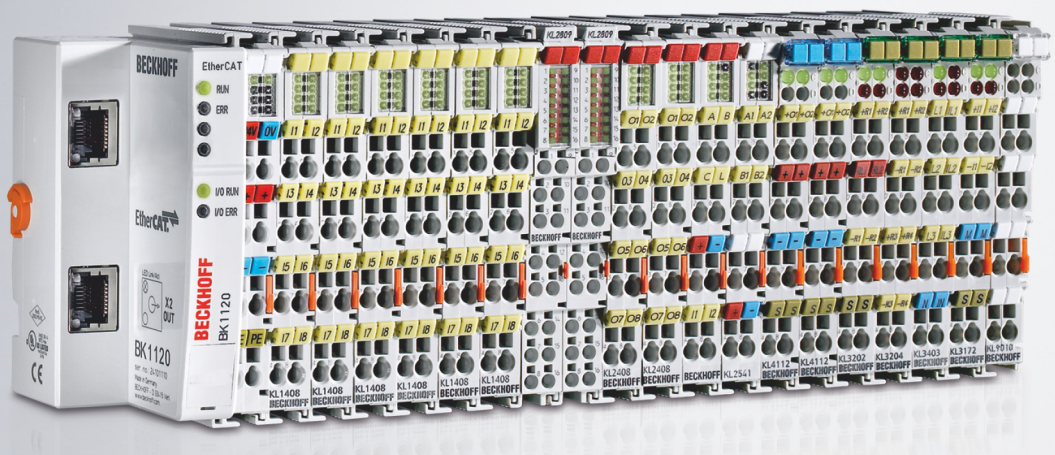
BECKHOFF New Automation Technology

Documentation | EN

KL9540, KL9540-0010 and KL9550

Surge Filter Terminals



2022-08-17 | Version: 3.1.0

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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.
It is the duty of the technical personnel to use the documentation published at the respective time of each installation and commissioning.

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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Copyright

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.

Description of instructions

In this documentation the following instructions are used.
These instructions must be read carefully and followed without fail!

⚠ DANGER

Serious risk of injury!

Failure to follow this safety instruction directly endangers the life and health of persons.

⚠ WARNING

Risk of injury!

Failure to follow this safety instruction endangers the life and health of persons.

⚠ CAUTION

Personal injuries!

Failure to follow this safety instruction can lead to injuries to persons.

NOTE

Damage to environment/equipment or data loss

Failure to follow this instruction can lead to environmental damage, equipment damage or data loss.

Tip or pointer

This symbol indicates information that contributes to better understanding.

1.3 Documentation issue status

Version	Comment
3.1.0	• Chapter “Technical data” updated • Document structure updated • Chapter “Disposal” added • Chapter “Instructions for ESD protection” updated • Chapter “Beckhoff Identification Code (BIC)” added • New title page
3.0.1	• Technical data updated
3.0.0	• Migration
2.1.0	• Technical data updated • ATEX notes added • KL9540-0010 updated
2.0.0	• Permitted ambient temperature range extended • KL9540-0010 added
1.0	First public issue (describes KL9540-0000 and KL9550-0000)

2 Product overview

Surge filter terminals for the field supply and K-bus supply

The surge filter terminals include overvoltage filters for the K-bus (Bus Coupler) and/or field supply (power contacts).

The filters protect the components from line-bound surge voltages that can occur due to high-energy disturbance variables such as switching surges at inductive consumers or lightning strikes at the supply lines. The surge filter terminals can be used to protect the Bus Terminal station from damage in particularly hostile environments. The ship classification organizations stipulate the use of surge filters in shipbuilding applications and in the onshore / offshore sector.

The following types are available:

- KL9540 / KS9540 [▶ 9]: Surge filter terminals for field supply
- KL9540-0010 / KS9540-0010: [▶ 10] Surge filter terminals for field supply of analog Bus Terminals
- KL9550 / KS9550 [▶ 11]: Surge filter terminals for field supply and K-Bus supply

Features

Surge filter terminal	KL9540 KS9540	KL9540-0010 KS9540-0010	KL9550 KS9550
Surge filter for system supply (Us)	no	no	yes
Surge filter for field supply (Up)	yes	yes	yes
Buffers the field supply (Up)	no	yes	no

2.1 KL9540 - introduction

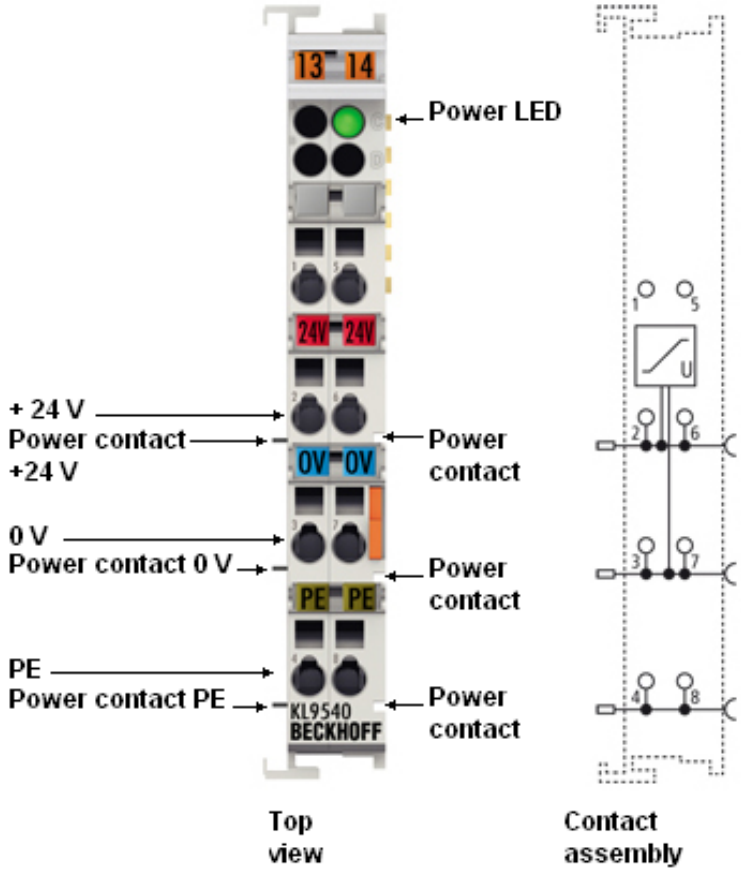

Fig. 1: KL9540

Surge filter terminals for field supply

The KL9540 surge filter terminal contains an overvoltage filter for the field supply. The filter protects the components from line-bound surge voltages that can occur due to high-energy disturbance variables such as switching surges at inductive consumers or lightning strikes at the supply lines.

LED displays

LED	Meaning	
Power (green)	on	Field supply voltage present

2.2 KL9540-0010 - introduction

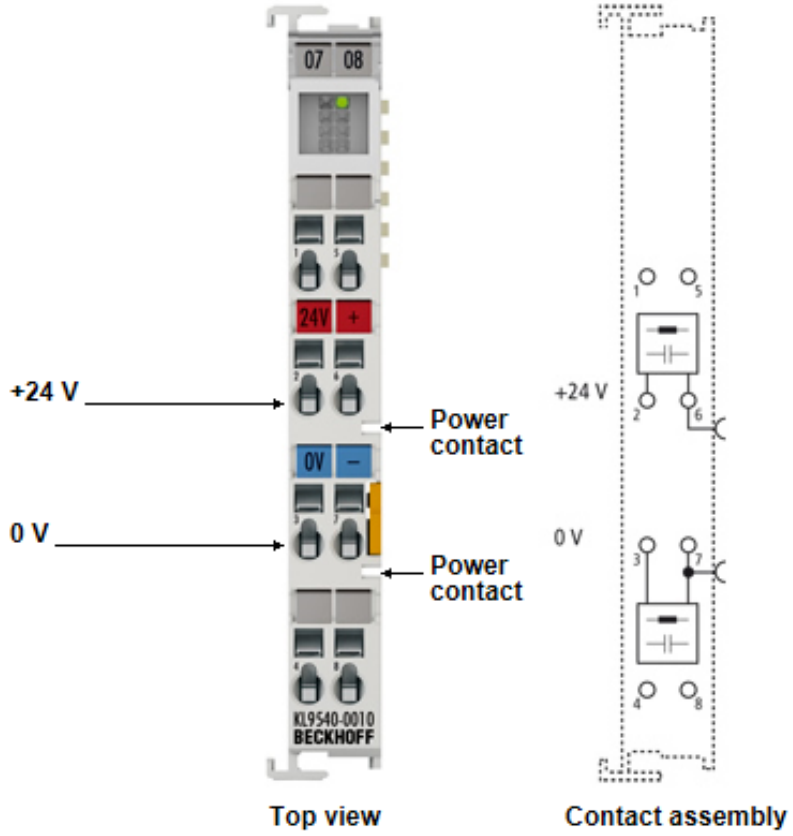

Fig. 2: KL9540-0010

Surge filter terminals for field supply of analog Bus Terminals

The KL9540-0010 system terminal includes an overvoltage filter for the 24 V field supply.
The filter protects the Bus Terminal from line-bound surge voltages that can occur due to high-energy disturbance variables such as switching overvoltages at inductive consumers or lightning strikes at the supply lines.

The KL9540-0010 can protect Bus Terminal stations in particularly harsh environments from damage.
The use of such overvoltage filters is stipulated by the ship classification organizations in shipbuilding and on/offshore applications in which GL certification is required.
The KL9540-0010 is intended in particular for the protection of analog terminals; the standard variant KL9540 for digital terminals.

The LED indicates the 24 V rated voltage. The terminal does not transfer process data to the higher-level control system.

LED displays

LED	Meaning	
Power (green)	on	Field supply voltage present

2.3 KL9550 - introduction

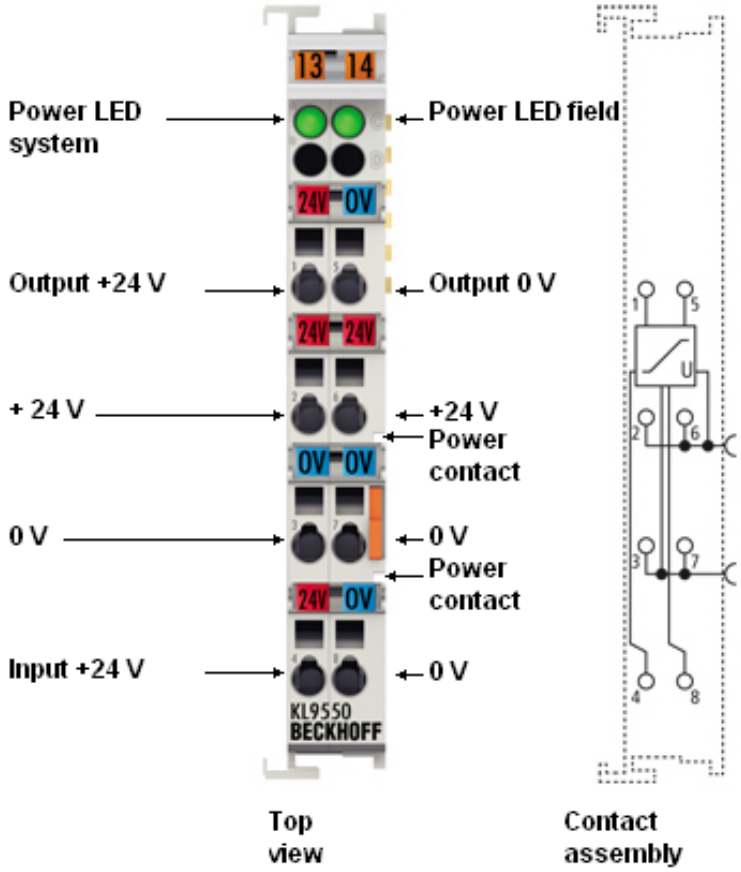

Fig. 3: KL9550

Surge filter terminals for field supply and K-Bus supply

The KL9550 surge filter terminal contains overvoltage filters for the field supply (power contacts) and the K-Bus supply (Bus Coupler). The filters protect the components from line-bound surge voltages that can occur due to high-energy disturbance variables such as switching surges at inductive consumers or lightning strikes at the supply lines.

LED displays

LED	Meaning	
Power system (green)	on	K-Bus supply voltage present
Power field (green)	on	Field supply voltage present

2.4 Technical data

Technical data	KL9540 KS9540	KL9550 KS9550	KL9540-0010 KS9540-0010
Rated voltage	24 V (-15%, +20%)		
Surge filter for field supply (Up)	yes	yes	yes
Surge filter for system supply (Us)	no	yes	no
Buffers the field supply (Up)	no	no	yes
Terminal point for PE	yes	no	no
Current carrying capacity of the field supply	10 A max.		5 A max.
Current carrying capacity of the system supply	-	0.5 A max.	-
Current consumption from the K-bus	-		
Bit width in the input process image	-		
Bit width in the output process image	-		
Dimensions (W x H x D)	approx. 12 mm x 100 mm x 70 mm		
Weight	approx. 40 g	approx. 50 g	approx. 65 g
Permissible ambient temperature range during operation	-25 °C ... +60 °C (extended temperature range)		0 °C ... +55 °C
Permissible ambient temperature range during storage	-40 °C ... +85 °C		-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, GL, ATEX [▶ 26]		CE, UKCA, cULus, EAC, GL

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

Ex marking

Standard	Marking
ATEX	II 3 G Ex nA IIC T4 Gc

3 Mounting and wiring

3.1 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!

Assembly

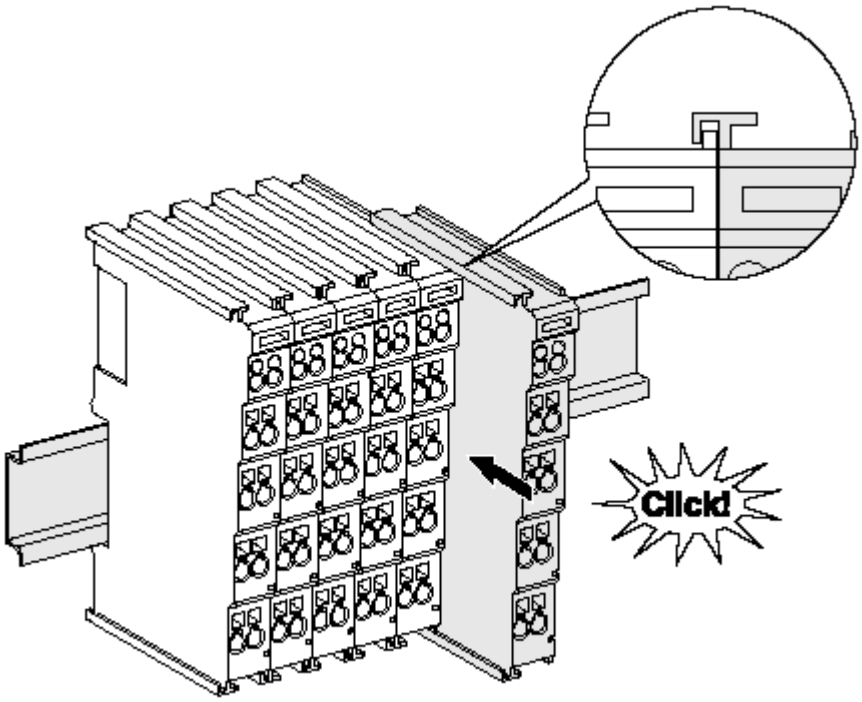

Fig. 4: Attaching on mounting rail

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.

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

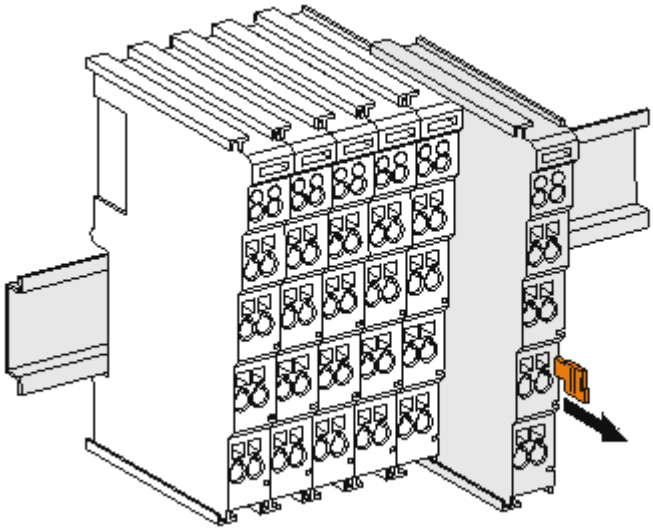

Fig. 5: Disassembling of terminal

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

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.

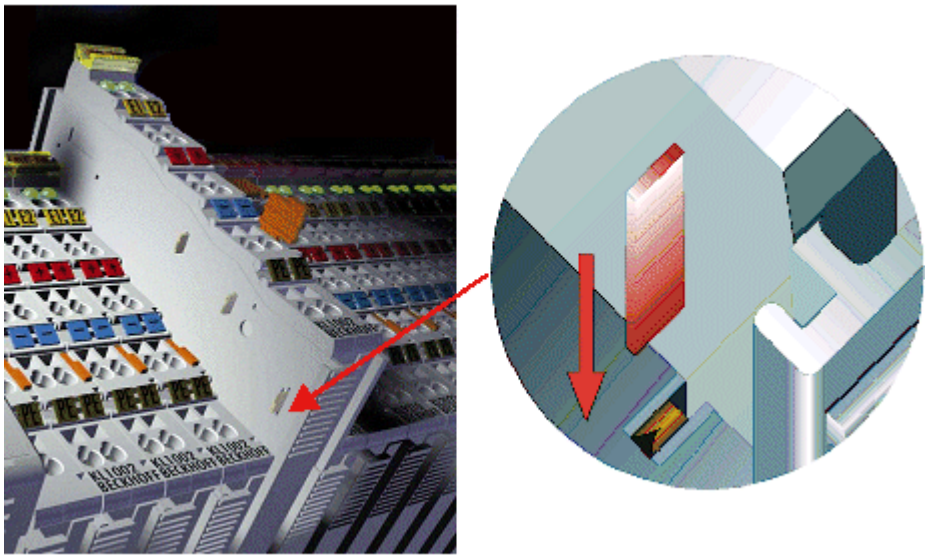

Fig. 6: Power contact on left side

NOTE

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!

3.2 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.

3.3 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.

3.4 Connection

3.4.1 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. 7: 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)

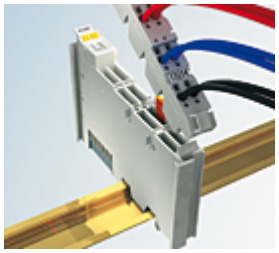

Fig. 8: Pluggable wiring

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 mm^2 and 2.5 mm^2 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. 9: 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

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

Ultrasonically “bonded” (ultrasonically welded) conductors

Ultrasonically “bonded” conductors

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]!

3.4.2 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 ELxxxx/KLxxxx and for pluggable wiring ESxxxx/KSxxxx

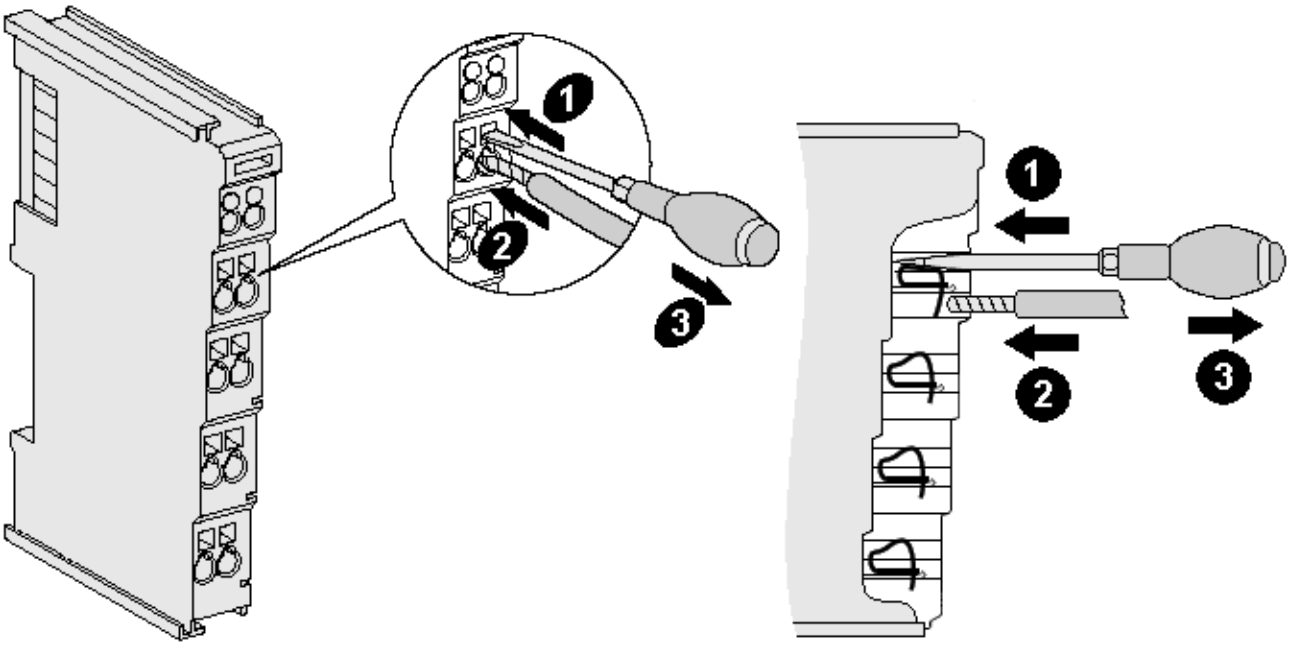

Fig. 10: Connecting a cable on a terminal point

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	ELxxxx, KLxxxx	ESxxxx, KSxxxx
Wire size width (single core wires)	0.08 ... 2.5 mm²	0.08 ... 2.5 mm²
Wire size width (fine-wire conductors)	0.08 ... 2.5 mm²	0.08 ... 2.5 mm²
Wire size width (conductors with a wire end sleeve)	0.14 ... 1.5 mm²	0.14 ... 1.5 mm²
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

3.4.3 Shielding

Shielding

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

3.4.4 KL9540 - contact assignment

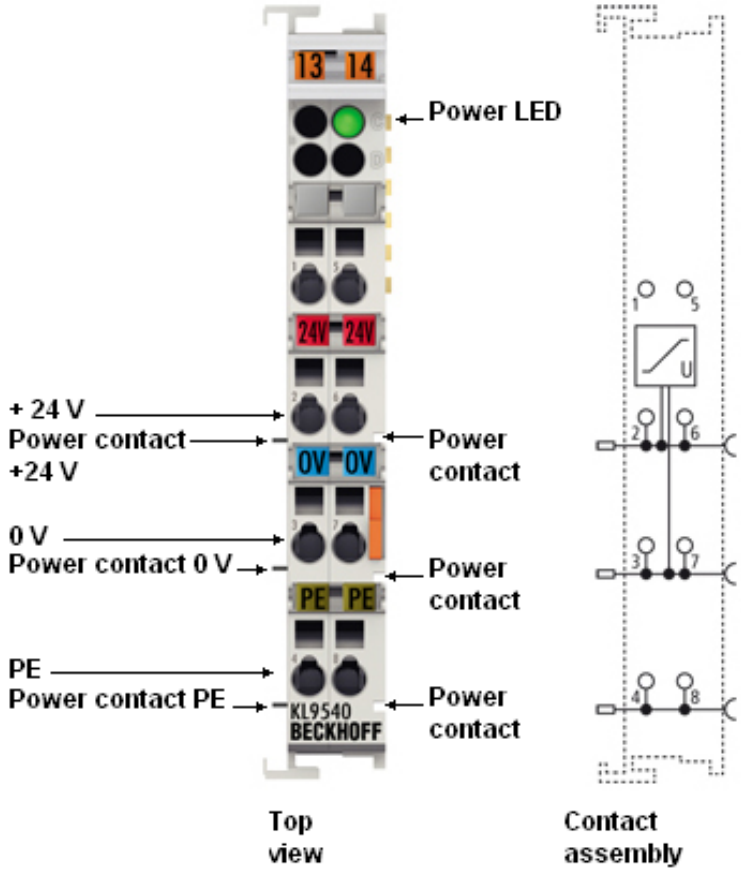

Fig. 11: KL9540 - contact assignment

Terminal point	No.	Function
-	1	not used
-	5	not used
+24 V	2	Field supply feed for the power contacts (internally connected to terminal point 6)
+24 V	6	Field supply feed for the power contacts (internally connected to terminal point 2)
0 V	3	Field supply feed for the power contacts (internally connected to terminal point 7)
0 V	7	Field supply feed for the power contacts (internally connected to terminal point 3)
PE	4	PE connection (internally connected to terminal point 8)
PE	8	PE connection (internally connected to terminal point 4)

3.4.5 KL9540-0010 - contact assignment

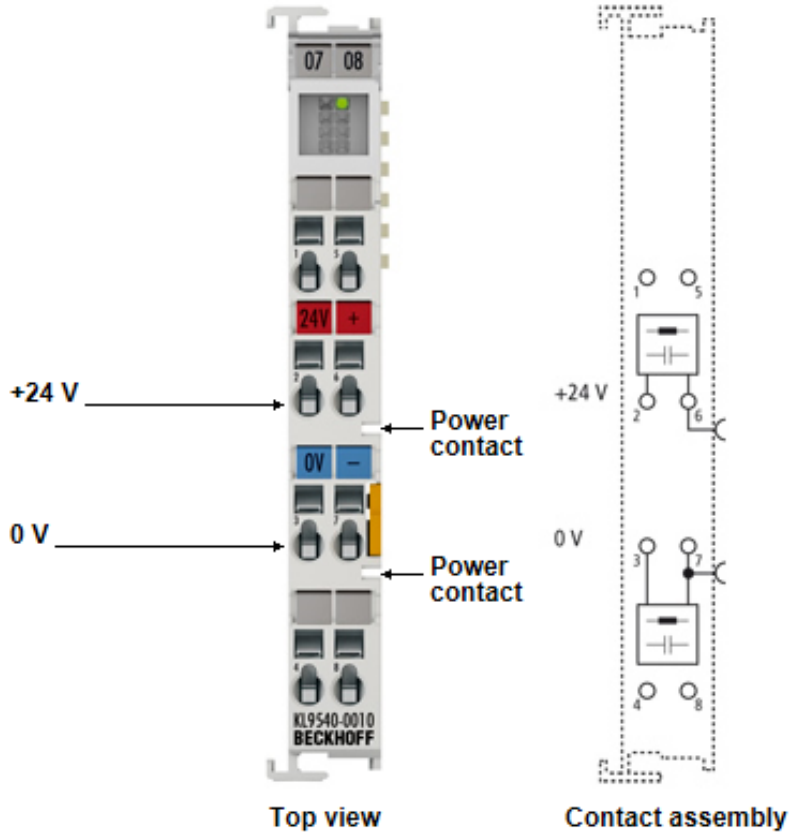

Fig. 12: KL9540-0010 - contact assignment

Terminal point	No.	Function
-	1	not used
-	5	not used
+24 V input	2	Field supply feed for the power contacts
+24 V output	6	internally connected to positive power contact
0 V input	3	Field supply feed for the power contacts
0 V output	7	internally connected to negative power contact
-	4	not used
-	8	not used

3.4.6 KL9550 - contact assignment

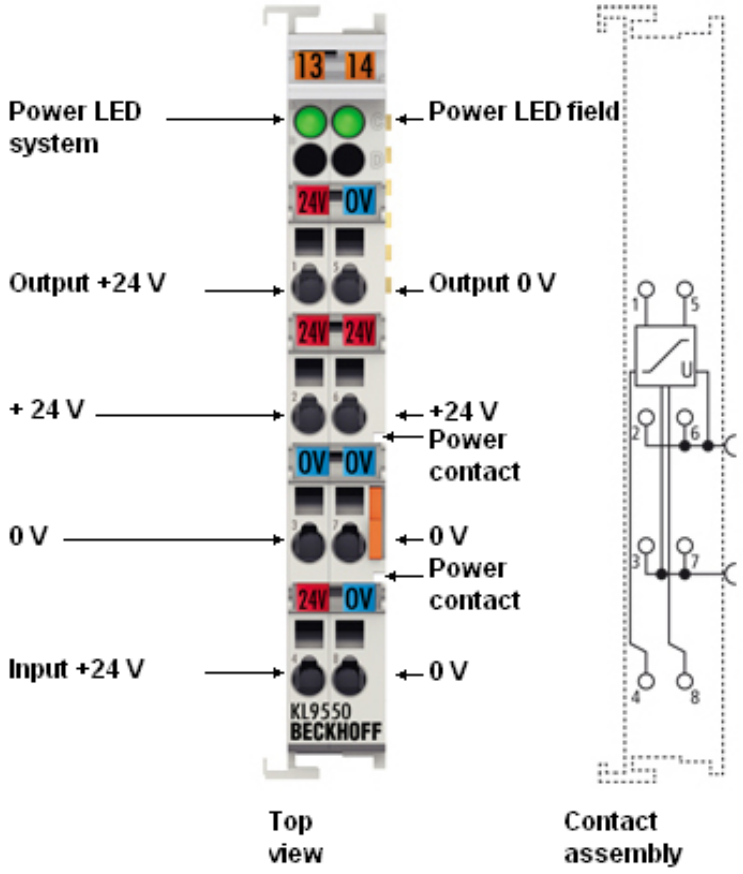

Fig. 13: KL9550 - contact assignment

Terminal point	No.	Function
System power +24 V out	1	Distribution of the system supply to the Bus Coupler
+0 V out system power	5	Distribution of the system supply to the Bus Coupler
+24 V	2	Field supply feed for the power contacts (internally connected to terminal point 6)
+24 V	6	Field supply feed for the power contacts (internally connected to terminal point 2)
0 V	3	Field supply feed for the power contacts (internally connected to terminal point 7)
0 V	7	Field supply feed for the power contacts (internally connected to terminal point 3)
System power +24 V in	4	System supply feed
+0 V in system power	8	System supply feed

3.5 KL9540, KL9550 - application example

⚠ WARNING

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

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

The example shows

- a KL9550 Surge Filter Terminal for supplying
  - the Bus Coupler (U_L: K-Bus supply)
  - the field voltage (U_{S1}: power contacts, potential group 1)
- a KL9540 Surge Filter Terminal in conjunction with the KL9190 power feed terminal for power supply
  - the field voltage (U_{S2}: power contacts, potential group 2)

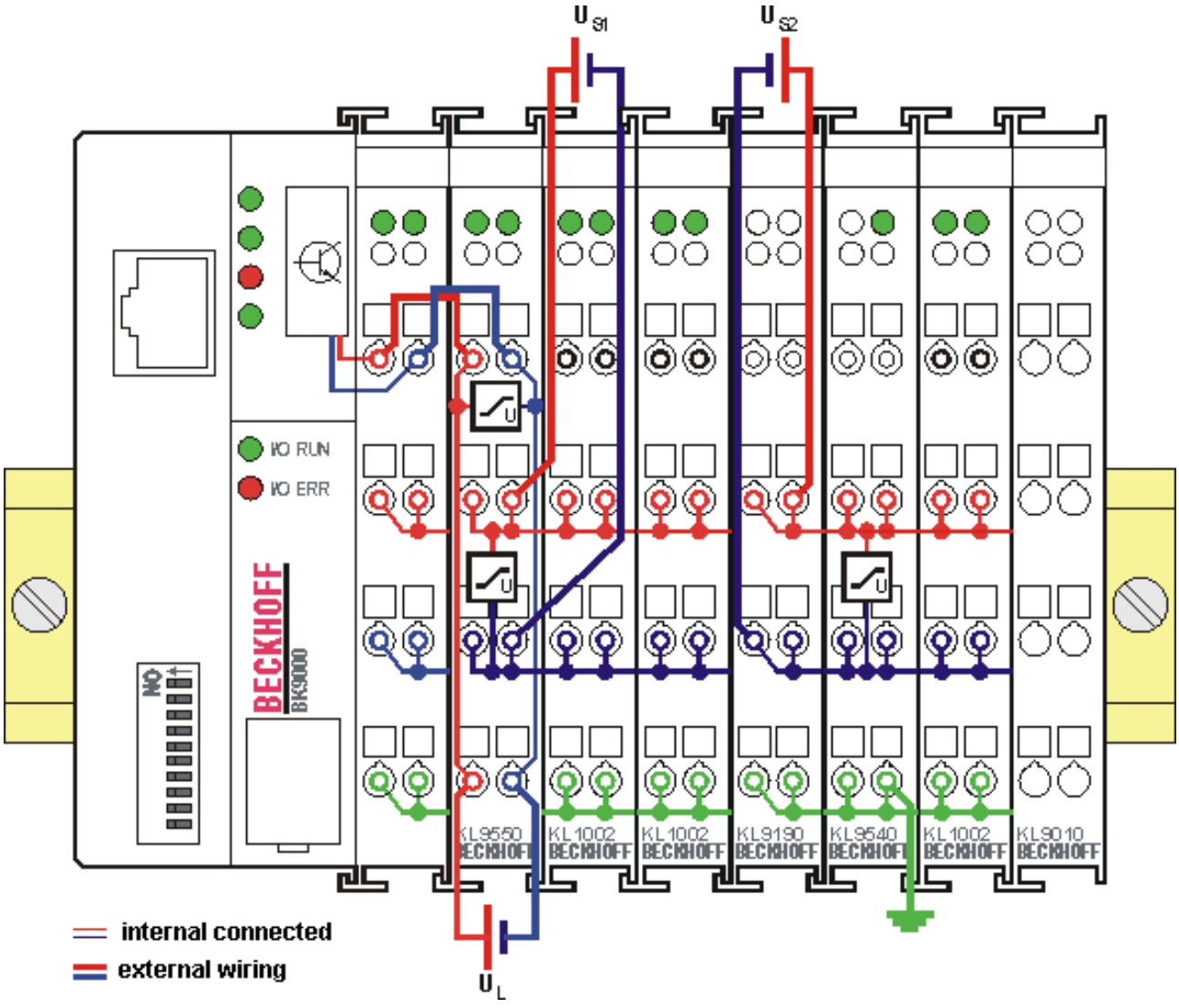

Fig. 14: Application example KL9540, KL9550

3.6 KL9540-0010, KL9550 - application example

⚠ WARNING

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

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

The example shows

- a KL9550 Surge Filter Terminal for power supply
  - the Bus Coupler (U_L: K-Bus power supply)
  - the field voltage for the digital terminals (U_{S1}: power contacts, potential group 1)
- a KL9540-0010 Surge Filter Terminal for power supply
  - the field voltage for the analog terminals (U_{S2}: power contacts, potential group 2)

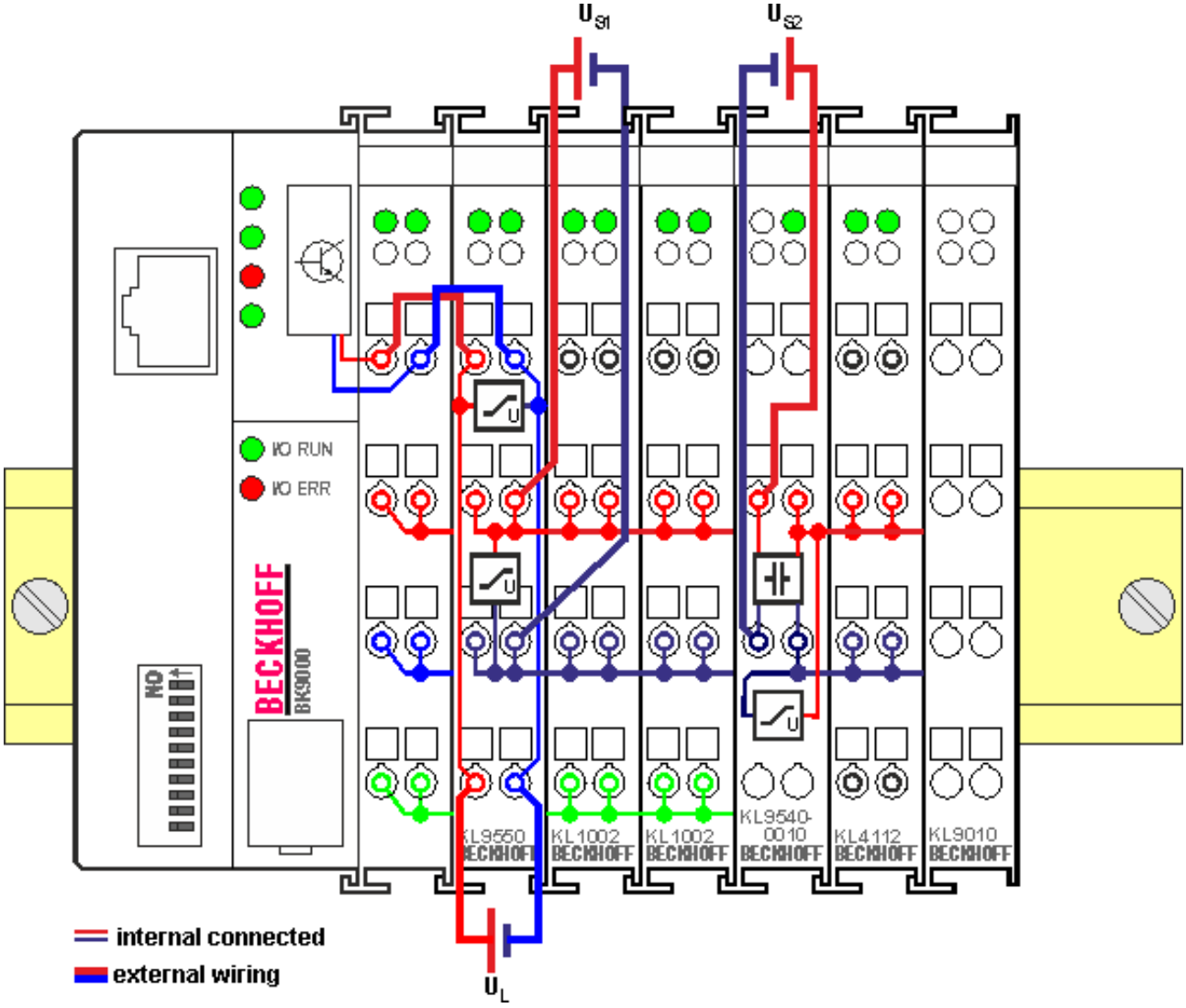

Fig. 15: KL9540-0010, KL9550 - application example

3.7 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)

3.8 Continuative documentation for ATEX and IECEx

NOTE	
	**Continuative 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.

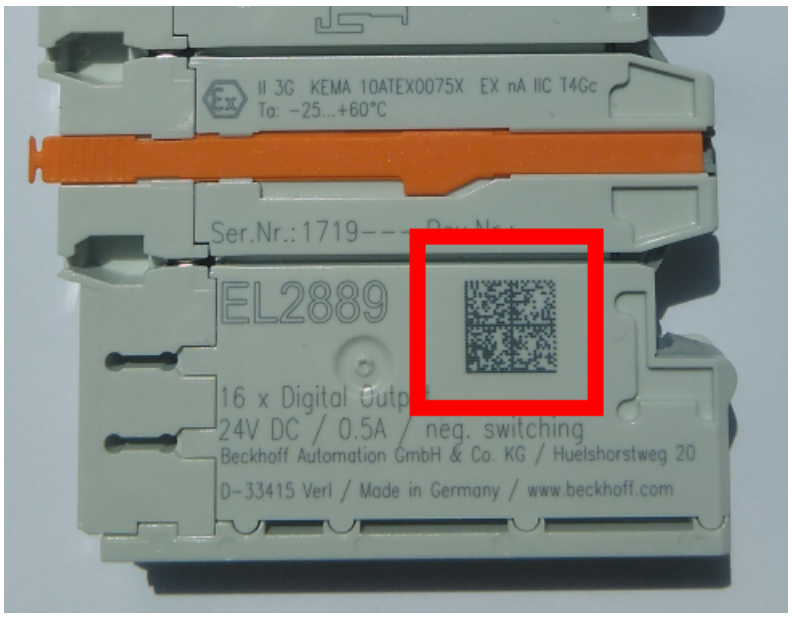

Fig. 16: BIC as data matrix code (DMC, code scheme ECC200)

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	1P072222
2	Beckhoff Traceability Number (BTN)	**Unique serial number, see note below**	SBTN	12	SBTNk4p562d7
3	Article description	**Beckhoff article description, e.g. EL1008**	1K	32	1KEL1809
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	2P401503180016
6	ID/serial number	Optional: Present-day serial number system, e.g. with safety products	51S	12	51S678294
7	Variant number	Optional: Product variant number on the basis of standard products	30P	32	30PF971, 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**S**BTNk4p562d7**1K**EL1809 **Q**1 **51S**678294

Accordingly as DMC:

Fig. 17: Example DMC **1P**072222**S**BTNk4p562d7**1K**EL1809 **Q**1 **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.

NOTE

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 information.

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: https://www.beckhoff.com

You will also find further documentation for Beckhoff components there.

Beckhoff Support

Support offers you comprehensive technical assistance, helping you not only with the application of individual Beckhoff products, but also with other, wide-ranging services:

- support
- design, programming and commissioning of complex automation systems
- and extensive training program for Beckhoff system components

Hotline:	+49 5246 963 157
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Beckhoff Service

The Beckhoff Service Center supports you in all matters of after-sales service:

- on-site service
- repair service
- spare parts service
- hotline service

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