

- 1. Introduction**
2. EtherCAT technology
3. EtherCAT Box | System overview
4. EtherCAT Box | Housing series
5. EtherCAT Box | Product overview
6. EtherCAT P Box
7. EtherCAT P Box | Product overview

Fieldbus components for all common I/Os and fieldbus systems

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The compact IP 67 modules

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Fieldbus Box



EtherCAT Box



The compact IP 67 modules

BECKHOFF

IO-Link Box



 **IO-Link**

EtherCAT P Box



EtherCAT[®] 

EtherCAT Box in three housing variants

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EtherCAT P: EPPxxxx communication and power on one M8

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EtherCAT | Ultra high-speed communication

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- real-time Ethernet technology from Beckhoff
- ultra high-speed right down to the terminal/box
- outstanding performance
- flexible topology
- 1000 distributed I/Os in 30 μ s
- virtually unlimited network expansion
- optimum vertical integration
- Ethernet star topology can be replaced by a simple line or tree structure.
- integration of any desired Ethernet devices
- no special connections required in the controller

EtherCAT technology Highlights

BECKHOFF

- the first Ethernet process interface, scalable from 2 bits to 64 kbyte
- EtherCAT down to the individual box – complete continuity
- first true Ethernet solution for the field level

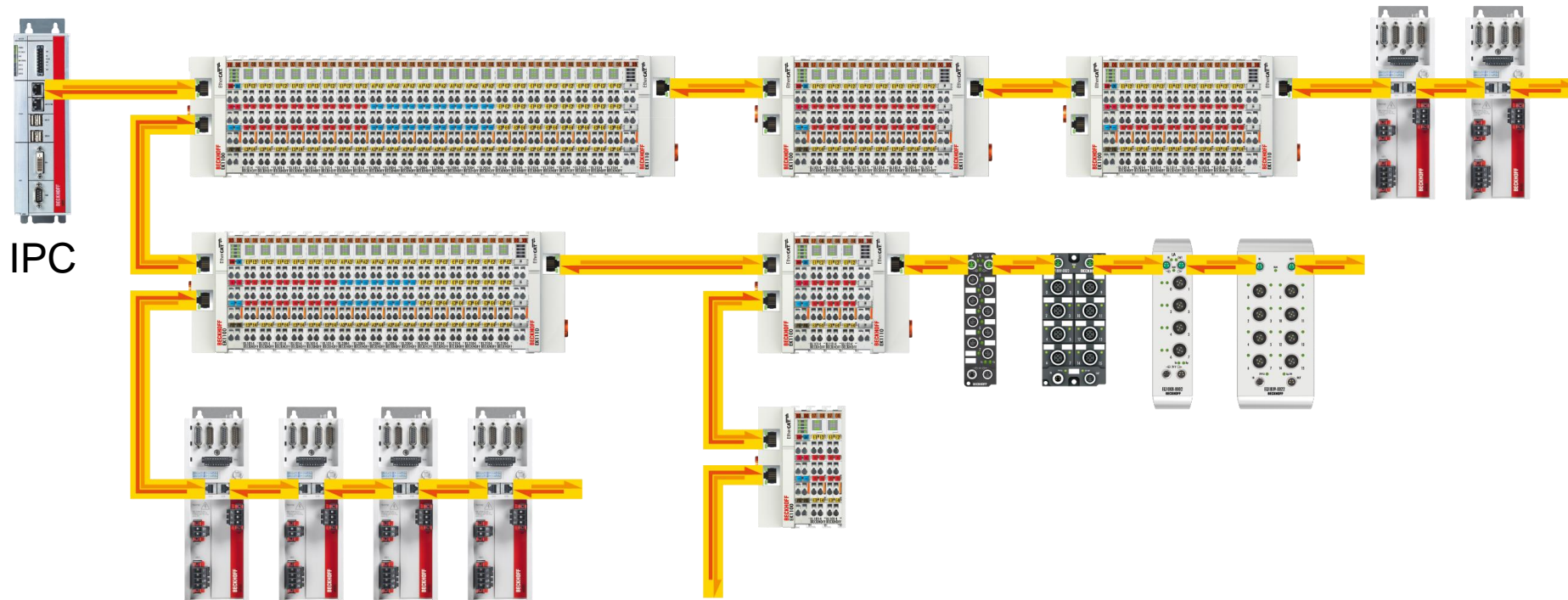


- line, tree or star topology
- up to 65,535 devices
- network size: almost unlimited (> 500 km)
- operation with or without switches
- cost-effective cabling: standard Ethernet patch cable (Cat. 5)
- transfer physics: twisted-pair
 - Ethernet 100BASE-TX, up to 100 m between 2 devices
- alternatively: fibre-optic cable variants 50 to 2000 m
- hot connect/disconnect of bus segments

EtherCAT technology

Freedom of choice of topology

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Beckhoff EtherCAT components

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EtherCAT Terminals



Embedded PC



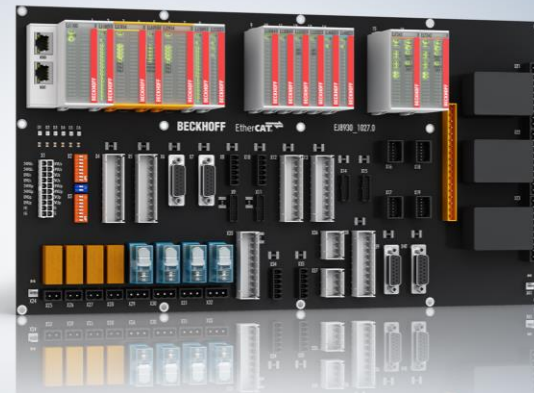
EtherCAT Box



Servo Drives



EtherCAT plug-in modules

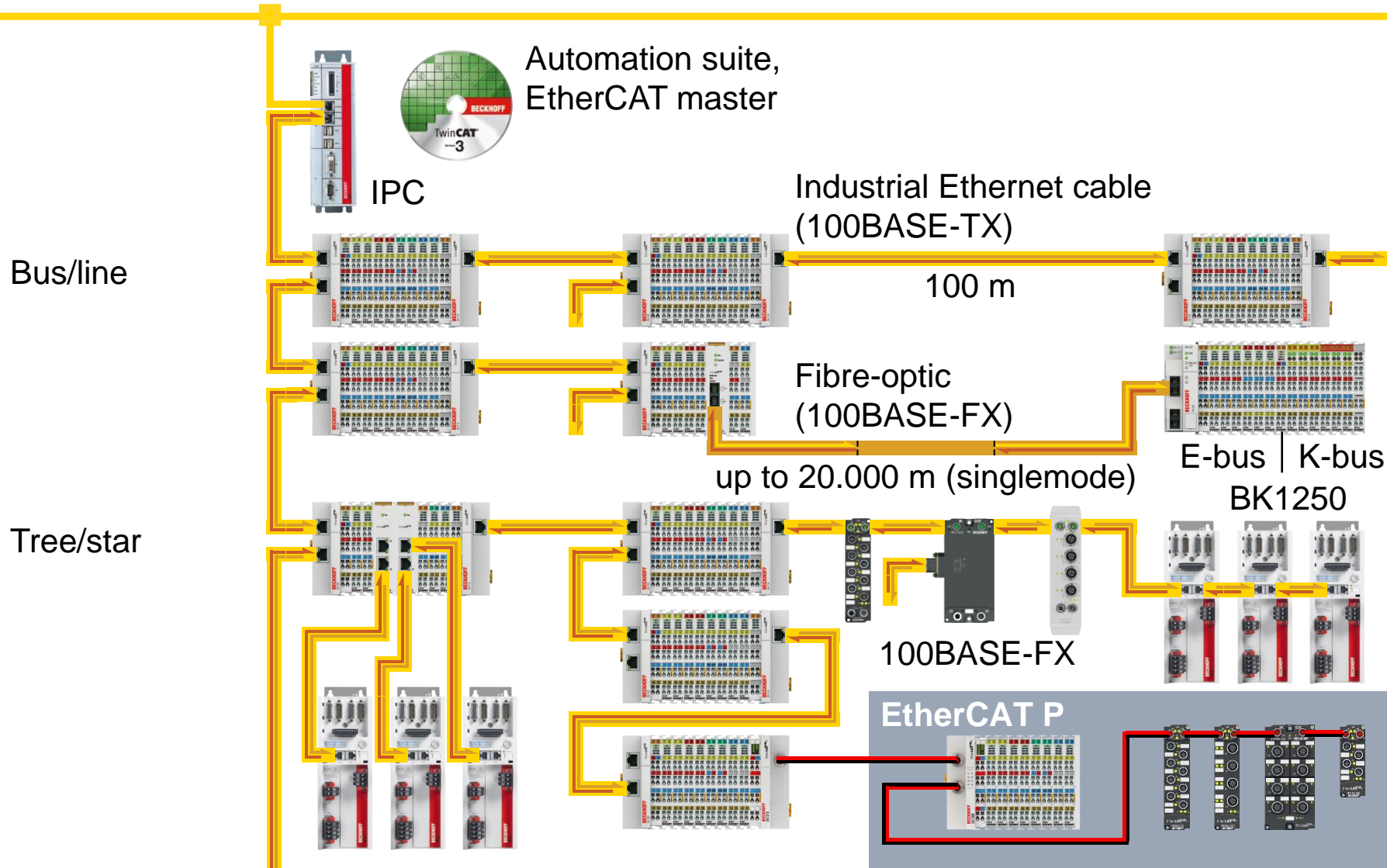


Industrial PC

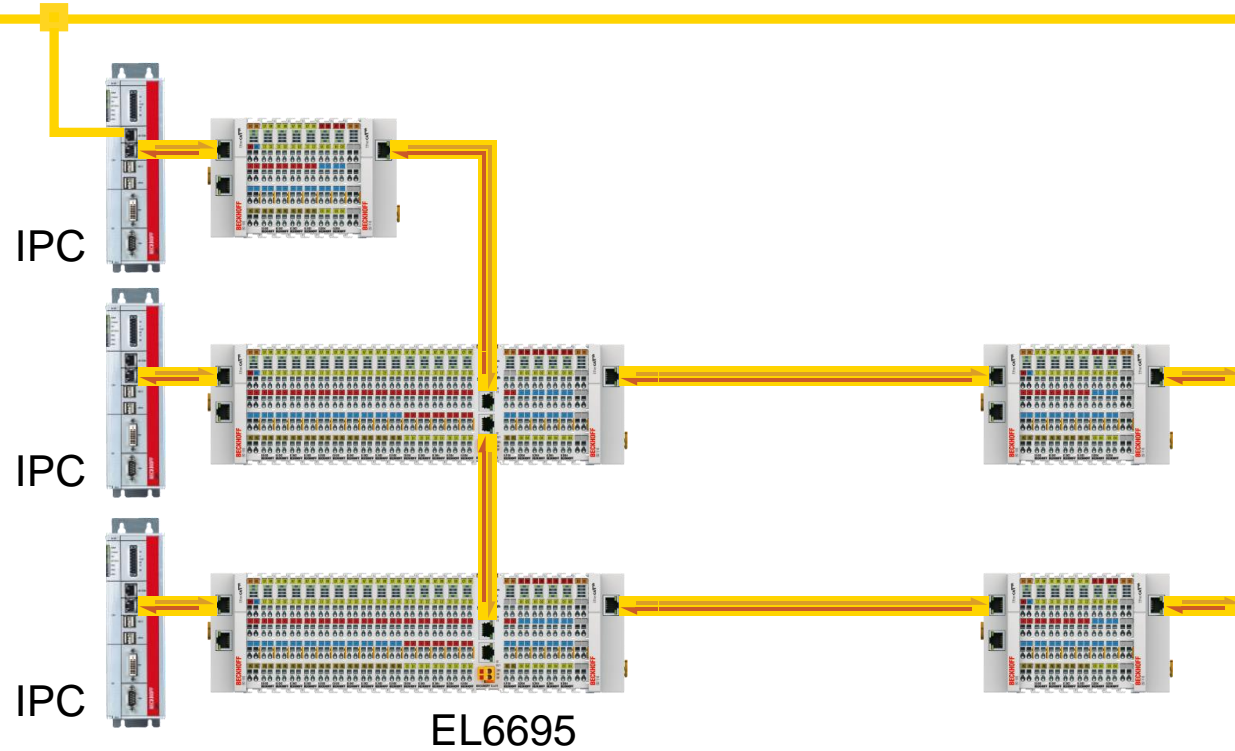


Flexible topology

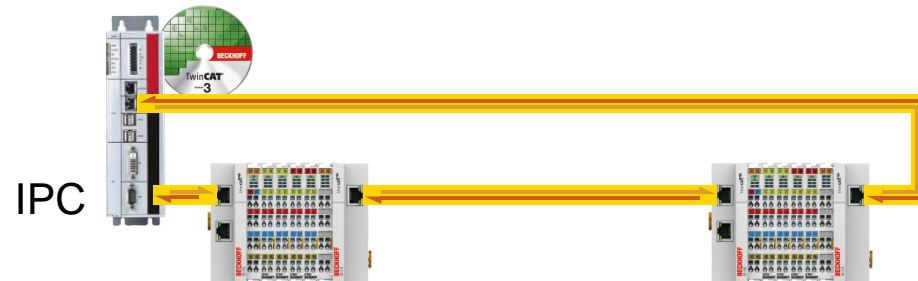
Ethernet TCP/IP



EtherCAT bridge

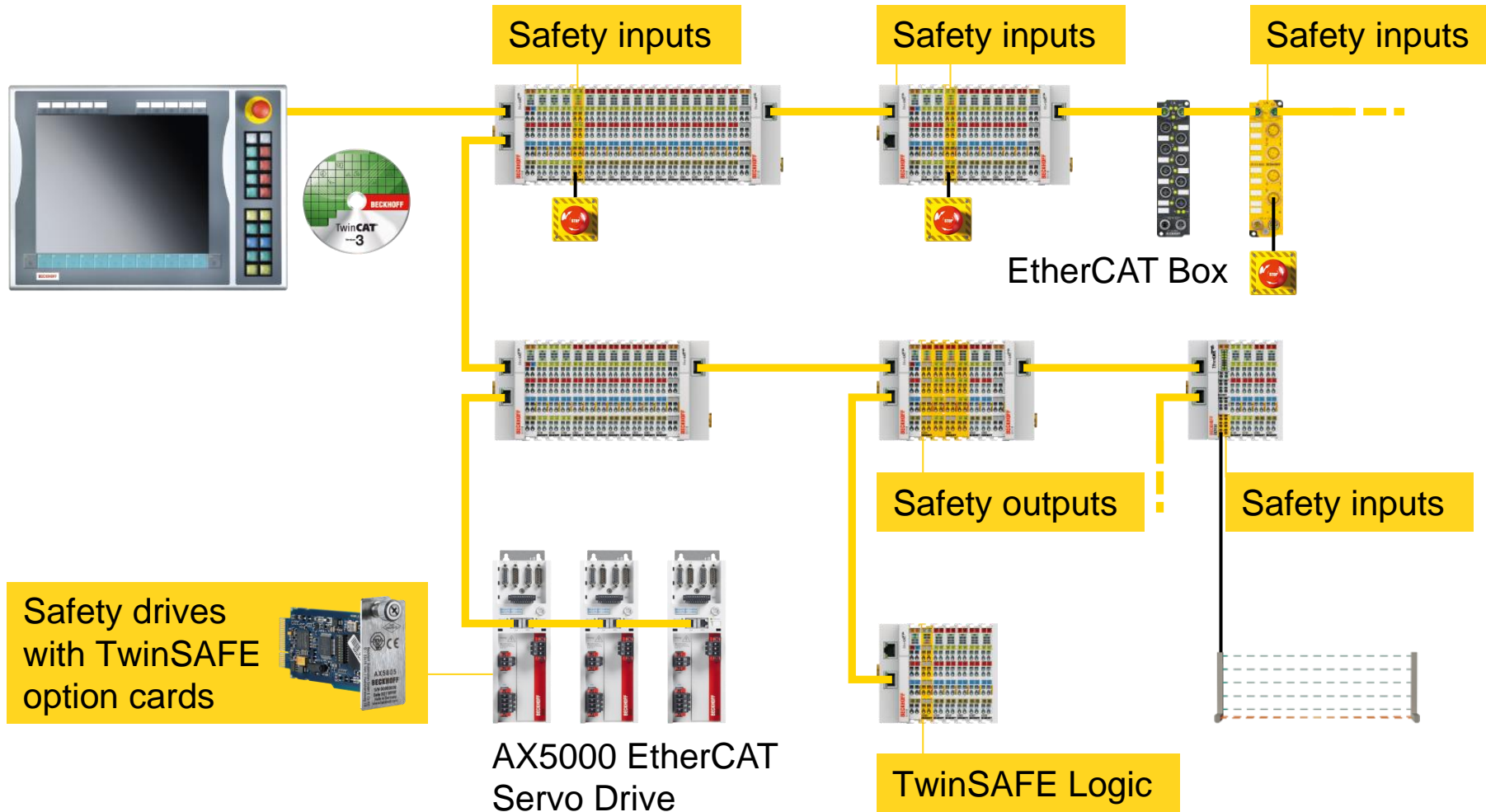


Cable redundancy



EtherCAT system overview

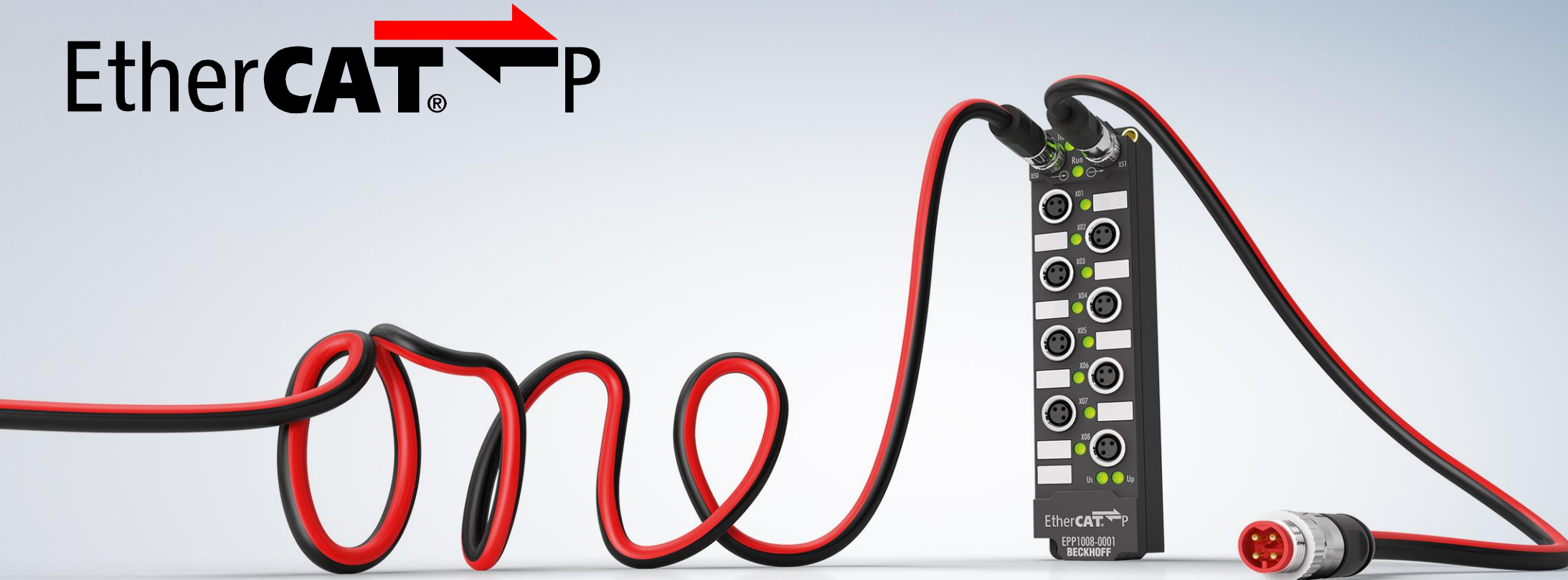
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**EtherCAT P:
Ultra-fast communication and power in one cable**

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EtherCAT[®] P

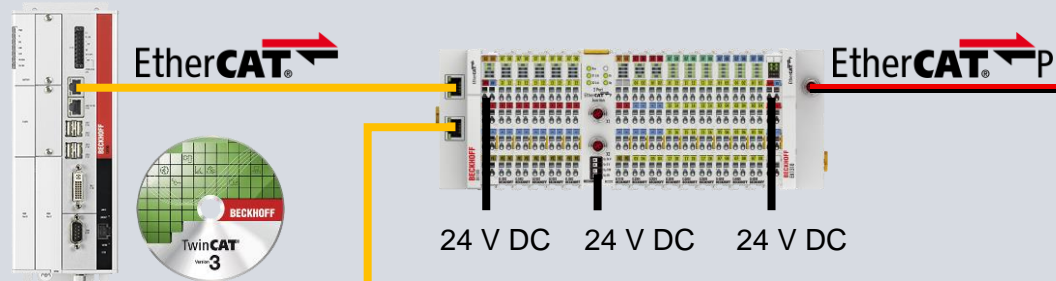


- One Cable Connection: EtherCAT + 2 x 24 V DC (U_P , U_S) on just 4 wires
- daisy-chained power supply through EtherCAT P devices
- elimination of separate supply cables
- plug family ideally scalable from 24 V to 630 V AC and 850 V DC, 72 A
- lowered connection costs with outstanding EtherCAT performance
- Flexible network topology of EtherCAT is retained.
- Tool-based system design minimises material and system costs.

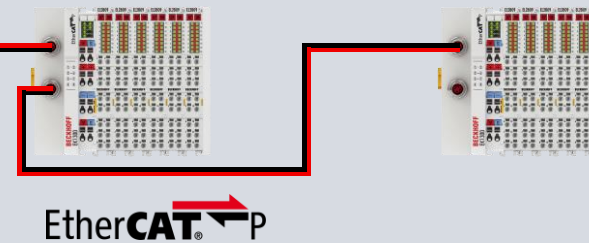
EtherCAT P: System overview for IP 20 and IP 67

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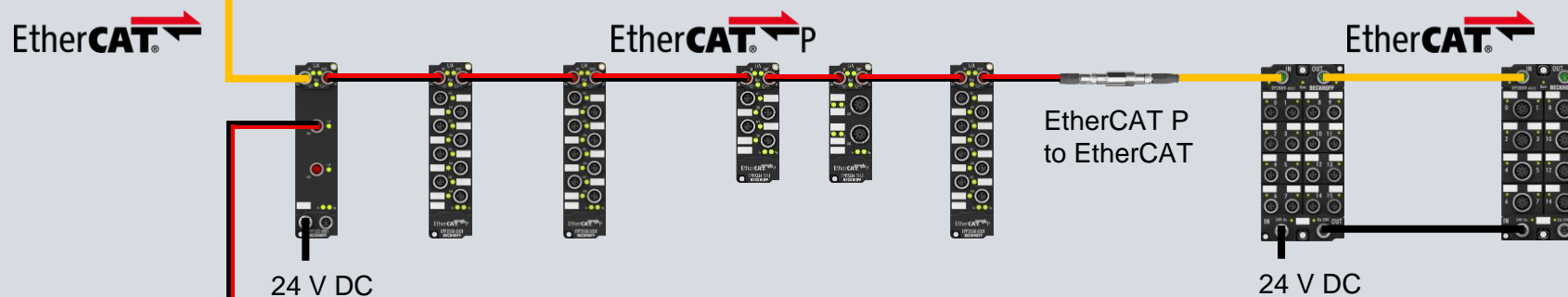
Control cabinet



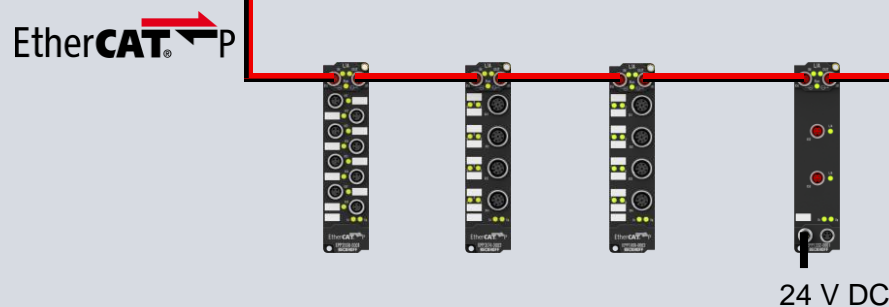
Machine module 1



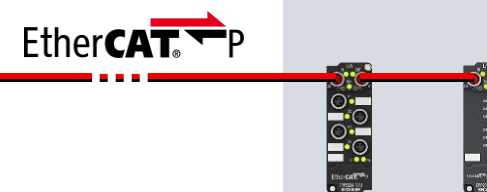
Machine module 2



Machine module 3



Machine module 4



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EtherCAT Box

High performance, compact and waterproof case

BECKHOFF

- **robust** | use directly at the machine, without control cabinet or terminal box
- **tightly sealed** | manufactured in IP 65, IP 66, IP 67, IP 69K, fully potted, ideal for wet, dirty or dusty environmental conditions
- **small** | low space requirement through compact construction 126 x 30 x 26.5 mm (H x W x D)



EtherCAT Box

High performance, compact and waterproof case

BECKHOFF

- **ultra high-speed** | XFC modules for fast control and regulation technology, also in IP 67
- **quickly wired** | simple fieldbus and signal wiring using pre-fabricated M8 EtherCAT cables
- **flexible** | thanks to field-configurable connectors and cables
- **economical** | low system costs through combined I/O modules and fine signal granularity, no coupler box



EtherCAT Box

High performance, compact and waterproof case

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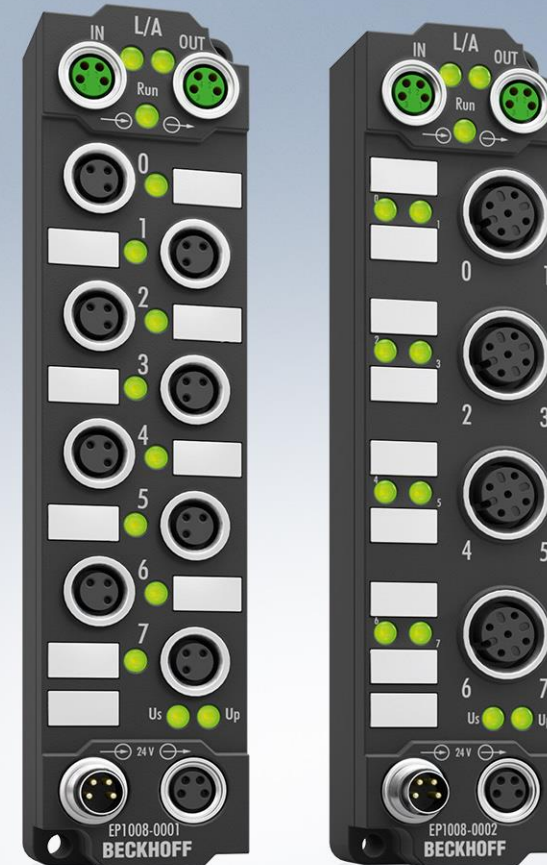
- **complete** | variety of signal variants for the connection of almost any type of sensor; integration of measurement and drive technology functions
- **fitting** | connection of sensors and actuators via screw type M8 or M12 connectors
- **compatible** | with the Beckhoff EtherCAT Terminal system
- **for extreme climatic zones** | most modules approved for extended temperature range -25...+60 °C



8-channel housing

BECKHOFF

- up to 8 channels in a single housing
- compact dimensions
- connection of the sensors/actuators via connectors
 - 8 x M8, screw type or
 - 4 x M12, screw type



16-channel housing

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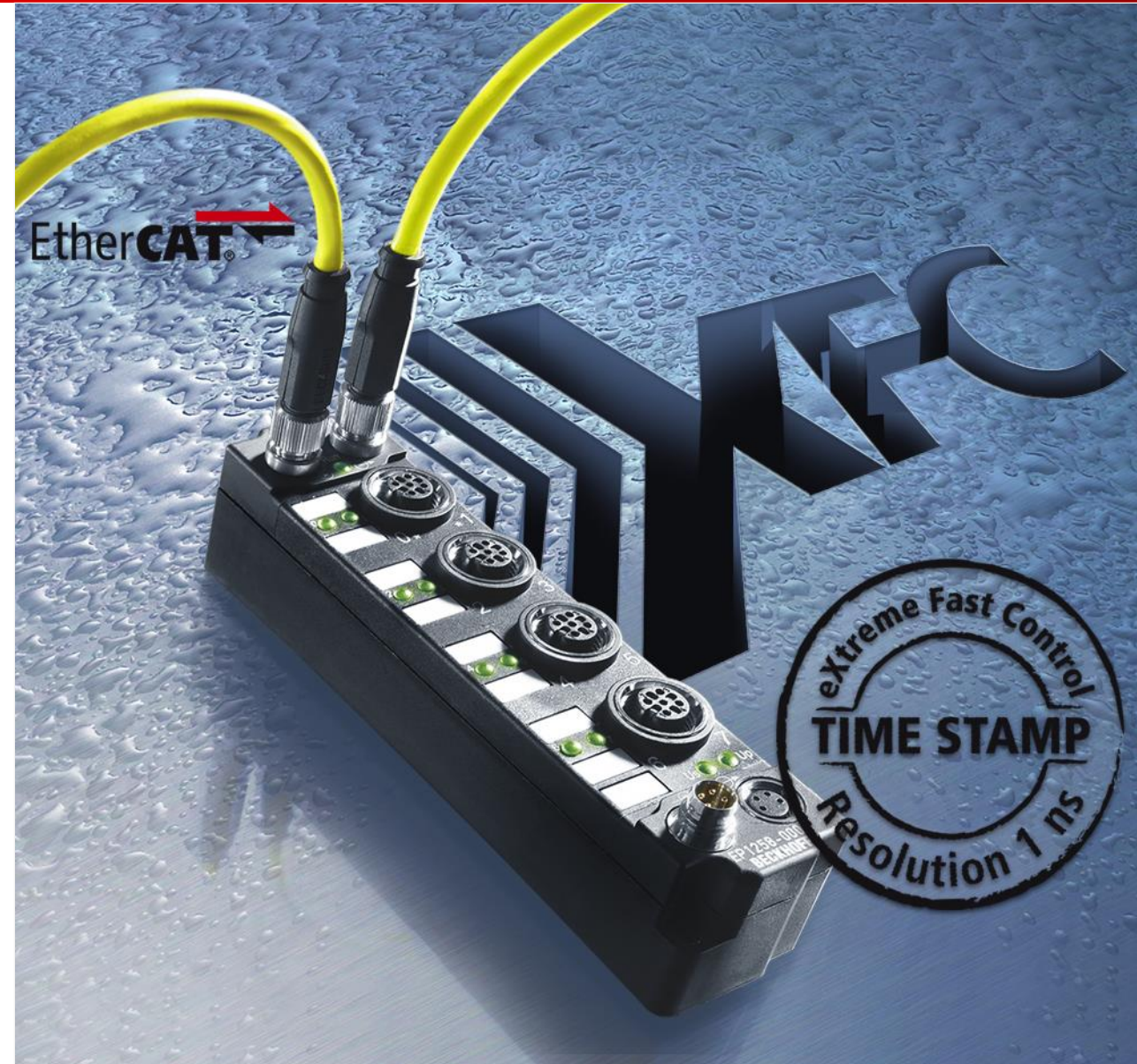
- up to 16 channels in a single housing
 - 16 digital inputs
 - 16 digital outputs
 - combined modules with 8 inputs/8 outputs or 16 freely selectable inputs/outputs
 - 16 x M8, screw type or
 - 8 x M12, screw type
- reduced assembly expenditure
- lower cabling costs



EtherCAT Box for XFC (eXtreme Fast Control)

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- high-precision signal acquisition independent of the control cycle time
- for the acquisition of fast binary control signals from the process level with a time resolution of one nanosecond directly on the machine
- Signal sequences can be traced exactly over time (timestamp method) and synchronised with the distributed clocks in the system.



- servomotor module with OCT and STO
 - direct connection of AM81xx motors
- stepper motor modules
 - direct connection of different stepper motors
 - integrated incremental encoder connection
- protection class IP 67
 - use directly at the machine
 - 7/8-inch power supply
 - max. 16 A power supply/forwarding



- open and scalable safety technology
- safety and I/O technology in one system
- open safety protocol according to IEC 61784-3 (Safety over EtherCAT)
- communication via independent safety circuits
- certified safety function blocks
- conforms to the requirements of IEC 61508 SIL 3 and DIN EN ISO 13849-1:2008 PLe



- 4-channel analog input module for resistance sensors
 - freely selectable temperature range
 - sensor types: PT100, PT200, PT500, PT1000, Ni100, Ni120, Ni1000
- 4-channel analog input module for thermocouples
 - freely selectable temperature range
 - sensor types: type J, K, L, B, E, N, R, S, T, U



- connection of up to eight IO-Link devices or 24 V DC standard sensors and actuators
- point-to-point connection between the module and the device
- parameterisation from TwinCAT via ADS or very conveniently via the integrated IO-Link configuration tool

EP6228-0022

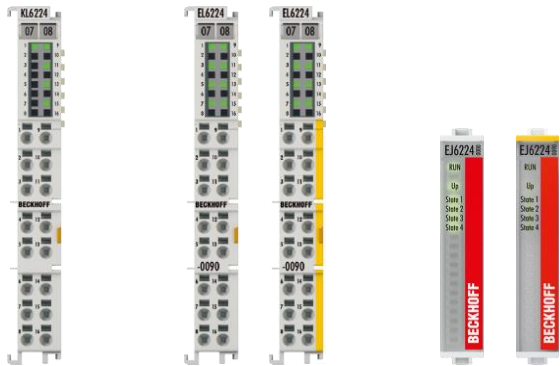
- V1.1 Class A specification

EP6228-3032

- 7/8-inch power supply, $\Sigma 16$ A
- V1.1 Class B specification



IP 20



Bus Terminals

- KL6224

EtherCAT Terminals

- EL6224, EL6224-0090

EtherCAT plug-in modules

- EJ6224, EJ6224-0090

IP 67



EtherCAT Box

- EP6224-2022, EP6224-3022, EP6228-0022, EP6228-3032

EtherCAT P Box

- EPP6228-0022

Fieldbus Box

- IO-Link-Boxen EPIxxxx und ERIxxxx

- smart power box with data logging function
- 4 short-circuit-/overload-proof EtherCAT Box power junctions (8 x 4 A)
- integrated electronic protection circuitry
- internal current/voltage measurement
- Power consumption for control voltage U_S and peripheral voltage U_P is monitored, limited and if necessary switched off per junction.
- 7/8-inch power supply/forwarding, 16 A, per U_S , U_P



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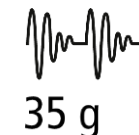
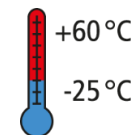


EPxxxx | EtherCAT Box in industrial housing

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- robust housing for harsh industrial use
- usable in wet, dirty or dusty environmental conditions
 - protection class: IP 67
 - temperature range: -25...+60 °C
- connection of sensors/actuators via connector
 - M8, screw type
 - M12, screw type



- The screw type connectors have a high tensile strength.
 - M8 plug connector: one signal per socket, screw type, vibration-proof and reliable
 - M12 plug connector: proven, robust industry standard, screw type



M8, straight



M8, angled



M12, straight



M12, angled

Sensor/actuator connection variants

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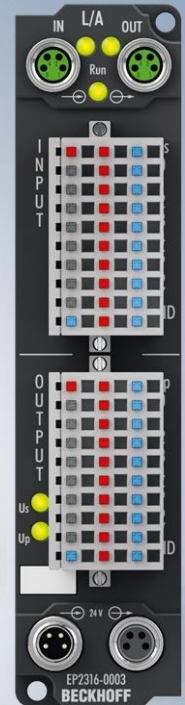
- D-sub sockets, 25-pin or 2 x 9-pin
- connector with spring-loaded technology, optionally available in 1- and 3-pin versions, IP 20



D-sub socket,
25-pin



2 x D-sub socket,
9-pin



IP 20
connector with
spring-loaded
technology

ERxxxx | EtherCAT Box in die-cast zinc housing

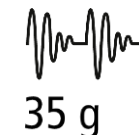
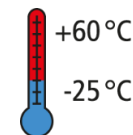
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ERxxxx | EtherCAT Box in die-cast zinc housing

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- metal housing for harsh industrial use
- usable in extremely difficult industrial and process environments
 - protection class: IP 67
 - temperature range: -25...+60 °C
- connection of sensors/actuators via connector
 - M8, screw type
 - M12, screw type



EQxxxx | EtherCAT Box in stainless steel housing

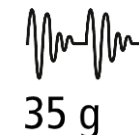
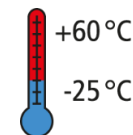
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EQxxxx | EtherCAT Box in stainless steel housing

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- manufactured in stainless steel “Hygienic Design”
 - no corners, edges, gaps...
 - completely closed
- usable in extremely harsh and corrosive environments, e.g. food, chemical or pharmaceutical industries
 - protection class: IP 69K
 - temperature range: -25...+60 °C
- connection of sensors and actuators via screw type M12 plug connectors



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Product overview EtherCAT Box

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Product overview EtherCAT Box

Digital I/O

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Input		8 x M8	16 x M8	4 x M12	8 x M12	Other
24 V DC	8-channel filter 3.0 ms	EP1008-0001		EP1008-0002	EP1008-0022	
		ER1008-0001		ER1008-0002	ER1008-0022	
				EQ1008-0002		
	8-channel filter 10 µs	EP1018-0001		EP1018-0002		
		ER1018-0001		ER1018-0002		
	8-channel filter 10 µs, ground switching	EP1098-0001				
		ER1098-0001				
	8-channel 2-channel timestamp	EP1258-0001		EP1258-0002		
		ER1258-0001		ER1258-0002		
	8-channel multi-function input			EP1518-0002		
				ER1518-0002		
	16-channel filter 3.0 ms		EP1809-0021		EP1809-0022	
			ER1809-0021		ER1809-0022	
					EQ1809-0022	
	16-channel filter 10 µs		EP1819-0021		EP1819-0022	
			ER1819-0021		ER1819-0022	

Product overview EtherCAT Box Digital I/O

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Input		8 x M8	16 x M8	4 x M12	8 x M12	Other
24 V DC	16-channel filter 10 μ s, D-sub, 25-pin					EP1816-0008
						EP1816-1008
						EP1816-3008 acceleration sensor
Safety	8-channel TwinSAFE, 8 safe inputs				EP1908-0002	

Product overview EtherCAT Box

Digital I/O

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Output		8 x M8	16 x M8	4 x M12	8 x M12	Other
24 V DC	8-channel $I_{\max} = 0.5 \text{ A}$	EP2008-0001		EP2008-0002	EP2008-0022	
		ER2008-0001		ER2008-0002	ER2008-0022	
				EQ2008-0002		
	8-channel $I_{\max} = 2 \text{ A}, \Sigma 4 \text{ A}$	EP2028-0001		EP2028-0002		
		ER2028-0001		ER2028-0002		
	8-channel $I_{\max} = 2.8 \text{ A}, \Sigma 16 \text{ A}$				EP2028-0032	
					ER2028-1032	
	8-channel $I_{\max} = 2 \text{ A}, \Sigma 4 \text{ A},$ with diagnostics	EP2038-0001		EP2038-0002		
		ER2038-0001		ER2038-0002		
	16-channel $I_{\max} = 0.5 \text{ A}, \Sigma 4 \text{ A}$		EP2809-0021		EP2809-0022	
			ER2809-0021		ER2809-0022	
					EQ2809-0022	
	16-channel $I_{\max} = 0.5 \text{ A}, \Sigma 4 \text{ A}$					EP2816-0008 D-sub, 25-pin
						EP2816-0010 2 x D-sub, 9-pin
						EP2816-0004 M16, 19-pin

Product overview EtherCAT Box Digital I/O

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Output		8 x M8	16 x M8	4 x M12	8 x M12	Other
24 V DC	16-channel $I_{\max} = 0.5 \text{ A}, \Sigma 4 \text{ A}$					EP2816-0003 IP 20 plug
	24-channel $I_{\max} = 0.5 \text{ A}$					EP2817-0008 D-sub, 25-pin
25 V AC/30 V DC	4-channel relay output			EP2624-0002		
				ER2624-0002		

Product overview EtherCAT Box

Digital I/O

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Combi		8 x M8	16 x M8	4 x M12	8 x M12	Other
24 V DC	8-channel 4 inputs + 4 outputs, filter 3.0 ms, $I_{\max} = 0.5 \text{ A}$	EP2308-0001		EP2308-0002		
		ER2308-0001		ER2308-0002		
	8-channel 4 inputs + 4 outputs, filter 10 μs , $I_{\max} = 0.5 \text{ A}$	EP2318-0001		EP2318-0002		
		ER2318-0001		ER2318-0002		
	8-channel 4 inputs + 4 outputs, filter 3.0 ms, $I_{\max} = 2 \text{ A}$	EP2328-0001		EP2328-0002		
		ER2328-0001		ER2328-0002		
	8-channel 8 inputs/outputs, filter 10 μs , $I_{\max} = 0.5 \text{ A}$	EP2338-0001		EP2338-0002		
		ER2338-0001		ER2338-0002		
	8-channel 8 inputs/outputs, filter 3.0 ms, $I_{\max} = 0.5 \text{ A}$	EP2338-1001		EP2338-1002		
		ER2338-1001		ER2338-1002		
	16-channel 16 inputs/outputs, filter 3.0 ms, $I_{\max} = 0.5 \text{ A}$, $\Sigma 4 \text{ A}$		EP2339-0021		EP2339-0022	
			ER2339-0021		ER2339-0022	
					EQ2339-0022	
	16-channel 16 inputs/outputs, filter 10 μs , $I_{\max} = 0.5 \text{ A}$, $\Sigma 4 \text{ A}$		EP2349-0021		EP2349-0022	
		ER2349-0021		ER2349-0022		

Product overview EtherCAT Box Digital I/O

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Combi		8 x M8	16 x M8	4 x M12	8 x M12	Other
24 V DC	16-channel 8 inputs + 8 outputs, filter 10 μ s, $I_{\max} = 0.5$ A					EP2316-0008 D-sub, 25-pin
						EP2316-0003 IP 20 plug
Safety	12-channel TwinSAFE Logic, 8 safe inputs, 4 safe outputs				EP1957-0022	

Product overview EtherCAT Box

Analog I/O

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Input		M8	M12	Other
$\pm 10\text{ V}$, $\pm 20\text{ mA}$	2-channel parameterisable, with galvanic isolation, single- ended, 16 bit		EP3162-0002	
$\pm 10\text{ V}$, $0/4\dots 20\text{ mA}$	4-channel parameterisable, differential inputs, 16 bit		EP3174-0002	
			ER3174-0002	
			EQ3174-0002	
			EP3174-0092 TwinSAFE SC	
	2-channel 2 analog inputs, parameterisable, single- ended, 16 bit, 2 digital control outputs (sink/ source type), 24 V DC, short-circuit proof		EP3182-1002	
	4-channel parameterisable, single- ended, 16 bit		EP3184-0002	
			ER3184-0002	
			EP3184-1002 2 channels per socket	
		ER3184-1002 2 channels per socket		

Product overview EtherCAT Box

Analog I/O

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Input		M8	M12	Other
Resistance thermometer RTD	4-channel PT100, PT200, PT500, PT1000, Ni100, Ni120, Ni1000, 16 bit		EP3204-0002	
			ER3204-0002	
			EQ3204-0002	
Thermocouple/ mV	4-channel type J, K, L, B, E, N, R, S, T, U, 16 bit		EP3314-0002	
			ER3314-0002	
			EQ3314-0002	
Measuring bridge SG	1-channel 24 bit, self-calibration		EP3356-0022	
Condition Monitoring/IEPE	2-channel	EP3632-0001		
Accelerometers	2-channel 2 x 3 axes			EP3752-0000
Pressure measuring	4-channel differential/absolute pressure measurement, 6 digital inputs, 2 digital outputs	EP3744-0041 4 pressure inputs -1...1 bar (differential pressure to fifth connection)		
		EP3744-1041 4 pressure inputs 0...7 bar (differential pressure to fifth connection)		

Product overview EtherCAT Box

Analog I/O

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Output		M12
±10 V, 0/4...20 mA	4-channel parameterisable, 16 bit	EP4174-0002
		ER4174-0002

Product overview EtherCAT Box

Analog I/O

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Combi		M12
±10 V, 0/4...20 mA	8-channel 4 inputs + 4 outputs, U/I parameterisable per channel, 8 digital I/Os, 24 V DC/3.0 ms	EP4378-1022
		ER4378-1022
	4-channel 2 inputs + 2 outputs, parameterisable, 16 bit	EP4374-0002
		ER4374-0002

Product overview EtherCAT Box

Special functions

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Function		M8	M12	Other
Position measurement	SSI encoder interface 1 MHz, 32 bit		EP5001-0002	
	Incremental encoder interface RS422 32/16 bit, 5 V DC sensor supply		EP5101-0002	EP5101-0011 D-sub, 4 million. increments/s
			ER5101-0002	EP5101-2011 D-sub, 20 million increments/s
	incremental encoder interface RS422 32/16 bit, 24 V DC sensor supply		EP5101-1002	
			ER5101-1002	
	incremental encoder interface 24 V DC 32/16 bit		EP5151-0002	
		ER5151-0002		
Communication	Serial interface 1-channel, RS232, RS422/RS485, 5 V DC/1 A		EP6001-0002	
			ER6001-0002	
	Serial Interface 2-channel, RS232, RS422/RS485		EP6002-0002	
			ER6002-0002	
	IO-Link master 4 ports		EP6224-2022 class A	
			EP6224-3022 class B	

Product overview EtherCAT Box

Special functions

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Function		M8	M12	Other
Communication	IO-Link master 8 ports		EP6228-0022 class A	
			EP6228-3032 class B	
Motion	Servomotor module $I_{\text{rms}} = 4.5 \text{ A}$, 50 V DC, OCT, STO			EP7211-9034
	Stepper motor module $I_{\text{max}} = 1.5 \text{ A}$, 50 V DC, incremental encoder		EP7041-1002	
			ER7041-1002	
	Stepper motor module $I_{\text{max}} = 5 \text{ A}$, 50 V DC, incremental encoder		EP7041-0002	
			ER7041-0002	
			EP7041-2002	
			ER7041-2002	
			EP7041-3002	
			ER7041-3002	
	DC motor output stage $I_{\text{max}} = 3.5 \text{ A}$, 50 V DC		EP7342-0002	
			ER7342-0002	

Product overview EtherCAT Box

Special functions

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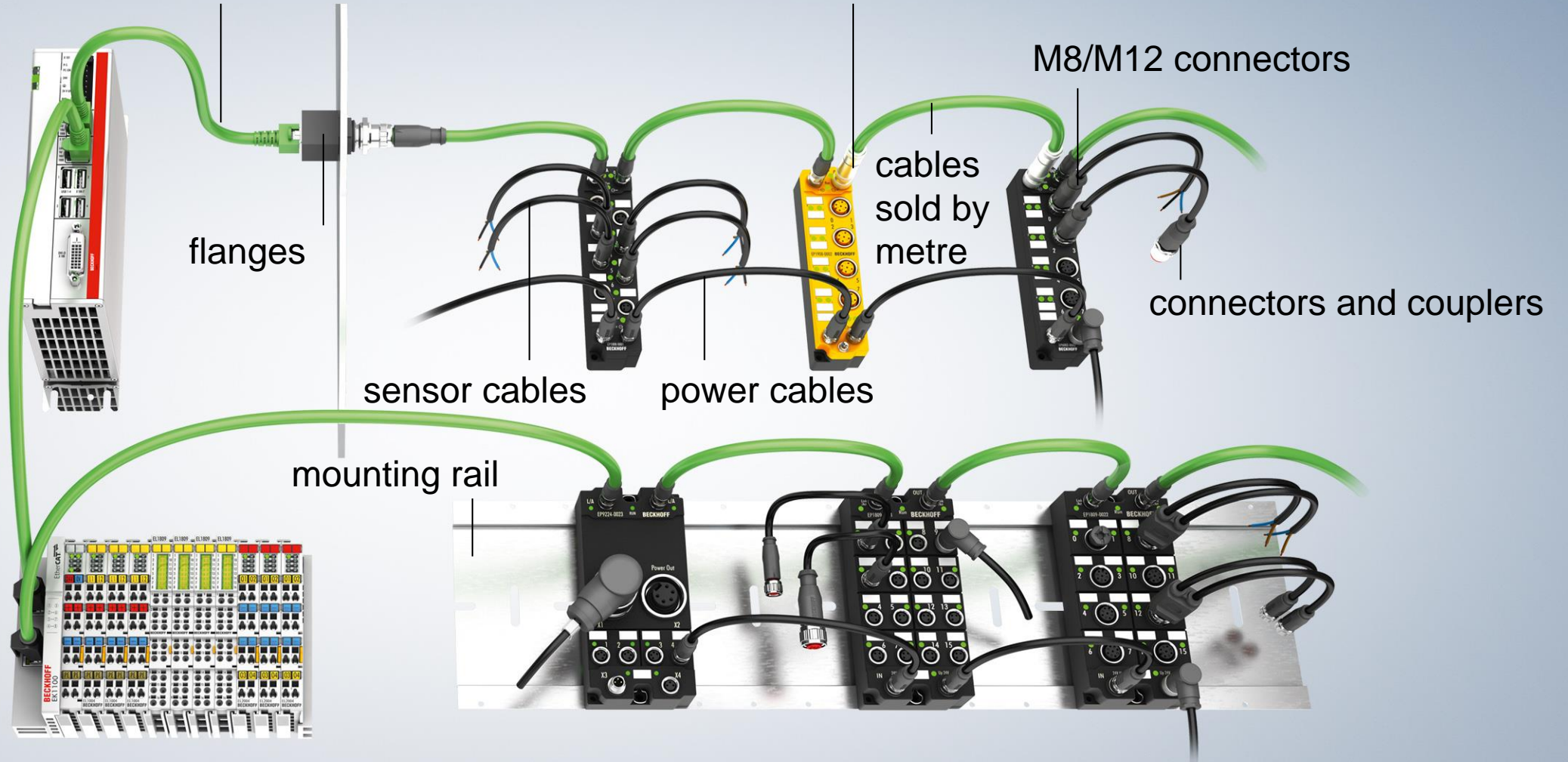
Function		M8	M12	Other
Special functions	Multi-functional I/O-Box 8 inputs/outputs, 2 x tacho input, 2 x 0/4...20 mA input, 1 x 0/4...20 mA output, 1 x 1.2 A PWMi output		EP8309-1022	
			ER8309-1022	
System	EtherCAT Box 3 decimal ID switches	EP1111-0000		
	EtherCAT junction 2-channel	EP1122-0001		
	EtherCAT P junction 2 ports	EP1312-0001		
	EtherCAT junction 8 ports	EP9128-0021		
	Power distribution 4/4-channel			EP9214-0023 7/8" plug, 7/8" socket
	Power distribution with current measurement/ data logging 4/4-channel			EP9224-0023 7/8" plug, 7/8" socket
	1-channel power distribution box ENP auf EtherCAT P			EP9221-0057 ENP B17 plug, ENP B17 socket
	4-channel power distribution box ENP auf EtherCAT P			EP9224-0037 ENP B17 plug, ENP B17 socket
	PROFINET RT EtherCAT Box EtherCAT Box interface with PROFINET RT		EP9300-0022	
	EtherCAT media converter fibre optic 1-channel			EP9521-0020

Accessories EtherCAT Box

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pre-assembled Ethernet/EtherCAT cables

connectors for field assembly



flanges

M8/M12 connectors

cables
sold by
metre

connectors and couplers

sensor cables

power cables

mounting rail

IP 20

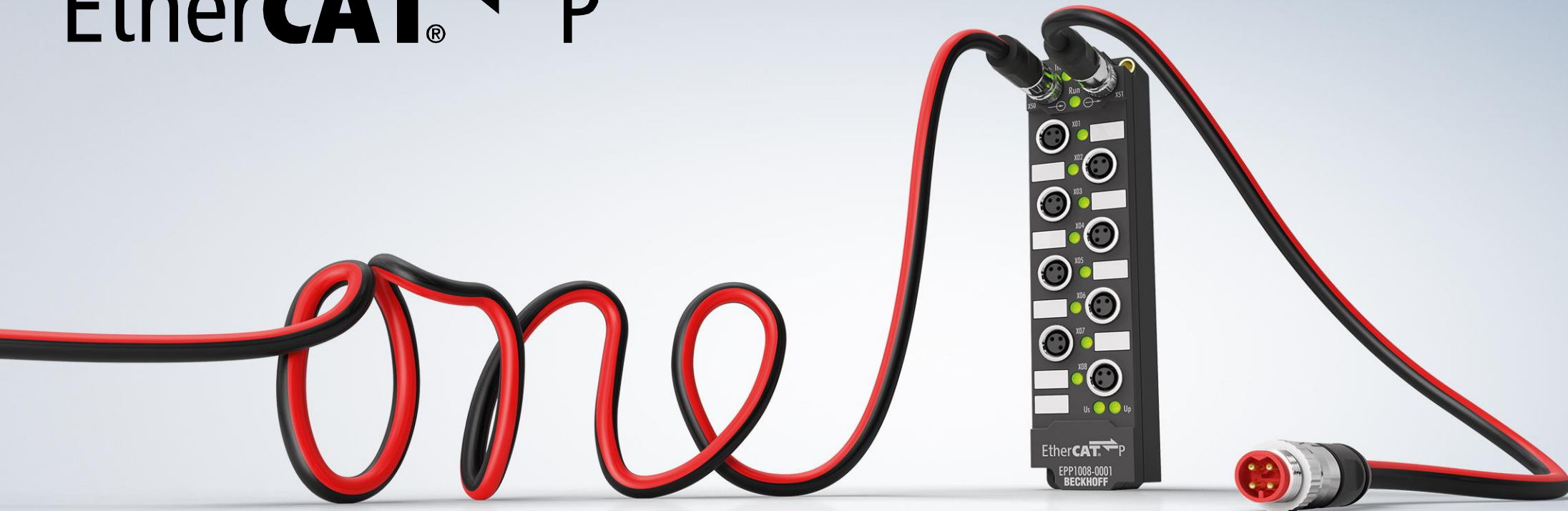
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7. EtherCAT P Box | Product overview

EPPxxxx | IP 67 EtherCAT P products

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EtherCAT[®]  P



- identical control technology provided as with EPxxxx EtherCAT Box modules (e.g. process variables, CoE,...)
- The communication can easily switch between EtherCAT and EtherCAT P and vice versa as required.
- EPP modules enable significant savings → the hardware requirements in terms of control cabinets, terminal boxes and power leads are reduced.
- The tried and tested design of the modules which are made of robust plastic and fully sealed ...
- ... enables the use directly at the machine, even in wet, dirty or dusty environmental conditions.

EPPxxx-006x

EtherCAT P Box modules with a very compact form factor

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EPP13xx | EtherCAT P junctions

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- flexible topology configuration with EPP13xx junctions
- The current carrying capacity of 3 A per EtherCAT P segment for U_S and U_P enables a wide range of sensors and actuators to be used.



1. Introduction
2. EtherCAT technology
3. EtherCAT Box | System overview
4. EtherCAT Box | Housing series
5. EtherCAT Box | Product overview
6. EtherCAT P Box
7. **EtherCAT P Box | Product overview**



Product overview EtherCAT P Box

Digital I/O

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Input		4 x M8	8 x M8	16 x M8	4 x M12	8 x M12	Other
24 V DC	4-channel filter 3.0 ms	EPP1004-0061					
	8-channel filter 3.0 ms		EPP1008-0001		EPP1008-0002	EPP1008-0022	
	8-channel filter 10 µs		EPP1018-0001		EPP1018-0002		
	8-channel 2-channel timestamp		EPP1258-0001		EPP1258-0002		
	8-channel multi-function input				EPP1518-0002		
	16-channel filter 3.0 ms			EPP1809-0021		EPP1809-0022	
	16-channel filter 10 µs			EPP1819-0021		EPP1819-0022	
	16-channel filter 10 µs, D-sub, 25-pin						EPP1816-0008 EPP1816-3008 acceleration sensor

Product overview EtherCAT P Box Digital I/O

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Output		8 x M8	16 x M8	4 x M12	8 x M12	Other
24 V DC	8-channel $I_{\max} = 0.5 \text{ A}, \Sigma 3 \text{ A}$	EPP2008-0001		EPP2008-0002	EPP2008-0022	
	8-channel $I_{\max} = 2 \text{ A}, \Sigma 3 \text{ A}$	EPP2028-0001		EPP2028-0002		
	8-channel $I_{\max} = 2 \text{ A}, \Sigma 3 \text{ A}$, with diagnostics	EPP2038-0001		EPP2038-0002		
	16-channel $I_{\max} = 0.5 \text{ A}, \Sigma 3 \text{ A}$		EPP2809-0021		EPP2809-0022	
	16-channel $I_{\max} = 0.5 \text{ A}, \Sigma 3 \text{ A}$					EPP2816-0008 D-sub, 25-pin
						EPP2816-0010 2 x D-sub, 9-pin
						EPP2816-0004 M16, 19-pin
24-channel $I_{\max} = 0.5 \text{ A}$					EPP2817-0008 D-sub, 25-pin	
25 V AC/30 V DC	4-channel relay output			EPP2624-0002		

Product overview EtherCAT P Box Digital I/O

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Combi		4 x M8	8 x M8	16 x M8	4 x M12	8 x M12	Other
24 V DC	4-channel 4 inputs/outputs, filter 10 μ s, $I_{\max} = 0.5$ A, Σ 3 A	EPP2334-0061					
	8-channel 4 inputs + 4 outputs, filter 3.0 ms, $I_{\max} = 0.5$ A		EPP2308-0001		EPP2308-0002		
	8-channel 4 inputs + 4 outputs, filter 10 μ s, $I_{\max} = 0.5$ A		EPP2318-0001		EPP2318-0002		
	8-channel 4 inputs + 4 outputs, filter 3.0 ms, $I_{\max} = 2$ A, Σ 3 A		EPP2328-0001		EPP2328-0002		
	8-channel 8 inputs/outputs, filter 10 μ s, $I_{\max} = 0.5$ A, Σ 3 A		EPP2338-0001		EPP2338-0002		
	8-channel 8 inputs/outputs, filter 3.0 ms, $I_{\max} = 0.5$ A, Σ 3 A		EPP2338-1001		EPP2338-1002		

Product overview EtherCAT P Box Digital I/O

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Combi		4 x M8	8 x M8	16 x M8	4 x M12	8 x M12	Other
24 V DC	16-channel 16 inputs/outputs, filter 3.0 ms, $I_{\max} = 0.5 \text{ A}$, $\Sigma 3 \text{ A}$			EPP2339-0021		EPP2339-0022	
	16-channel 16 inputs/outputs, filter 10 μs , $I_{\max} = 0.5 \text{ A}$, $\Sigma 3 \text{ A}$			EPP2349-0021		EPP2349-0022	
	16-channel 8 inputs + 8 outputs, filter 10 μs , $I_{\max} = 0.5 \text{ A}$, $\Sigma 3 \text{ A}$						EPP2316-0008 D-sub, 25-pin
							EPP2316-0003 IP-20 plug

Product overview EtherCAT P Box

Analog I/O

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Input		M8	M12
±10 V, 0/4...20 mA	4-channel parameterisable, differential input, 16 bit		EPP3174-0002
	4-channel parameterisable, single- ended, 16 bit		EPP3184-0002
Resistance thermometer RTD	4-channel PT100, PT200, PT500, PT1000, Ni100, Ni120, Ni1000, 16 bit		EPP3204-0002
Thermocouple/ mV	4-channel type J, K, L, B, E, N, R, S, T, U, 16 bit		EPP3314-0002
Condition Monitoring/IEPE	2-channel	EPP3632-0001	
Pressure measuring	4-channel differential/absolute pressure measurement, 6 digital inputs, 2 digital outputs	EPP3744-0041 4 pressure inputs -1...1 bar (differential pressure to fifth connection)	
		EPP3744-1041 4 pressure inputs 0...7 bar (differential pressure to fifth connection)	

Product overview EtherCAT P Box

Analog I/O

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Output		M12
±10 V, 0/4...20 mA	4-channel parameterisable, 16 bit	EPP4174-0002
	4-channel 2 inputs + 2 outputs, parameterisable, 16 bit	EPP4374-0002

Product overview EtherCAT P Box

Special functions

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Function		M8	M12	Other
Position measurement	incremental encoder interface RS422 32/16 bit, 5 V DC sensor supply		EPP5101-0002	EPP5101-0011 D-sub, 4 million. increments/s
	incremental encoder interface RS422 32/16 bit, 24 V DC sensor supply		EPP5101-1002	
	incremental encoder interface 24 V DC 32/16 bit		EPP5151-0002	
Communication	Serial interface 1-channel, RS232, RS422/RS485, 5 V DC/1 A		EPP6001-0002	
	Serial interface 2-channel, RS232, RS422/RS485		EPP6002-0002	
	IO-Link master class A, 8 ports		EPP6228-0022	
Motion	Stepper motor module $I_{\max} = 1.5 \text{ A}$, 50 V DC, incremental encoder		EPP7041-1002	
	Stepper motor module $I_{\max} = 5 \text{ A}$, 50 V DC, incremental encoder		EPP7041-3002	
	DC motor output stage $I_{\max} = 3.5 \text{ A}$, 50 V DC		EPP7342-0002	
System	EtherCAT P Box 3 decimal ID switches	EPP1111-0000		

Product overview EtherCAT P Box

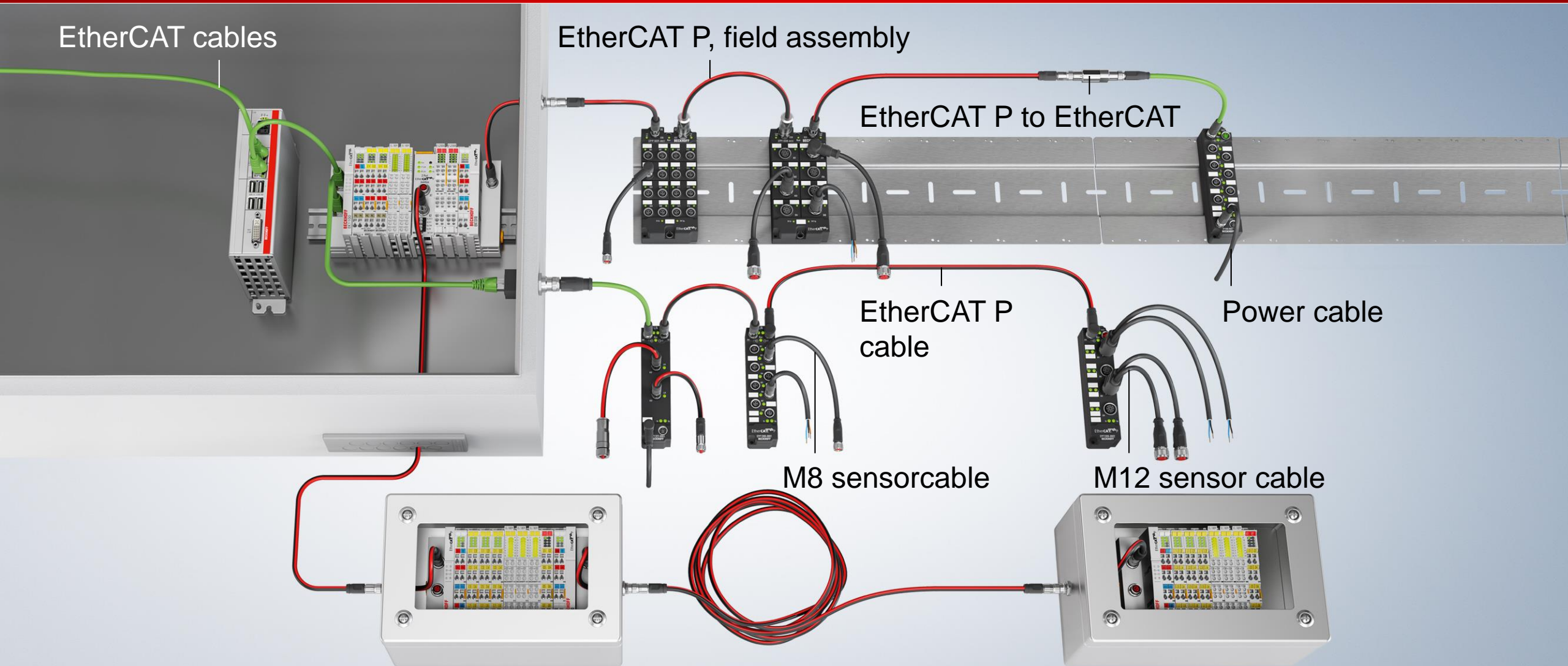
Special functions

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Function		M8	M12	Other
System	EtherCAT P junction 3 ports, with feed-in	EPP1322-0001		
	EtherCAT P junction 3 ports, with refresh	EPP1332-0001		
	EtherCAT P junction 3 ports	EPP1342-0001		
	EtherCAT P Box EtherCAT P/EtherCAT connector with power transmission	EPP9001-0060		
	EtherCAT P Box 4 x diagnostics (U_S , U_P , I_S , I_P)	EPP9022-0060		

Accessories EtherCAT P Box

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EtherCAT Box

High performance directly in the field

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EtherCAT Box
High performance directly in the field

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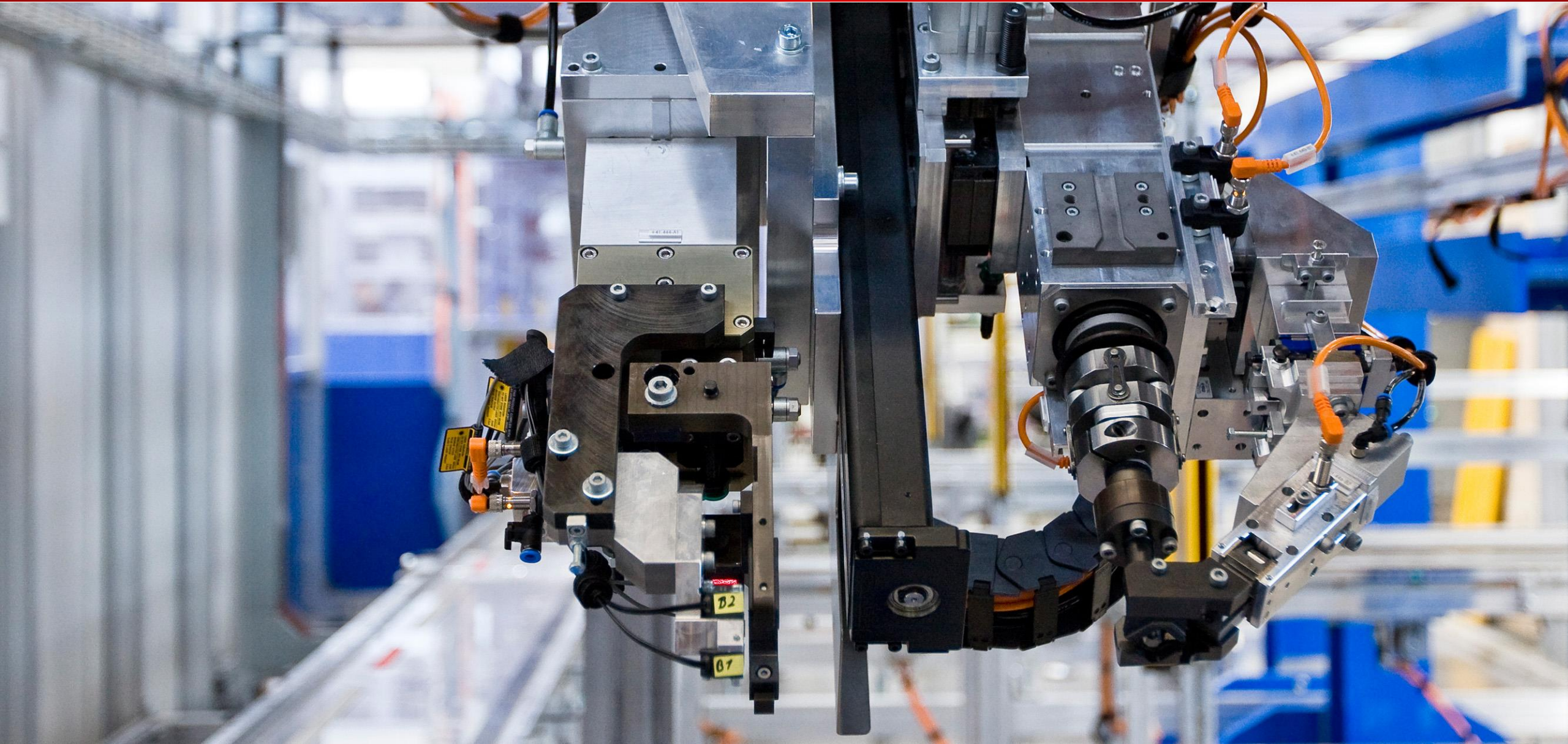
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High performance directly in the field

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Beckhoff Automation GmbH & Co. KG

Headquarters
Huelshorstweg 20
33415 Verl
Germany

Phone: +49 5246 963-0
Fax: +49 5246 963-198
E-Mail: info@beckhoff.com
Web: www.beckhoff.com

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