4 Technical data

| Technical data | KL9300, KS9300 | KL9301, KS9301 | KL9302, KS9302 |
|--|--|----------------|----------------|
| Number of diodes | 4 | 7 | |
| Interconnection | potential-free | common cathode | common anode |
| Nominal cut-off voltage | 1000 V (diodes) | | |
| Output current | 1 A on each diode | | |
| Peak current | 2.5 A (100 ms) | | |
| Voltage drop | typ. 0.7 V | | |
| Isolation voltage (channel/channel) | <200 V | | |
| Electrical isolation | 1500 V (K-bus/field) | | |
| Dimensions (w x h x d) | approx. 15 mm x 100 mm x 68 mm (width aligned: 12 mm) | | |
| Weight | approx. 50 g | approx. 55 g | |
| Permissible ambient temperature range during operation | 0 °C ... +55 °C | | |
| Permissible ambient temperature range during storage | -25 °C ... +85 °C | | |
| Permissible relative air humidity | 95 %, no condensation | | |
| Mounting [▶ 13] | on 35 mm mounting rail conforms to EN 60715 | | |
| Pluggable wiring | at all KSxxxx series terminals | | |
| Enhanced mechanical load capacity | yes, see Installation instructions [▶ 16] for terminals with enhanced mechanical load capacity | | |
| Vibration / shock resistance | conforms to EN 60068-2-6 / EN 60068-2-27 | | |
| EMC immunity / emission | conforms to EN 61000-6-2 / EN 61000-6-4 | | |
| Protection class | IP20 | | |
| Installation position | variable | | |
| Approvals / markings* | CE, UKCA, cULus, EAC, ATEX [▶ 24], IECEx [▶ 25] | | |

*) Real applicable approvals/markings see type plate on the side (product marking).

Ex markings

| Standard | Marking |
|----------|------------------------|
| ATEX | II 3 G Ex nA IIC T4 Gc |
| IECEx | Ex nA IIC T4 Gc |

3 Mounting and wiring

3.1 Instructions for ESD protection

NOTICE

Destruction of the devices by electrostatic discharge possible!

The devices contain components at risk from electrostatic discharge caused by improper handling.

- Please ensure you are electrostatically discharged and avoid touching the spring contacts (see fig.) of the device directly.
- Avoid contact with highly insulating materials (synthetic fibers, plastic film etc.).
- Surroundings (working place, packaging and personnel) should be grounded probably, when handling with the devices.
- Each assembly must be terminated at the right hand end with a KL9010 bus end terminal, to ensure the protection class and ESD protection.

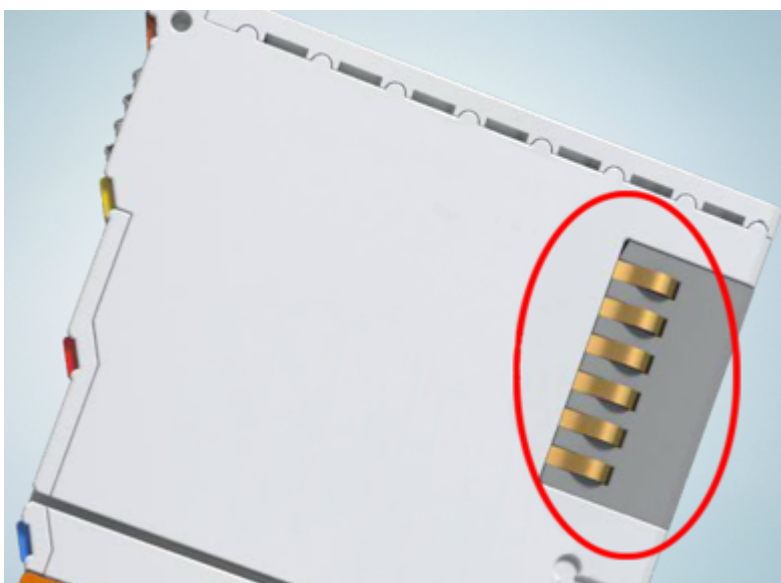


Fig. 4: Spring contacts of the Beckhoff I/O components

3.2 Installation on mounting rails

⚠ WARNING

Risk of electric shock and damage of device!

Bring the bus terminal system into a safe, powered down state before starting installation, disassembly or wiring of the bus terminals!

The Bus Terminal system and is designed for mounting in a control cabinet or terminal box.

Assembly

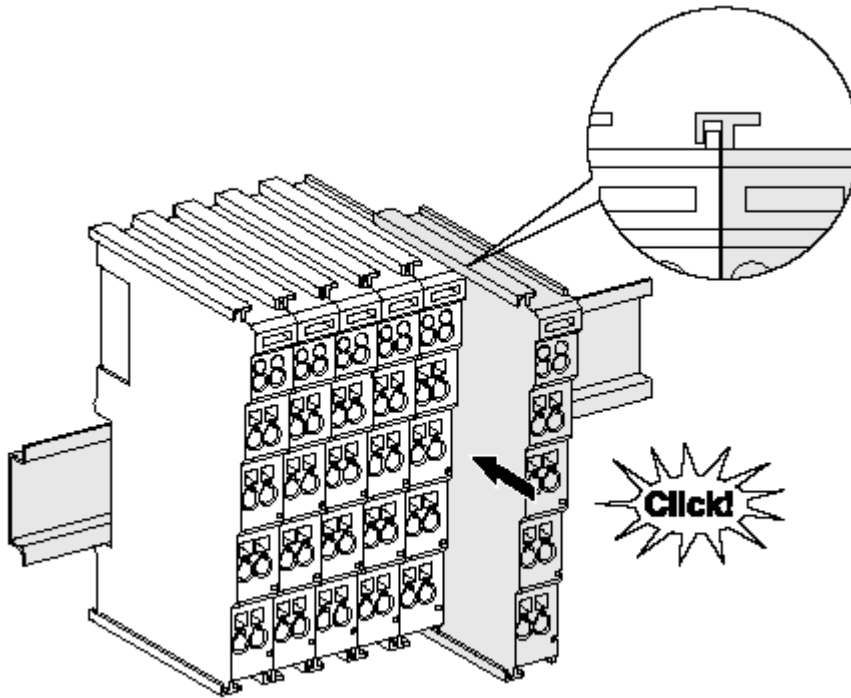


Fig. 5: Attaching on mounting rail

The bus coupler and bus terminals are attached to commercially available 35 mm mounting rails (DIN rails according to EN 60715) by applying slight pressure:

1. First attach the fieldbus coupler to the mounting rail.
2. The bus terminals are now attached on the right-hand side of the fieldbus coupler. Join the components with tongue and groove and push the terminals against the mounting rail, until the lock clicks onto the mounting rail.

If the terminals are clipped onto the mounting rail first and then pushed together without tongue and groove, the connection will not be operational! When correctly assembled, no significant gap should be visible between the housings.

i Fixing of mounting rails

The locking mechanism of the terminals and couplers extends to the profile of the mounting rail. At the installation, the locking mechanism of the components must not come into conflict with the fixing bolts of the mounting rail. To mount the mounting rails with a height of 7.5 mm under the terminals and couplers, you should use flat mounting connections (e.g. countersunk screws or blind rivets).

Disassembly

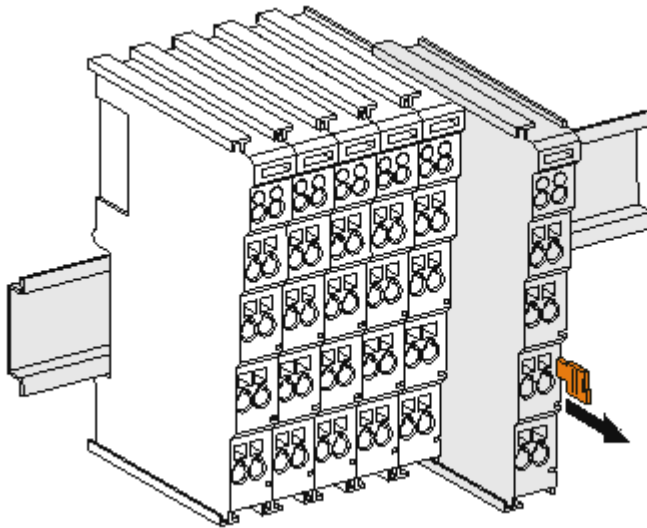


Fig. 6: Disassembling of terminal

Each terminal is secured by a lock on the mounting rail, which must be released for disassembly:

1. Pull the terminal by its orange-colored lugs approximately 1 cm away from the mounting rail. In doing so for this terminal the mounting rail lock is released automatically and you can pull the terminal out of the bus terminal block easily without excessive force.
2. Grasp the released terminal with thumb and index finger simultaneous at the upper and lower grooved housing surfaces and pull the terminal out of the bus terminal block.

Connections within a bus terminal block

The electric connections between the Bus Coupler and the Bus Terminals are automatically realized by joining the components:

- The six spring contacts of the K-Bus/E-Bus deal with the transfer of the data and the supply of the Bus Terminal electronics.
- The power contacts deal with the supply for the field electronics and thus represent a supply rail within the bus terminal block. The power contacts are supplied via terminals on the Bus Coupler (up to 24 V) or for higher voltages via power feed terminals.

● Power Contacts

i During the design of a bus terminal block, the pin assignment of the individual Bus Terminals must be taken account of, since some types (e.g. analog Bus Terminals or digital 4-channel Bus Terminals) do not or not fully loop through the power contacts. Power Feed Terminals (KL91xx, KL92xx or EL91xx, EL92xx) interrupt the power contacts and thus represent the start of a new supply rail.

PE power contact

The power contact labeled PE can be used as a protective earth. For safety reasons this contact mates first when plugging together, and can ground short-circuit currents of up to 125 A.

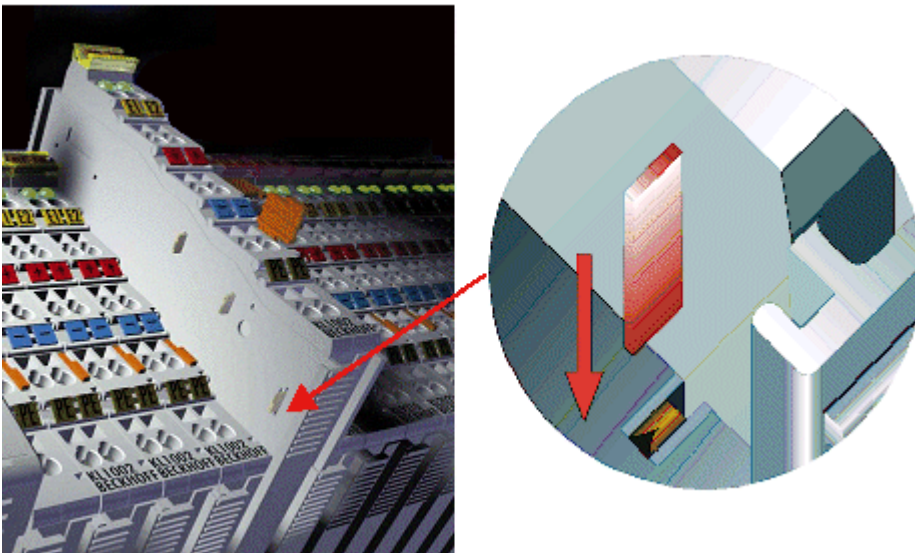


Fig. 7: Power contact on left side

NOTICE

Possible damage of the device

Note that, for reasons of electromagnetic compatibility, the PE contacts are capacitatively coupled to the mounting rail. This may lead to incorrect results during insulation testing or to damage on the terminal (e.g. disruptive discharge to the PE line during insulation testing of a consumer with a nominal voltage of 230 V). For insulation testing, disconnect the PE supply line at the Bus Coupler or the Power Feed Terminal! In order to decouple further feed points for testing, these Power Feed Terminals can be released and pulled at least 10 mm from the group of terminals.

⚠ WARNING

Risk of electric shock!

The PE power contact must not be used for other potentials!

3.3 Disposal



Products marked with a crossed-out wheeled bin shall not be discarded with the normal waste stream. The device is considered as waste electrical and electronic equipment. The national regulations for the disposal of waste electrical and electronic equipment must be observed.

3.4 Installation instructions for enhanced mechanical load capacity

⚠ WARNING

Risk of injury through electric shock and damage to the device!

Bring the Bus Terminal system into a safe, de-energized state before starting mounting, disassembly or wiring of the Bus Terminals!

Additional checks

The terminals have undergone the following additional tests:

| Verification | Explanation |
|--------------|---|
| Vibration | 10 frequency runs in 3 axes |
| | 6 Hz < f < 60 Hz displacement 0.35 mm, constant amplitude |
| | 60.1 Hz < f < 500 Hz acceleration 5 g, constant amplitude |
| Shocks | 1000 shocks in each direction, in 3 axes |
| | 25 g, 6 ms |

Additional installation instructions

For terminals with enhanced mechanical load capacity, the following additional installation instructions apply:

- The enhanced mechanical load capacity is valid for all permissible installation positions
- Use a mounting rail according to EN 60715 TH35-15
- Fix the terminal segment on both sides of the mounting rail with a mechanical fixture, e.g. an earth terminal or reinforced end clamp
- The maximum total extension of the terminal segment (without coupler) is:
64 terminals (12 mm mounting with) or 32 terminals (24 mm mounting with)
- Avoid deformation, twisting, crushing and bending of the mounting rail during edging and installation of the rail
- The mounting points of the mounting rail must be set at 5 cm intervals
- Use countersunk head screws to fasten the mounting rail
- The free length between the strain relief and the wire connection should be kept as short as possible. A distance of approx. 10 cm should be maintained to the cable duct.

3.5 Connection

3.5.1 Connection system

⚠ WARNING

Risk of electric shock and damage of device!

Bring the bus terminal system into a safe, powered down state before starting installation, disassembly or wiring of the bus terminals!

Overview

The bus terminal system offers different connection options for optimum adaptation to the respective application:

- The terminals of ELxxxx and KLxxxx series with standard wiring include electronics and connection level in a single enclosure.
- The terminals of ESxxxx and KSxxxx series feature a pluggable connection level and enable steady wiring while replacing.
- The High Density Terminals (HD Terminals) include electronics and connection level in a single enclosure and have advanced packaging density.

Standard wiring (ELxxxx / KLxxxx)



Fig. 8: Standard wiring

The terminals of ELxxxx and KLxxxx series have been tried and tested for years. They feature integrated screwless spring force technology for fast and simple assembly.

Pluggable wiring (ESxxxx / KSxxxx)



Fig. 9: Pluggable wiring

The terminals of ESxxxx and KSxxxx series feature a pluggable connection level. The assembly and wiring procedure is the same as for the ELxxxx and KLxxxx series. The pluggable connection level enables the complete wiring to be removed as a plug connector from the top of the housing for servicing. The lower section can be removed from the terminal block by pulling the unlocking tab. Insert the new component and plug in the connector with the wiring. This reduces the installation time and eliminates the risk of wires being mixed up.

The familiar dimensions of the terminal only had to be changed slightly. The new connector adds about 3 mm. The maximum height of the terminal remains unchanged.

A tab for strain relief of the cable simplifies assembly in many applications and prevents tangling of individual connection wires when the connector is removed.

Conductor cross sections between 0.08 mm² and 2.5 mm² can continue to be used with the proven spring force technology.

The overview and nomenclature of the product names for ESxxxx and KSxxxx series has been retained as known from ELxxxx and KLxxxx series.

High Density Terminals (HD Terminals)



Fig. 10: High Density Terminals

The terminals from these series with 16 terminal points are distinguished by a particularly compact design, as the packaging density is twice as large as that of the standard 12 mm bus terminals. Massive conductors and conductors with a wire end sleeve can be inserted directly into the spring loaded terminal point without tools.

● **Wiring HD Terminals**

i The High Density Terminals of the ELx8xx and KLx8xx series doesn't support pluggable wiring.

Ultrasonically “bonded” (ultrasonically welded) conductors

● **Ultrasonically “bonded” conductors**

i It is also possible to connect the Standard and High Density Terminals with ultrasonically “bonded” (ultrasonically welded) conductors. In this case, please note the tables concerning the wire-size width [[▶ 19](#)]!

3.5.2 Wiring

⚠ WARNING

Risk of electric shock and damage of device!

Bring the bus terminal system into a safe, powered down state before starting installation, disassembly or wiring of the bus terminals!

Terminals for standard wiring ELxxx/KLxxx and for pluggable wiring ESxxx/KSxxx

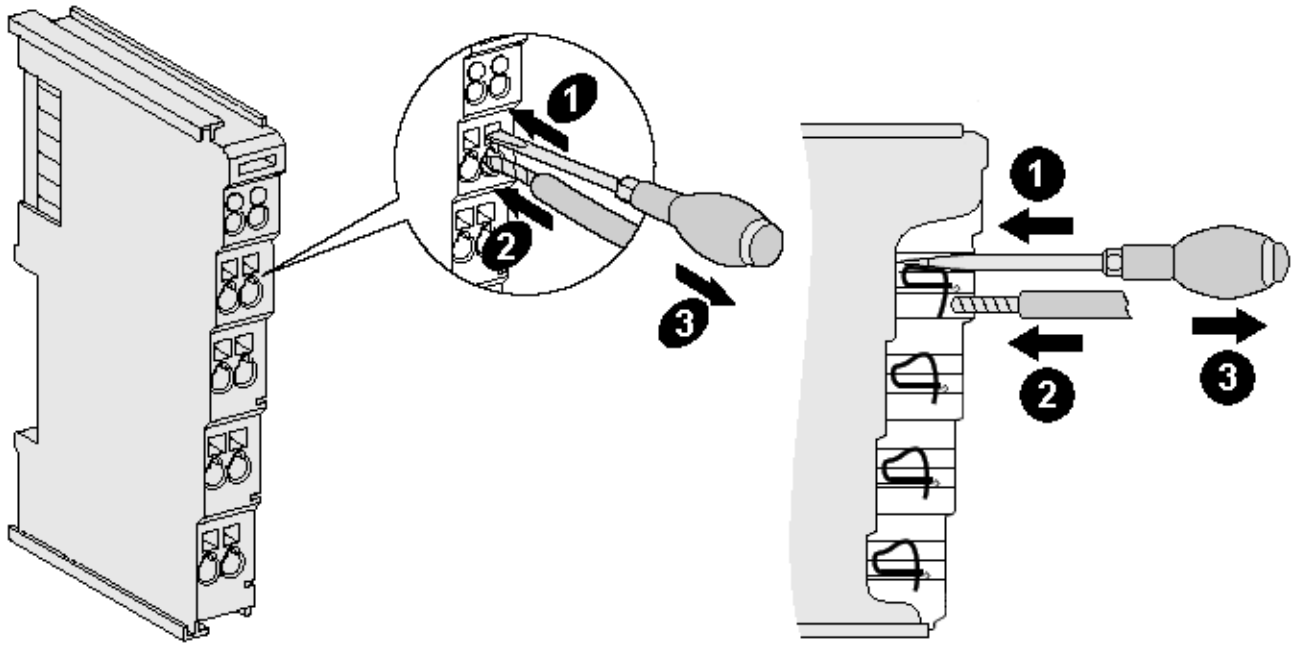


Fig. 11: Connecting a cable on a terminal point

Up to eight terminal points enable the connection of solid or finely stranded cables to the bus terminal. The terminal points are implemented in spring force technology. Connect the cables as follows:

1. Open a terminal point by pushing a screwdriver straight against the stop into the square opening above the terminal point. Do not turn the screwdriver or move it alternately (don't toggle).
2. The wire can now be inserted into the round terminal opening without any force.
3. The terminal point closes automatically when the pressure is released, holding the wire securely and permanently.

See the following table for the suitable wire size width.

| Terminal housing | ELxxx, KLxxx | ESxxx, KSxxx |
|---|------------------------------|------------------------------|
| Wire size width (single core wires) | 0.08 ... 2.5 mm ² | 0.08 ... 2.5 mm ² |
| Wire size width (fine-wire conductors) | 0.08 ... 2.5 mm ² | 0.08 ... 2.5 mm ² |
| Wire size width (conductors with a wire end sleeve) | 0.14 ... 1.5 mm ² | 0.14 ... 1.5 mm ² |
| Wire stripping length | 8 ... 9 mm | 9 ... 10 mm |

High Density Terminals (HD Terminals [▶ 18]) with 16 terminal points

The conductors of the HD Terminals are connected without tools for single-wire conductors using the direct plug-in technique, i.e. after stripping the wire is simply plugged into the terminal point. The cables are released, as usual, using the contact release with the aid of a screwdriver. See the following table for the suitable wire size width.

| Terminal housing | High Density Housing |
|--|--|
| Wire size width (single core wires) | 0.08 ... 1.5 mm ² |
| Wire size width (fine-wire conductors) | 0.25 ... 1.5 mm ² |
| Wire size width (conductors with a wire end sleeve) | 0.14 ... 0.75 mm ² |
| Wire size width (ultrasonically "bonded" conductors) | only 1.5 mm ² (see notice [▶ 18]) |
| Wire stripping length | 8 ... 9 mm |

3.5.3 Shielding

● Shielding

i Encoder, analog sensors and actuators should always be connected with shielded, twisted paired wires.

3.5.4 KL9300 – contact assignment

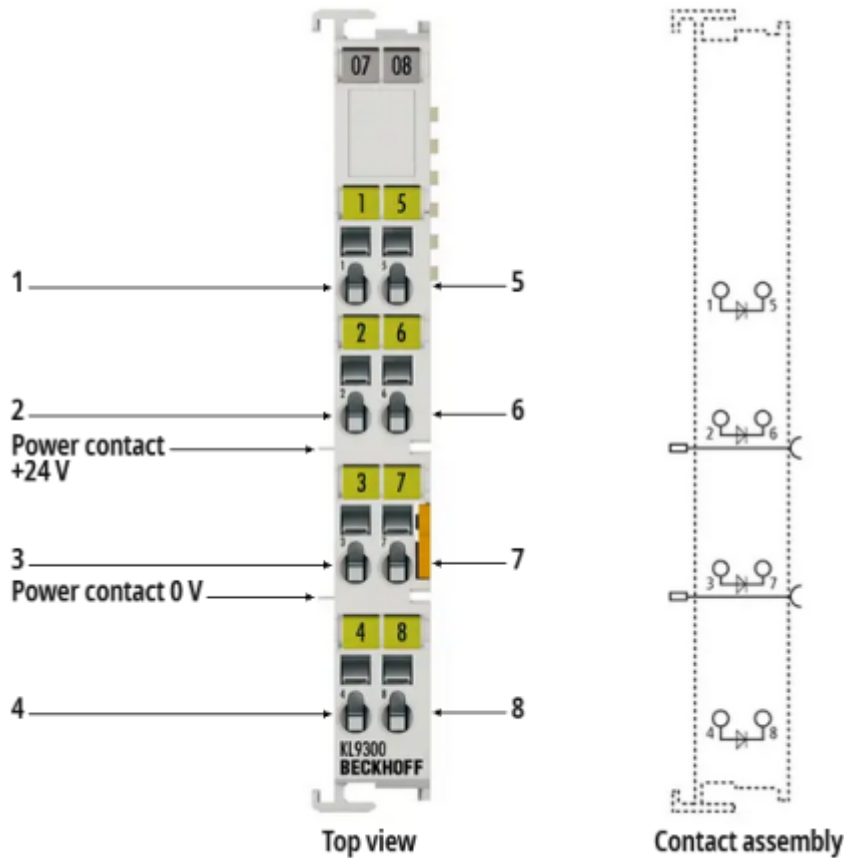


Fig. 12: KL9300 – contact assignment

| Terminal point, no. | Connector for |
|---------------------|------------------|
| 1 | diode 1, anode |
| 2 | diode 2, anode |
| 3 | diode 3, anode |
| 4 | diode 4, anode |
| 5 | diode 1, cathode |
| 6 | diode 2, cathode |
| 7 | diode 3, cathode |
| 8 | diode 4, cathode |

3.5.5 KL9301 – contact assignment

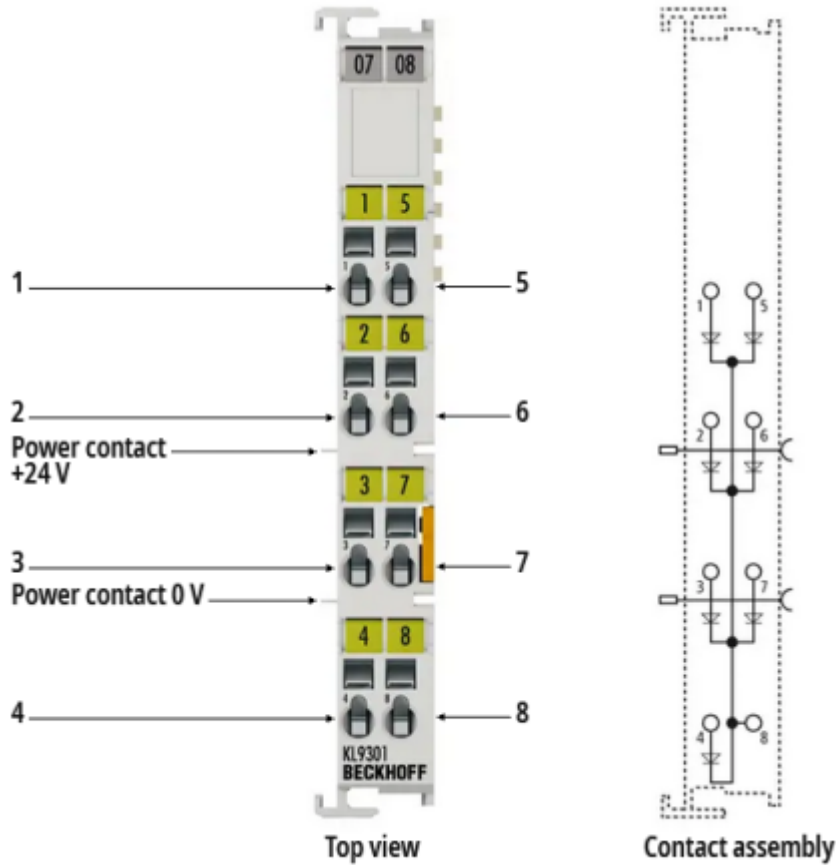


Fig. 13: KL9301 – contact assignment

| Terminal point, no. | Connector for |
|---------------------|-----------------------|
| 1 | diode 1, anode |
| 2 | diode 2, anode |
| 3 | diode 3, anode |
| 4 | diode 4, anode |
| 5 | diode 5, anode |
| 6 | diode 6, anode |
| 7 | diode 7, anode |
| 8 | diode 1 to 7, cathode |

3.5.6 KL9302 – contact assignment

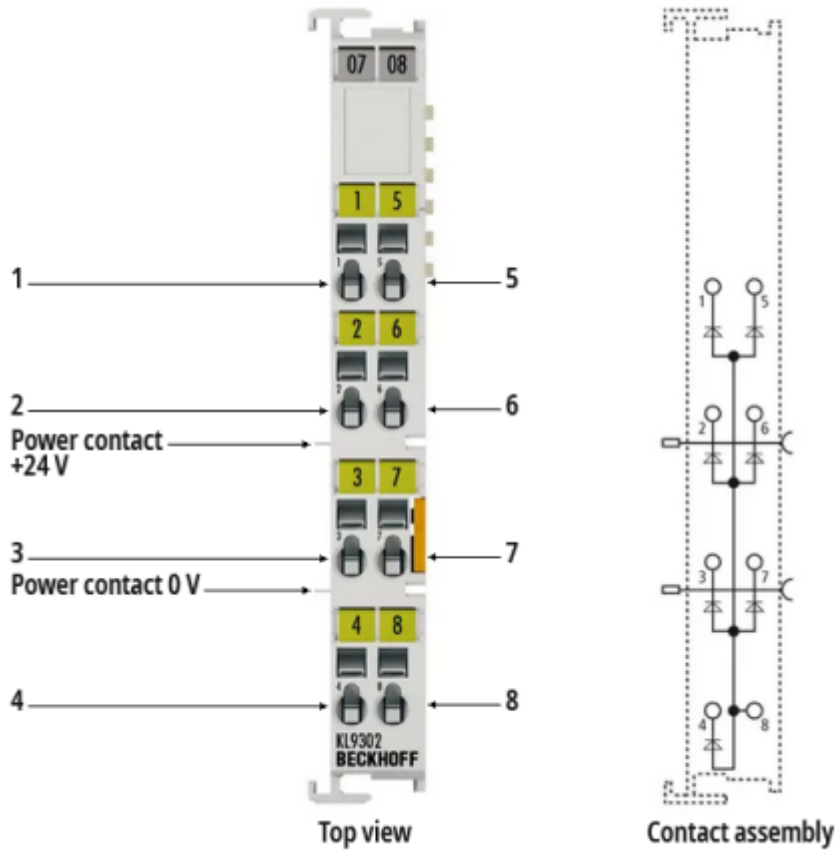


Fig. 14: KL9302 – contact assignment

| Terminal point, no. | Connector for |
|---------------------|---------------------|
| 1 | diode 1, cathode |
| 2 | diode 2, cathode |
| 3 | diode 3, cathode |
| 4 | diode 4, cathode |
| 5 | diode 5, cathode |
| 6 | diode 6, cathode |
| 7 | diode 7, cathode |
| 8 | diode 1 to 7, anode |

3.6 ATEX - Special conditions (extended temperature range)

⚠ WARNING

Observe the special conditions for the intended use of Beckhoff fieldbus components with extended temperature range (ET) in potentially explosive areas (directive 2014/34/EU)!

- The certified components are to be installed in a suitable housing that guarantees a protection class of at least IP54 in accordance with EN 60079-15! The environmental conditions during use are thereby to be taken into account!
- For dust (only the fieldbus components of certificate no. KEMA 10ATEX0075 X Issue 9): The equipment shall be installed in a suitable enclosure providing a degree of protection of IP54 according to EN 60079-31 for group IIIA or IIIB and IP6X for group IIIC, taking into account the environmental conditions under which the equipment is used!
- If the temperatures during rated operation are higher than 70°C at the feed-in points of cables, lines or pipes, or higher than 80°C at the wire branching points, then cables must be selected whose temperature data correspond to the actual measured temperature values!
- Observe the permissible ambient temperature range of -25 to 60°C for the use of Beckhoff fieldbus components with extended temperature range (ET) in potentially explosive areas!
- Measures must be taken to protect against the rated operating voltage being exceeded by more than 40% due to short-term interference voltages!
- The individual terminals may only be unplugged or removed from the Bus Terminal system if the supply voltage has been switched off or if a non-explosive atmosphere is ensured!
- The connections of the certified components may only be connected or disconnected if the supply voltage has been switched off or if a non-explosive atmosphere is ensured!
- The fuses of the KL92xx/EL92xx power feed terminals may only be exchanged if the supply voltage has been switched off or if a non-explosive atmosphere is ensured!
- Address selectors and ID switches may only be adjusted if the supply voltage has been switched off or if a non-explosive atmosphere is ensured!

Standards

The fundamental health and safety requirements are fulfilled by compliance with the following standards:

- EN 60079-0:2012+A11:2013
- EN 60079-15:2010
- EN 60079-31:2013 (only for certificate no. KEMA 10ATEX0075 X Issue 9)

Marking

The Beckhoff fieldbus components with extended temperature range (ET) certified according to the ATEX directive for potentially explosive areas bear the following marking:



II 3G KEMA 10ATEX0075 X Ex nA IIC T4 Gc Ta: -25 ... +60°C

II 3D KEMA 10ATEX0075 X Ex tc IIIC T135°C Dc Ta: -25 ... +60°C
(only for fieldbus components of certificate no. KEMA 10ATEX0075 X Issue 9)

or



II 3G KEMA 10ATEX0075 X Ex nA nC IIC T4 Gc Ta: -25 ... +60°C

II 3D KEMA 10ATEX0075 X Ex tc IIIC T135°C Dc Ta: -25 ... +60°C
(only for fieldbus components of certificate no. KEMA 10ATEX0075 X Issue 9)

3.7 IECEx - Special conditions

WARNING

Observe the special conditions for the intended use of Beckhoff fieldbus components in potentially explosive areas!

- For gas: The equipment shall be installed in a suitable enclosure providing a degree of protection of IP54 according to IEC 60079-15, taking into account the environmental conditions under which the equipment is used!
- For dust (only the fieldbus components of certificate no. IECEx DEK 16.0078X Issue 3): The equipment shall be installed in a suitable enclosure providing a degree of protection of IP54 according to EN 60079-31 for group IIIA or IIIB and IP6X for group IIIC, taking into account the environmental conditions under which the equipment is used!
- The equipment shall only be used in an area of at least pollution degree 2, as defined in IEC 60664-1!
- Provisions shall be made to prevent the rated voltage from being exceeded by transient disturbances of more than 119 V!
- If the temperatures during rated operation are higher than 70°C at the feed-in points of cables, lines or pipes, or higher than 80°C at the wire branching points, then cables must be selected whose temperature data correspond to the actual measured temperature values!
- Observe the permissible ambient temperature range for the use of Beckhoff fieldbus components in potentially explosive areas!
- The individual terminals may only be unplugged or removed from the Bus Terminal system if the supply voltage has been switched off or if a non-explosive atmosphere is ensured!
- The connections of the certified components may only be connected or disconnected if the supply voltage has been switched off or if a non-explosive atmosphere is ensured!
- Address selectors and ID switches may only be adjusted if the supply voltage has been switched off or if a non-explosive atmosphere is ensured!
- The front hatch of certified units may only be opened if the supply voltage has been switched off or a non-explosive atmosphere is ensured!

Standards

The fundamental health and safety requirements are fulfilled by compliance with the following standards:

- EN 60079-0:2011
- EN 60079-15:2010
- EN 60079-31:2013 (only for certificate no. IECEx DEK 16.0078X Issue 3)

Marking

Beckhoff fieldbus components that are certified in accordance with IECEx for use in areas subject to an explosion hazard bear the following markings:

| | |
|--|-----------------------------|
| Marking for fieldbus components of certificate no. IECEx DEK 16.0078X Issue 3: | IECEx DEK 16.0078 X |
| | Ex nA IIC T4 Gc |
| | Ex tc IIIC T135°C Dc |

| | |
|--|----------------------------|
| Marking for fieldbus components of certificates with later issues: | IECEx DEK 16.0078 X |
| | Ex nA IIC T4 Gc |

3.8 Continulative documentation for ATEX and IECEx

NOTICE



Continulative documentation about explosion protection according to ATEX and IECEx

Pay also attention to the continuative documentation

Ex. Protection for Terminal Systems

Notes on the use of the Beckhoff terminal systems in hazardous areas according to ATEX and IECEx,

that is available for [download](#) within the download area of your product on the Beckhoff homepage www.beckhoff.com!

4 Appendix

4.1 Beckhoff Identification Code (BIC)

The Beckhoff Identification Code (BIC) is increasingly being applied to Beckhoff products to uniquely identify the product. The BIC is represented as a Data Matrix Code (DMC, code scheme ECC200), the content is based on the ANSI standard MH10.8.2-2016.

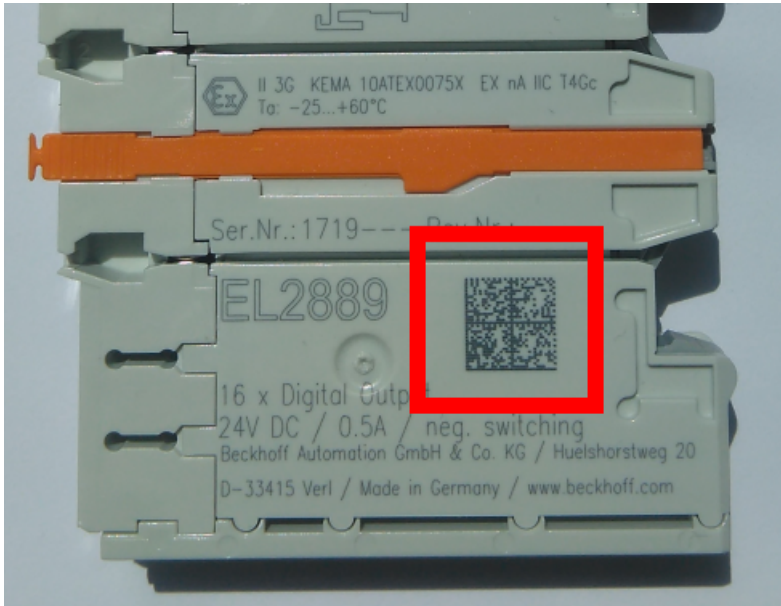


Fig. 15: BIC as data matrix code (DMC, code scheme ECC200)

The BIC will be introduced step by step across all product groups.

Depending on the product, it can be found in the following places:

- on the packaging unit
- directly on the product (if space suffices)
- on the packaging unit and the product

The BIC is machine-readable and contains information that can also be used by the customer for handling and product management.

Each piece of information can be uniquely identified using the so-called data identifier (ANSI MH10.8.2-2016). The data identifier is followed by a character string. Both together have a maximum length according to the table below. If the information is shorter, spaces are added to it.

Following information is possible, positions 1 to 4 are always present, the other according to need of production:

| Position | Type of information | Explanation | Data identifier | Number of digits incl. data identifier | Example |
|----------|------------------------------------|---|-----------------|--|-------------------------|
| 1 | Beckhoff order number | Beckhoff order number | 1P | 8 | 1P 072222 |
| 2 | Beckhoff Traceability Number (BTN) | Unique serial number, see note below | SBTN | 12 | SBTN k4p562d7 |
| 3 | Article description | Beckhoff article description, e.g. EL1008 | 1K | 32 | 1K EL1809 |
| 4 | Quantity | Quantity in packaging unit, e.g. 1, 10, etc. | Q | 6 | Q1 |
| 5 | Batch number | Optional: Year and week of production | 2P | 14 | 2P 401503180016 |
| 6 | ID/serial number | Optional: Present-day serial number system, e.g. with safety products | 51S | 12 | 51S 678294 |
| 7 | Variant number | Optional: Product variant number on the basis of standard products | 30P | 32 | 30P F971, 2*K183 |
| ... | | | | | |

Further types of information and data identifiers are used by Beckhoff and serve internal processes.

Structure of the BIC

Example of composite information from positions 1 to 4 and with the above given example value on position 6. The data identifiers are highlighted in bold font:

1P072222**SBTN**k4p562d7**1K**EL1809 **Q1** **51S**678294

Accordingly as DMC:



Fig. 16: Example DMC **1P**072222**SBTN**k4p562d7**1K**EL1809 **Q1** **51S**678294

BTN

An important component of the BIC is the Beckhoff Traceability Number (BTN, position 2). The BTN is a unique serial number consisting of eight characters that will replace all other serial number systems at Beckhoff in the long term (e.g. batch designations on IO components, previous serial number range for safety products, etc.). The BTN will also be introduced step by step, so it may happen that the BTN is not yet coded in the BIC.

NOTICE

This information has been carefully prepared. However, the procedure described is constantly being further developed. We reserve the right to revise and change procedures and documentation at any time and without prior notice. No claims for changes can be made from the information, illustrations and descriptions in this documentation.

4.2 Support and Service

Beckhoff and their partners around the world offer comprehensive support and service, making available fast and competent assistance with all questions related to Beckhoff products and system solutions.

Beckhoff's branch offices and representatives

Please contact your Beckhoff branch office or representative for local support and service on Beckhoff products!

The addresses of Beckhoff's branch offices and representatives round the world can be found on her internet pages: www.beckhoff.com

You will also find further documentation for Beckhoff components there.

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Table of figures

| | | |
|---------|--|----|
| Fig. 1 | KL9300..... | 8 |
| Fig. 2 | KL9301..... | 9 |
| Fig. 3 | KL9302..... | 10 |
| Fig. 4 | Spring contacts of the Beckhoff I/O components..... | 12 |
| Fig. 5 | Attaching on mounting rail..... | 13 |
| Fig. 6 | Disassembling of terminal..... | 14 |
| Fig. 7 | Power contact on left side..... | 15 |
| Fig. 8 | Standard wiring..... | 17 |
| Fig. 9 | Pluggable wiring..... | 17 |
| Fig. 10 | High Density Terminals..... | 18 |
| Fig. 11 | Connecting a cable on a terminal point..... | 19 |
| Fig. 12 | KL9300 – contact assignment..... | 21 |
| Fig. 13 | KL9301 – contact assignment..... | 22 |
| Fig. 14 | KL9302 – contact assignment..... | 23 |
| Fig. 15 | BIC as data matrix code (DMC, code scheme ECC200)..... | 27 |
| Fig. 16 | Example DMC 1P072222SBTNk4p562d71KEL1809 Q1 51S678294..... | 28 |

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