

Documentation | EN

# CU2608

8-port Ethernet Switch with IP67 protection class





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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

Beckhoff®, TwinCAT®, TwinCAT/BSD®, TC/BSD®, EtherCAT®, EtherCAT G®, EtherCAT G10®, EtherCAT P®, Safety over EtherCAT®, TwinSAFE®, XFC®, XTS® and XPlanar® are registered trademarks of and licensed by Beckhoff Automation GmbH. Other designations used in this publication may be trademarks whose use by third parties for their own purposes could violate the rights of the owners.

### 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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Offenders will be held liable for the payment of damages. All rights reserved in the event of the grant of a patent, utility model or design.

## 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
2.3	<ul style="list-style-type: none"> <li>• Dimensions updated</li> <li>• UL requirements updated</li> </ul>
2.2	<ul style="list-style-type: none"> <li>- Approval cURus added</li> <li>- Structure update</li> </ul>
2.1.0	<ul style="list-style-type: none"> <li>- Pin assignment of the Ethernet socket updated</li> <li>- Structure update</li> </ul>
2.0.0	<ul style="list-style-type: none"> <li>- Migration</li> </ul>
1.1.0	<ul style="list-style-type: none"> <li>- Pin assignment for M12 socket added to introduction</li> </ul>
1.0.0	<ul style="list-style-type: none"> <li>- First public issue (technical data updated)</li> </ul>
0.5.0	<ul style="list-style-type: none"> <li>- draft</li> </ul>

### Firmware and hardware versions

This documentation refers to the firmware and hardware version that was applicable at the time the documentation was written.

The module features are continuously improved and developed further. Modules having earlier production statuses cannot have the same properties as modules with the latest status. However, existing properties are retained and are not changed, so that older modules can always be replaced with new ones.

The firmware and hardware version (delivery state) can be found in the batch number (D-number) printed on the side of the EtherCAT Box.

### Syntax of the batch number (D-number)

D: WW YY FF HH

WW - week of production (calendar week)

YY - year of production

FF - firmware version

HH - hardware version

Example with D no. 29 10 02 01:

29 - week of production 29

10 - year of production 2010

02 - firmware version 02

01 - hardware version 01

Further information on this topic: [Version identification of EtherCAT devices \[► 22\]](#).

## 2 Product overview

### 2.1 Introduction



Fig. 1: CU2608

#### 8-port Ethernet switch in protection class IP67

The CU2608 Ethernet switch offers eight d-coded M12 Ethernet ports. Switches relay incoming Ethernet frames to the destination ports. In full duplex mode, they prevent collisions. They can be used universally in automation and office networks. It is installed either via two central 4 mm screws or two diagonally arranged 3 mm screws.

The CU2608 meets the special requirements of real-time capable Industrial Ethernet solutions with outstanding features:

- Compact design with IP67 plastic housing
- Eight d-coded M12 sockets
- 10/100 MBaud, half or full duplex, with automatic baud rate detection
- Cross-over detection: automatic detection and correction of crossover and straight-through Ethernet cables
- Clear, fast diagnosis, one LED per Ethernet port
- Simple mounting in the field



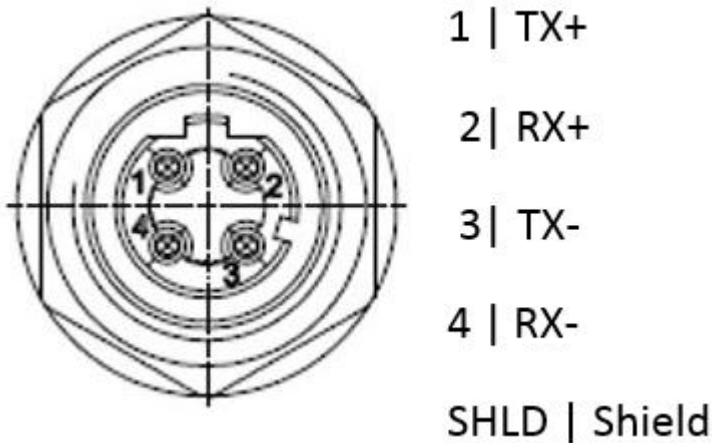
**Socket pin assignment, 4-pin M12**

Fig. 2: Socket pin assignment, 4-pin M12

## 2.2 Basic function principles

**Store and Forward**

The switch operates according to the *store-and-forward* principle. Frames that are faulty (CRC error), too short (< 64 bytes) or too long (> 1536 bytes) are generally not passed on.

**Address Memory**

The switch learns the MAC addresses of the connected devices for each port. Only frames that have these addresses, broadcast/or multi-cast addresses, or which have unknown addresses are passed on to this port. Because the switch remembers more than 1000 addresses for each port, it is also suitable for connecting entire network segments. After approx. 5 minutes (Aging Time) unused addresses are removed from the memory – if required, they are re-learnt again later.

**Throughput**

The switch can pass through up to 148800 Ethernet frames per second (Wire Speed).

**PoE - Power over Ethernet**

The CU20xx, CU22xx and CU26xx switches do not support PoE according to IEEE 802.3; they do not reveal themselves as PSE (power sourcing equipment) or PD (powered devices). Any PSE connected to the switch must therefore not apply a voltage.

No provision is made in the standard for passive interconnection or distribution.

**Jumbo Frames**

Jumbo Frames are oversized Ethernet telegrams with a length of more than 1518 bytes. They are used in applications that require very high data throughput, for example.

The CU2208 (from hardware version 01) supports Jumbo Frames up to 9720 bytes on all ports. Please note the following:

- Jumbo Frames only supported by ports with Gbit link
- Jumbo Frames place high demands on internal data transmission. It is therefore necessary to assess the data throughput that can be achieved through the CU2208 for each individual application. Under full load no more than 2 ports can be used for Jumbo Frames at the same time.

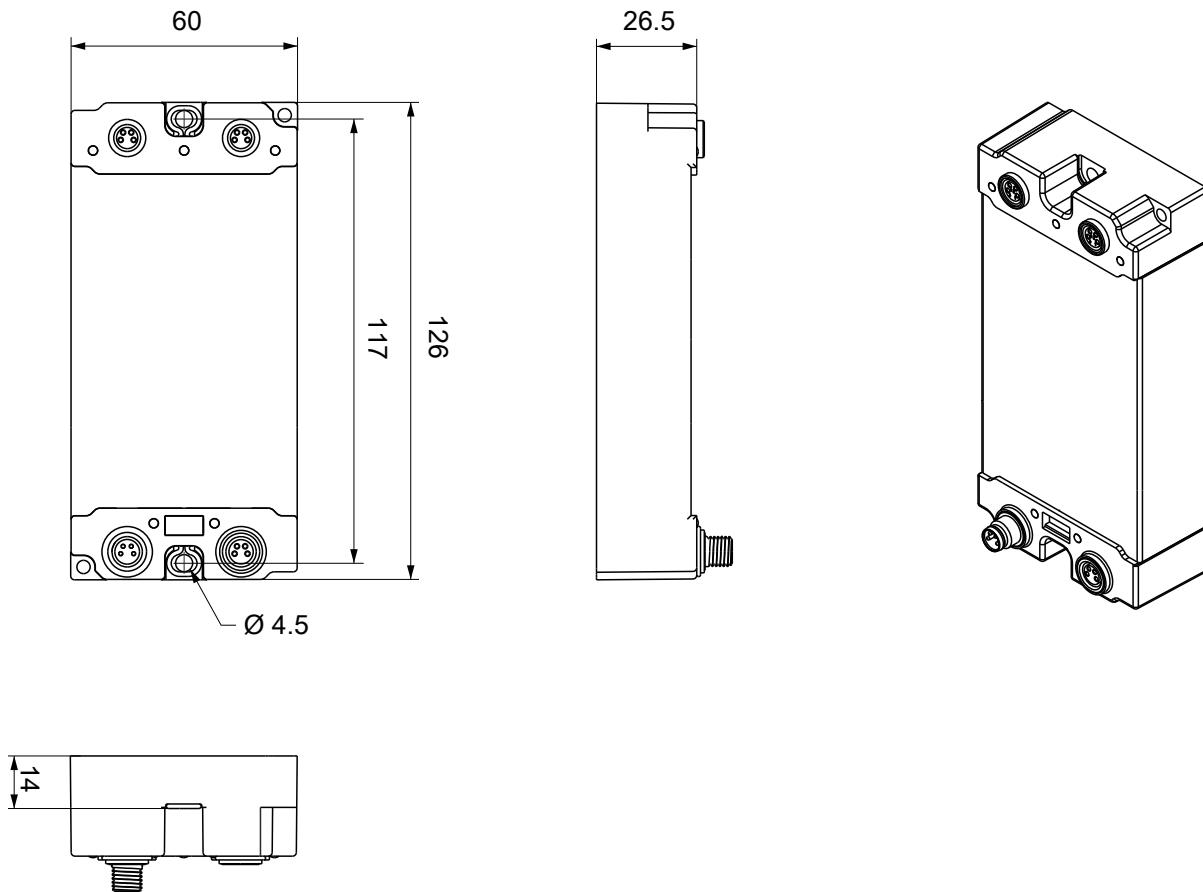
Jumbo Frames are not subject to standardization. It is therefore necessary to verify that the frames used by the application are supported by the CU2208.

## 2.3 Technical data

Technical data	CU2608-0000
Bus system	Ethernet (all IEEE 802.3-based protocols) Store-and-forward switching mode, unmanaged
Number of Ethernet ports	8
Ethernet interface	10BASE-T/100BASE-TX Ethernet with M12, d-coded
Cable length	up to 100 m CAT5, switches cascadable as required
Baud rate	10/100 Mbit/s, IEEE 802.3u auto-negotiation, Half or full duplex at 10 and 100 Mbit/s possible, automatic settings
Diagnostics	1 LED per channel: link/activity, LED for power supply
Power supply	Power supply and transfer via: M8 connector, 4-pin
Supply voltage	24 V <sub>DC</sub> (-15 %/+20 %)
Current consumption	typically 120 mA
Weight	approx. 350 g
Dimensions without connector (W x H x D)	approx. 126 x 60 x 26,5 mm
Mounting	<ul style="list-style-type: none"> <li>• Directly on mounting surface via two central 4 mm screws or two diagonally arranged 3 mm screws.</li> <li>• On ZS5300-0001 mounting rail.</li> </ul>
permissible ambient temperature range during operation	-30°C ... + 70°C
permissible ambient temperature range during storage	-40°C ... + 85°C
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 (according to EN 60529)	IP65, IP66, IP67
Installation position	Any
Approval	CE, cURus [ <a href="#">▶ 19</a> ]

### 3 Mounting and cabling

#### 3.1 Dimensions



All dimensions are given in millimeters.  
The drawing is not true to scale.

#### Housing features

Housing material	PA6 (polyamide)
Sealing compound	polyurethane
Mounting	two fastening holes $\varnothing 4.5$ mm for M4
Metal parts	brass, nickel-plated
Contacts	CuZn, gold-plated
Installation position	variable
Protection class	IP65, IP66, IP67 (conforms to EN 60529) when screwed together
Dimensions (H x W x D)	approx. 126 x 60 x 26.5 mm (without connectors)

## 3.2 Fixing

### NOTE

#### Dirt during assembly

Dirty connectors can lead to malfunctions. Protection class IP67 can only be guaranteed if all cables and connectors are connected.

- Protect the plug connectors against dirt during the assembly.

Mount the module with two M4 screws in the centrally located fastening holes.

## 3.3 Tightening torques for plug connectors

Screw connectors tight with a torque wrench. (e.g. ZB8801 from Beckhoff)

Connector diameter	Tightening torque
M8	0.4 Nm
M12	0.6 Nm

### 3.4 Power cable

**Ordering data**

Order identifier	Power cable	Screw connector	Contacts	Cross-section	Length
ZK2020-3200-0020	Straight socket, open end	M8	4-pin	0.34 mm <sup>2</sup>	2.00 m
ZK2020-3200-0050					5.00 m
ZK2020-3200-0100					10.00 m
ZK2020-3400-0020	Angled socket, open end				2.00 m
ZK2020-3400-0050					5.00 m
ZK2020-3400-0100					10.00 m
ZK2020-3132-0001	Straight socket, straight connector				0.15 m
ZK2020-3132-0005					0.50 m
ZK2020-3132-0010					1.00 m
ZK2020-3132-0020					2.00 m
ZK2020-3132-0050					5.00 m
ZK2020-3334-0001	Angled socket, angled connector				0.15 m
ZK2020-3334-0005					0.50 m
ZK2020-3334-0010					1.00 m
ZK2020-3334-0020					2.00 m
ZK2020-3334-0050		5.00 m			

Further available power cables and the associated data sheets can be found in the Beckhoff catalogue or on our website (<http://www.beckhoff.de>).

**Technical data**

Data	
Rated voltage according to IEC61076-2-101	30 V <sub>DC</sub>
Contamination level according to IEC 60 664-1	3/2
Insulation resistance IEC 60 512-2	>10 <sup>9</sup> W
Current carrying capacity according to IEC 60512-3	4 A
Volume resistance according to IEC 60512-2	< 5 mW
Protection class conforms to IEC 60529	IP65/66/67, when screwed together
Ambient temperature	-30°C to +80°C

### 3.5 Conductor losses

The ZK2020-xxxx-yyyy power cables should not exceed the total length of 15 m at 4 A (with continuation). When wiring, note that with a rated voltage of 24 V the function of the modules can no longer be guaranteed from a voltage drop of 6 V. Variations in the output voltage from the power supply unit must also be taken into account.

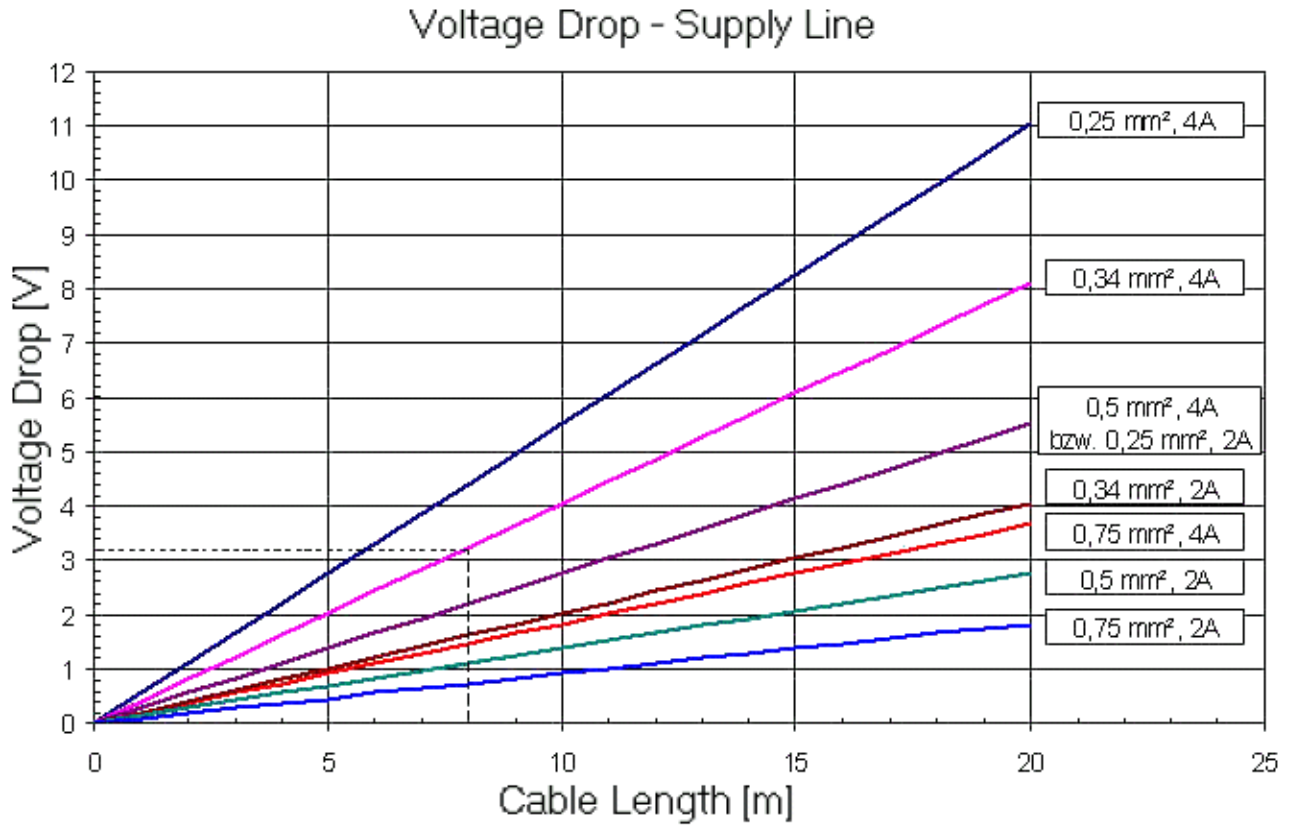


Fig. 3: Voltage drop in the power supply line

Example:

8 m power cable with 0.34 mm<sup>2</sup> cross-section has a voltage drop of 3.2 V at 4 A.

### 3.6 LED indicators

#### Ethernet



Fig. 4: LEDs CU2608

An LED for each of the eight channels shows the current status.

Table 1: LEDs per channel

LED	Display	
Link Act	off	No connection
	on	Connection available (link)
	flashing	Data transfer (act)

#### Supply voltage



Fig. 5: Supply voltage

LED	Display	Meaning
24 V Us (control voltage)	off	the power supply voltage, Us, is not present
	green illuminated	the power supply voltage, Us, is present
24 V Up (peripheral voltage)	off	the power supply voltage, Up, is not present
	green illuminated	The power supply voltage, Up, is present

The peripheral voltage Up is not required in the CU2608 and is therefore passed through.

## 3.7 Ethernet cable

For connecting Ethernet devices, only use shielded Ethernet cables with a minimum specification of **category 5 (CAT5) according to EN 50173 and ISO/IEC 11801**.

### ● Wiring recommendations

**i** Detailed recommendations for Ethernet wiring can be found in the documentation "Design recommendations for EtherCAT/Ethernet infrastructure", which is available for download from <http://www.beckhoff.de/>.

Ethernet uses four cable wires for signal transmission. Due to automatic cable detection (auto-crossing) symmetric (1:1) or cross-over cables can be used between Ethernet devices from BECKHOFF.

A selection of pre-configured cables (up to 10 m) and cables sold by the meter is provided below. Other cables with various lengths will be found in the full Beckhoff catalogue, and under [www.beckhoff.de](http://www.beckhoff.de).

### Sold by meter

Name	Description
ZB9010	CAT 5e, 4-core, for fixed laying, not for M8 connectors
ZB9020	CAT 5e, 4-core, suitable for drag chain use, not for M8 connectors
ZB9030	PVC, Ø 4.9 mm for M8 connectors
ZB9031	PUR, Ø 4.8 mm for M8 connectors
ZB9032	PUR, Ø 5.4 mm for M8 connectors, high flexibility

### ZK1090-6161-00xxx: 2 x M12 connector (d-coded), pre-assembled



Fig. 6: ZK1090-6161-0xxx.

ZK1090-6161-	0005	0010	0020	0025	0050	0100
Length	0.5 m	1.0 m	2.0 m	2.5 m	5.0 m	10 m



**ZK1090-6191-00xxx: M12 connector - RJ45 connector, pre-assembled**



Fig. 7: ZK1090-6191-0xxx

ZK1090-6191-	0005	0010	0020	0025	0050	0100
<b>Length</b>	0.5 m	1.0 m	2.0 m	2.5 m	5.0 m	10 m

**ZK1090-6292-00xxx: M12 socket - RJ45 connector, pre-assembled**



Fig. 8: ZK1090-6292-0xxx

ZK1090-6292-	0005	0020	0050	0100
<b>Length</b>	0.5 m	2 m	5 m	10 m

**ZK1090-9191-00xxx: 2 x RJ45 connector, patch cable**

Fig. 9: ZK1090-9191-0xxx

ZK1090-9191-	0001	0002	0005	0010	0020	0030	0040	0050	0100	0150
<b>Length</b>	0.17 m	0.26 m	0.5 m	1.0 m	2.0 m	3.0 m	4.0 m	5.0 m	10 m	15 m

ZK1090-9191-	0200	0250	0300	0350	0400	0450	0500
<b>Length</b>	20 m	25 m	30 m	35 m	40 m	45 m	50 m

## 3.8 UL Requirements

The installation of the EtherCAT Box Modules certified by UL has to meet the following requirements.

### Supply voltage

#### ⚠ CAUTION

##### CAUTION!

This UL requirements are valid for all supply voltages of all marked EtherCAT Box Modules!  
For the compliance of the UL requirements the EtherCAT Box Modules should only be supplied

- by a 24 V<sub>DC</sub> supply voltage, supplied by an isolating source and protected by means of a fuse (in accordance with UL248), rated maximum 4 Amp, or
- by a 24 V<sub>DC</sub> power source, that has to satisfy *NEC class 2*.  
A *NEC class 2* power supply shall not be connected in series or parallel with another (class 2) power source!

#### ⚠ CAUTION

##### CAUTION!

To meet the UL requirements, the EtherCAT Box Modules must not be connected to unlimited power sources!

### Networks

#### ⚠ CAUTION

##### CAUTION!

To meet the UL requirements, EtherCAT Box Modules must not be connected to telecommunication networks!

### Ambient temperature range

#### ⚠ CAUTION

##### CAUTION!

To meet the UL requirements, EtherCAT Box Modules has to be operated only at an ambient temperature range of -25 °C to +55 °C!

### Marking for UL

All EtherCAT Box Modules certified by UL (Underwriters Laboratories) are marked with the following label.



Fig. 10: UL label

## 4 Appendix

### 4.1 General operating conditions

#### Protection degrees (IP-Code)

The standard IEC 60529 (DIN EN 60529) defines the degrees of protection in different classes.

1. Number: dust protection and touch guard	Definition
0	Non-protected
1	Protected against access to hazardous parts with the back of a hand. Protected against solid foreign objects of Ø 50 mm
2	Protected against access to hazardous parts with a finger. Protected against solid foreign objects of Ø 12.5 mm.
3	Protected against access to hazardous parts with a tool. Protected against solid foreign objects Ø 2.5 mm.
4	Protected against access to hazardous parts with a wire. Protected against solid foreign objects Ø 1 mm.
5	Protected against access to hazardous parts with a wire. Dust-protected. Intrusion of dust is not totally prevented, but dust shall not penetrate in a quantity to interfere with satisfactory operation of the device or to impair safety.
6	Protected against access to hazardous parts with a wire. Dust-tight. No intrusion of dust.

2. Number: water* protection	Definition
0	Non-protected
1	Protected against water drops
2	Protected against water drops when enclosure tilted up to 15°.
3	Protected against spraying water. Water sprayed at an angle up to 60° on either side of the vertical shall have no harmful effects.
4	Protected against splashing water. Water splashed against the disclosure from any direction shall have no harmful effects
5	Protected against water jets
6	Protected against powerful water jets
7	Protected against the effects of temporary immersion in water. Intrusion of water in quantities causing harmful effects shall not be possible when the enclosure is temporarily immersed in water for 30 min. in 1 m depth.

\*) These protection classes define only protection against water!

#### Chemical Resistance

The Resistance relates to the Housing of the IP 67 modules and the used metal parts. In the table below you will find some typical resistance.

Character	Resistance
Steam	at temperatures >100°C: not resistant
Sodium base liquor (ph-Value > 12)	at room temperature: resistant > 40°C: not resistant
Acetic acid	not resistant
Argon (technical clean)	resistant

#### Key

- resistant: Lifetime several months
- non inherently resistant: Lifetime several weeks
- not resistant: Lifetime several hours resp. early decomposition

## 4.2 Accessories

### Mounting

Ordering information	Description
ZS5300-0011	Mounting rail

### Labeling material, protective caps

Ordering information	Description
ZS5000-0010	Protective cap for M8 sockets, IP67 (50 pieces)
ZS5100-0000	Inscription labels, unprinted, 4 strips of 10
ZS5000-xxxx	Printed inscription labels on enquiry

### Cables

A complete overview of pre-assembled cables for fieldbus components can be found [here](#).

Ordering information	Description	Link
ZK1090-3xxx-xxxx	EtherCAT cable M8, green	<a href="#">Website</a>
ZK1093-3xxx-xxxx	EtherCAT cable M8, yellow	<a href="#">Website</a>
ZK2020-3xxx-xxxx	Power cable M8, 4-pin	<a href="#">Website</a>

### Tools

Ordering information	Description
ZB8801-0000	Torque wrench for plugs, 0.4...1.0 Nm
ZB8801-0001	Torque cable key for M8 / wrench size 9 for ZB8801-0000



### Further accessories

Further accessories can be found in the price list for fieldbus components from Beckhoff and online at <https://www.beckhoff.com>.

## 4.3 Version identification of EtherCAT devices

### Designation

A Beckhoff EtherCAT device has a 14-digit designation, made up of

- family key
- type
- version
- revision

Example	Family	Type	Version	Revision
EL3314-0000-0016	EL terminal (12 mm, non-pluggable connection level)	3314 (4-channel thermocouple terminal)	0000 (basic type)	0016
ES3602-0010-0017	ES terminal (12 mm, pluggable connection level)	3602 (2-channel voltage measurement)	0010 (high-precision version)	0017
CU2008-0000-0000	CU device	2008 (8-port fast ethernet switch)	0000 (basic type)	0000

### Notes

- The elements mentioned above result in the **technical designation**. EL3314-0000-0016 is used in the example below.
- EL3314-0000 is the order identifier, in the case of "-0000" usually abbreviated to EL3314. "-0016" is the EtherCAT revision.
- The **order identifier** is made up of
  - family key (EL, EP, CU, ES, KL, CX, etc.)
  - type (3314)
  - version (-0000)
- The **revision** -0016 shows the technical progress, such as the extension of features with regard to the EtherCAT communication, and is managed by Beckhoff.  
In principle, a device with a higher revision can replace a device with a lower revision, unless specified otherwise, e.g. in the documentation.  
Associated and synonymous with each revision there is usually a description (ESI, EtherCAT Slave Information) in the form of an XML file, which is available for download from the Beckhoff web site.  
From 2014/01 the revision is shown on the outside of the IP20 terminals, see Fig. "EL5021 EL terminal, standard IP20 IO device with batch number and revision ID (since 2014/01)".
- The type, version and revision are read as decimal numbers, even if they are technically saved in hexadecimal.

### Identification number

Beckhoff EtherCAT devices from the different lines have different kinds of identification numbers:

#### Production lot/batch number/serial number/date code/D number

The serial number for Beckhoff IO devices is usually the 8-digit number printed on the device or on a sticker. The serial number indicates the configuration in delivery state and therefore refers to a whole production batch, without distinguishing the individual modules of a batch.

Structure of the serial number: **KK YY FF HH**

KK - week of production (CW, calendar week)

YY - year of production

FF - firmware version

HH - hardware version

Example with

Ser. no.: 12063A02: 12 - production week 12 06 - production year 2006 3A - firmware version 3A 02 - hardware version 02

Exceptions can occur in the **IP67 area**, where the following syntax can be used (see respective device documentation):

Syntax: D ww yy x y z u

D - prefix designation

ww - calendar week

yy - year

x - firmware version of the bus PCB

y - hardware version of the bus PCB

z - firmware version of the I/O PCB

u - hardware version of the I/O PCB

Example: D.22081501 calendar week 22 of the year 2008 firmware version of bus PCB: 1 hardware version of bus PCB: 5 firmware version of I/O PCB: 0 (no firmware necessary for this PCB) hardware version of I/O PCB: 1

### Unique serial number/ID, ID number

In addition, in some series each individual module has its own unique serial number.

See also the further documentation in the area

- IP67: [EtherCAT Box](#)
- Safety: [TwinSafe](#)
- Terminals with factory calibration certificate and other measuring terminals

### Examples of markings



Fig. 11: EL5021 EL terminal, standard IP20 IO device with serial/ batch number and revision ID (since 2014/01)



Fig. 12: EK1100 EtherCAT coupler, standard IP20 IO device with serial/ batch number



Fig. 13: CU2016 switch with serial/ batch number

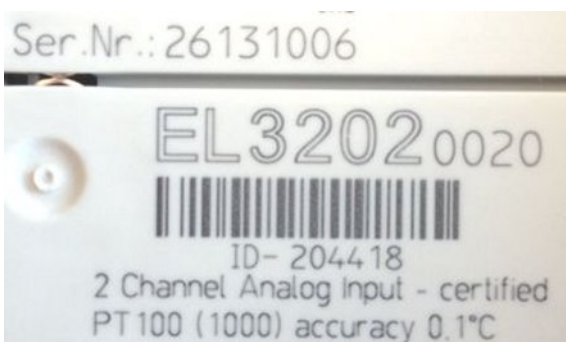


Fig. 14: EL3202-0020 with serial/ batch number 26131006 and unique ID-number 204418



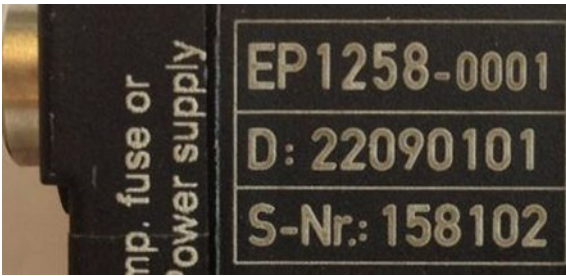


Fig. 15: EP1258-00001 IP67 EtherCAT Box with batch number/ date code 22090101 and unique serial number 158102



Fig. 16: EP1908-0002 IP67 EtherCAT Safety Box with batch number/ date code 071201FF and unique serial number 00346070



Fig. 17: EL2904 IP20 safety terminal with batch number/ date code 50110302 and unique serial number 00331701



Fig. 18: ELM3604-0002 terminal with unique ID number (QR code) 100001051 and serial/ batch number 44160201

### 4.3.1 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.

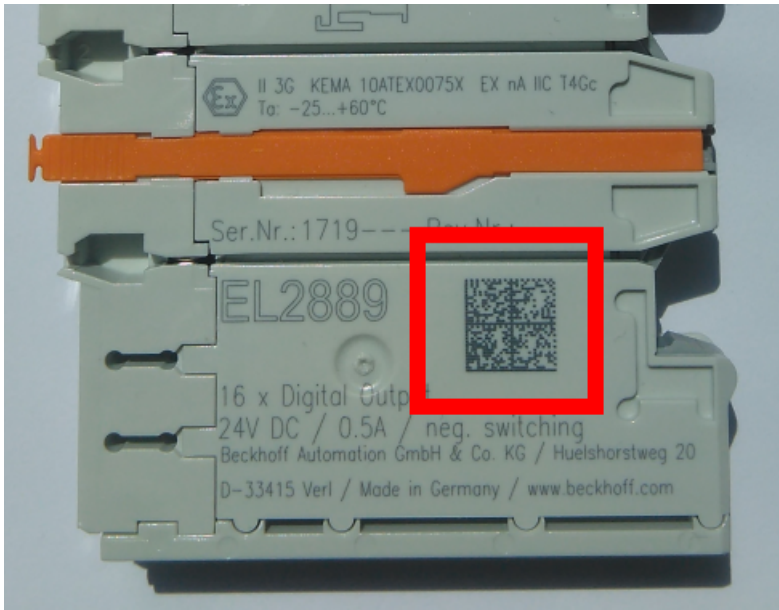


Fig. 19: BIC as data matrix code (DMC, code scheme ECC200)

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. The data under positions 1 to 4 are always available.

The following information is contained:

Item no.	Type of information	Explanation	Data identifier	Number of digits incl. data identifier	Example
1	Beckhoff order number	<b>Beckhoff order number</b>	1P	8	<b>1P</b> 072222
2	Beckhoff Traceability Number (BTN)	<b>Unique serial number, see note below</b>	S	12	<b>S</b> BTNk4p562d7
3	Article description	<b>Beckhoff article description, e.g. EL1008</b>	1K	32	<b>1K</b> EL1809
4	Quantity	<b>Quantity in packaging unit, e.g. 1, 10, etc.</b>	Q	6	<b>Q</b> 1
5	Batch number	Optional: Year and week of production	2P	14	<b>2P</b> 401503180016
6	ID/serial number	Optional: Present-day serial number system, e.g. with safety products or calibrated terminals	51S	12	<b>51S</b> 678294104
7	Variant number	Optional: Product variant number on the basis of standard products	30P	32	<b>30P</b> 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 item 1 to 4 and 6. The data identifiers are marked in red for better display:

**BTN**

An important component of the BIC is the Beckhoff Traceability Number (BTN, item no. 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.

<b>NOTE</b>
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.

## 4.4 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  
Fax: +49 5246 963 9157  
e-mail: [support@beckhoff.com](mailto:support@beckhoff.com)

### 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

Hotline: +49 5246 963 460  
Fax: +49 5246 963 479  
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