

# KeControl

The ideal control  
for each requirement



**KEBA**<sup>®</sup>

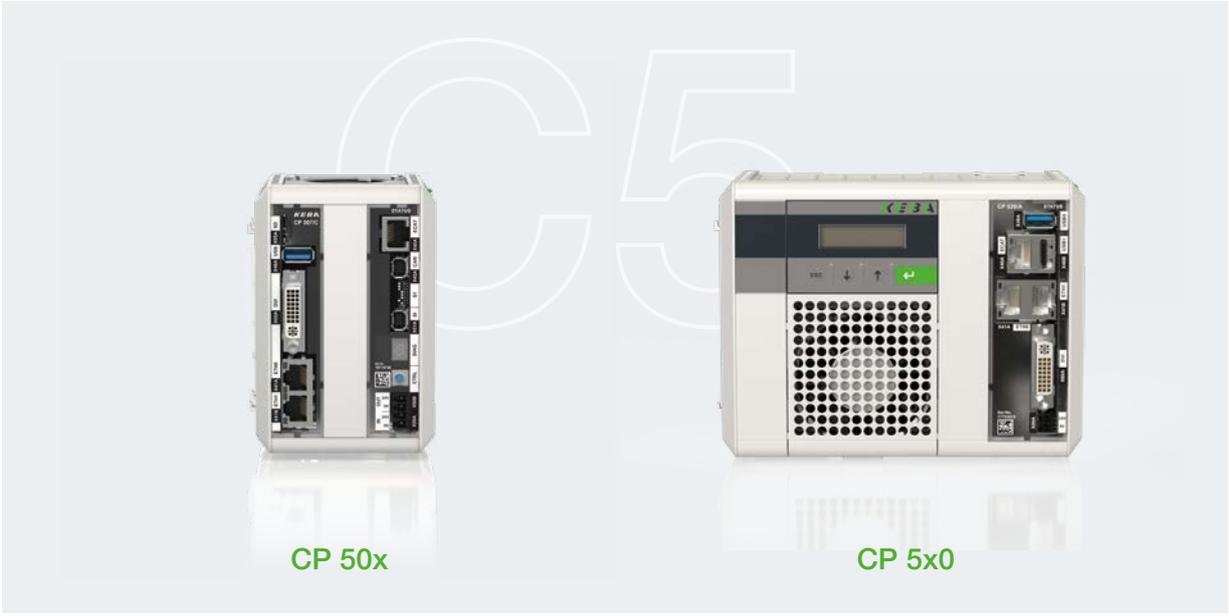
Automation by innovation.

# KEBA controls – for all those who expect more from an automation system

## **KEBA's broad solution portfolio**

The selection ranges from flexible extensible controls, to a compact control and drive system with built-in safety control, to industry-optimized solutions with on-board I/Os.

The Linux-based KEBA FlexCore software platform provides the optimal foundation for all applications—independent of the control hardware being used.



CP 50x

CP 5x0



CP 0xx



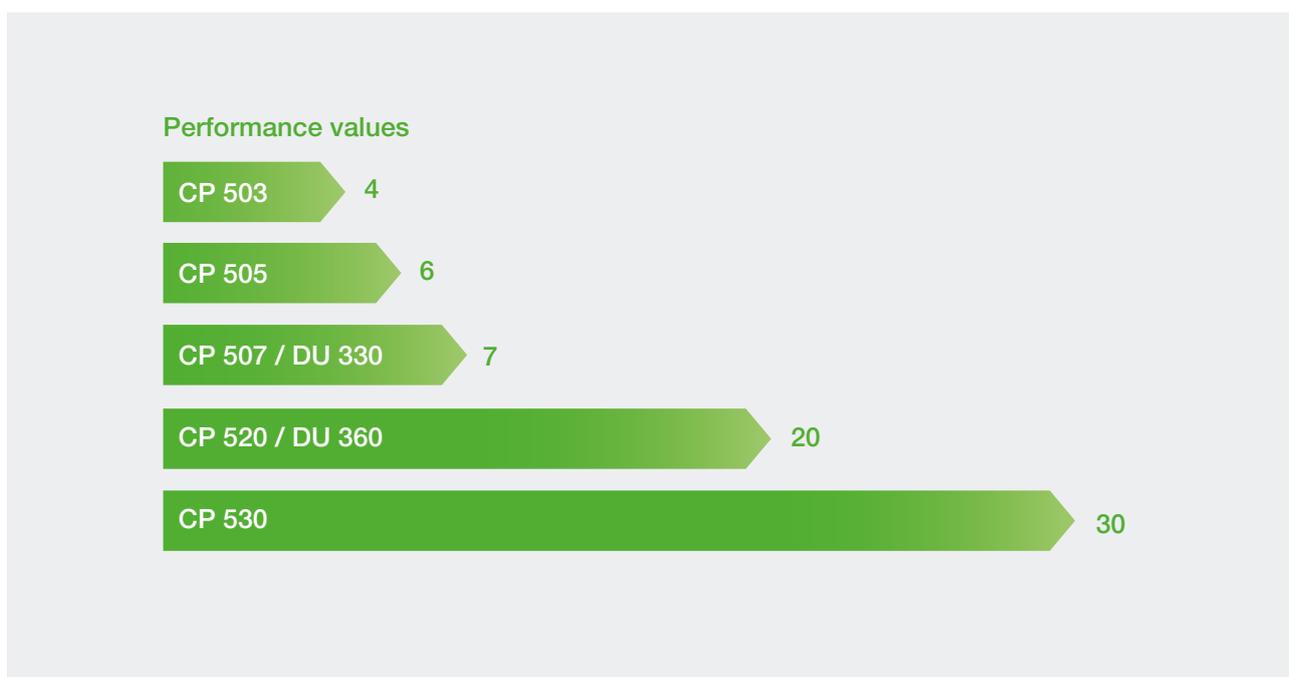
D3-DU 3xx

## The KeControl product family

# Scalable from Eco to Premium

KeControl controls are available in various performance classes.

KEBA conducts a broad range of benchmark testing in-house and standardizes the results so that selecting the right device class becomes a breeze.



## The ideal controls for every application

From conventional control tasks all the way to high-performance applications—the KeControl product family offers maximum scalability. In combination with the continuous FlexCore software platform, it can optimize both engineering and system costs.

## High-end visualization on board

KeControl's multi-core CPU architecture makes it possible to run a modern visualization (e.g. KEBA KeView Style Multitouch) in parallel with the control task—without any limiting real-time interference. The matching passive panels from the KeTop series round out the overall system and make its price and its handling highly attractive.

## Real-time communication—innovated and solved

KeControl relies fully on the EtherCAT master developed by KEBA that is realized at the FPGA hardware level and supports a cycle time of 62.5  $\mu$ s. Data transfer jitter is reduced to less than 100 ns, and the usable EtherCAT data bandwidth is increased to more than 95%. In addition, the CPU base load is reduced by up to 20%.

The unique Fast Reaction Control feature can reduce the dead times in control loops by up to 66%. Concrete applications show a dramatic improvement of the control performance, with settling time reduced by 46% and overshooting reduced by a factor of 6.

# Flexible applications



## Maximum diversity of conceptualization

The KeControl controls family includes different models. KeControl C5 is particularly suited to modular or distributed configurations; KeControl C1, by contrast, is best for compact centralized machines with a high basic I/O count.

KeDrive D3 controls stand out for their extremely compact design that includes built-in drive and safety technology—they need 76% less space in the control cabinet than conventional single-axis control solutions.



## Impressive design freedom thanks to high connectivity

The open hardware and software architecture based on standards such as Linux, OPC UA and EtherCAT makes it easy to integrate not just KEBA components into the control, and also customers' proprietary or third-party components. This guarantees comprehensive investment protection and the realization of Industry 4.0 solutions.



## Smart service concepts—easy to use

Firmware data, application data and process data is stored securely on exchangeable storage media, providing quick and easy access for commissioning and servicing. The built-in service display makes it easy to create backups or deploy new software without any additional tools and provides easy after-sales diagnostics.

## Module overview

### KeControl controls

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#### KeControl accessories

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KeControl C5

KeConnect C5



Expansion cards

Basic CPU

Interface board

I/O module

## KeControl C5 controls

# High performance in a compact package

## Exciting new standards

KeControl C5 complements the KEBA controls family with high-performance compact controls that stand out for their space-saving design. They need up to 69% less space in the control cabinet. Because at KEBA, reducing control cabinet volumes is not just a buzzword—it is part of our mission.

The controls come in two different sizes. The compact CP 50x controllers impress with minimal space requirements, the CP 5x0 units with maximum performance.

## Custom technology cards and interface boards

The interface board features versatile standard interfaces that can be customized to suit customer requirements. In addition, customers have the option of ordering customized technology cards from KEBA or developing and integrating their own cards in-house using the form factor of the expansion cards.

## Easy customization and extensibility

KeControl C5 stands out for its consistent modular design. The KeConnect C5 I/O modules that can be connected on the right and the KeConnect C5 expansion cards that can be plugged in on the left provide customers with maximum flexibility in the configuration of their individual automation system.

# KeControl C5 - CP 50x

## Controls / Control units

CP 503/A, CP 505/A, CP 507/A, CP 507/C

### Product features

- // High performance in a compact package
- // EtherCAT master for tough real-time requirements
- // CAN and serial interfaces for cost-optimized solutions and brownfield applications
- // Maximum flexibility through the direct connection of KeConnect C5 I/O modules on the right
- // Direct connection of expansion cards



### Brief description

The compact CP 50x CPUs of the KeControl C5 product line offer a variety of standard interfaces and expansion options. They are the optimal controls for everything from conventional control tasks to applications with high computing requirements. With CAN and serial interfaces directly on the controller, all tasks can be solved in a cost-optimized manner.

The EtherCAT master implemented at the FPGA hardware level in combination with a CPU computing performance from single-core to quad-core achieve top performance. In addition, the excellent graphics performance permits running visualization applications on the controller and using cost-optimized passive panels.

Thanks to the consistent modular design, KeConnect C5 I/O modules can be connected on the right via the EtherCAT module bus and KeControl C5 expansion cards can be connected on the left via Card Edge connectors.

### Technical specifications

General data				
	CP 503/A	CP 505/A	CP 507/A	CP 507/C
Overvoltage category	II			
Protection class	III according to EN 61010-2-201			
Galvanic isolation	No			
Fan	No		Yes	

Dimensions, weight				
	CP 503/A	CP 505/A	CP 507/A	CP 507/C
Height	121 mm			
Width	80 mm (when installed)			
Depth	90.6 mm			
Weight	500 g		515 g	

## Environmental conditions

	CP 503/A	CP 505/A	CP 507/A	CP 507/C
Operating temperature	0 °C to +55 °C		0 °C to +60 °C	
Storage temperature	-40 °C to +70 °C			
Relative humidity	10 % to 95 % (non-condensing)			
Vibration/shock resistance	According to EN 61131-2			

## CPU

	CP 503/A	CP 505/A	CP 507/A	CP 507/C
Processor	Intel Atom E3815 1.46 GHz single core	Intel Atom E3827 1.75 GHz dual core	Intel Atom E3845 1.91 GHz quad core	
Memory	1 GB single channel	2 GB dual channel	2 GB dual channel	4 GB dual channel
Battery-buffered SRAM	512 kB			

## Power supply

	CP 503/A	CP 505/A	CP 507/A	CP 507/C
Rated supply voltage	24 V DC (front; rated voltage tolerance range 19.2 V DC to 30 V DC according to EN 61131-2) <sup>1)</sup>			
Max. inrush current	10 A			
Max. total power consumption	150 W	154 W	174 W	174 W
Max. output power				
• Module bus 5 V	30 W	10.5 W	20 W	
• Module bus 24 V	48 W	48 W	48 W	

Information: \*) for the power supply voltage: Section 5.1.1.3 of EN 61131-2:2007 is fulfilled to severity level PS1. To achieve severity level PS2, a power supply unit that fulfills the necessary requirements must be selected.

## Interfaces

System bus	Module bus (EtherCAT)
USB	1 x 3.0
EtherCAT	1 x RJ45
Ethernet Gbit	2 x RJ45
Expansion card	1 x Card Edge connector. Further information available upon request
Graphics	1 x DVI
CAN	1 x Mini I/O
RS 232/485	1 x Mini I/O

## Memory

Memory card	1 x MicroSD
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## Operation

Service display	1 x 7 segment display and control key
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## Certification

CE	2014/30/EU and 2011/65/EU
UL	UL 61010-1 and UL 61010-2-201
UKCA	Conformity with relevant statutory requirements
KC	Korea EMC Certification

# KeControl C5 - CP 5x0

## Control modules

CP 520/C, CP 530/C

### Product features

- // Top performance up to Intel Core i7
- // Maximum flexibility through the direct connection of KeConnect C5 I/O modules on the right
- // Direct connection of expansion cards
- // Flexible interface board for custom modifications



### Brief description

The CP 5x0 CPUs offer flexibility, scalability and communication abilities in one form factor. CP 520/C and CP 530/C are perfectly suited to high-end applications in combination with computation-intensive tasks such as image processing applications.

A flexible interface board offers various standard interfaces that can be customized as needed. USB 3.0 and USB 2.0 guarantee optimal ease of maintenance. Ethernet interfaces are available for operation in higher-level SCADA networks as well as for running active panels. Outstanding graphics computing power permits the use of cost-optimized passive panel solutions.

Thanks to the consistent modular design, KeConnect C5 I/O modules can be connected on the right via the EtherCAT module bus and KeControl C5 expansion cards can be connected on the left via Card Edge connectors.

### Technical specifications

General data	
Overvoltage category	II
Protection class	III according to EN 61010-2-201
Galvanic isolation	No
Fan	Yes

Dimensions, weight	
Height	121 mm
Width	157.1 mm (when installed)
Depth	90.6 mm
Weight	900 g

## Environmental conditions

Operating temperature	+5 °C to +55 °C
Storage temperature	-40 °C to +70 °C
Relative humidity	10 % to 95 % (non-condensing)
Vibration/shock resistance	According to EN 61131-2

## CPU

	CP 520/C	CP 530/C
Processor	Intel Celeron 3955U 2.00 GHz dual core	Intel Core i7-6600U 2.8 GHz dual core
Memory	4GB dual channel	
Battery-buffered SRAM	1MB	

## Power supply

	CP 520/C	CP 530/C
Rated supply voltage	24 V DC (front; rated voltage tolerance range 19.2 V DC to 30 V DC according to EN 61131-2) *)	
Max. inrush current	10 A	
Max. total power consumption	140 W (own consumption 62 W)	150W (own consumption 72W)
Max. output power	30 W	
• Module bus 5 V	48 W	
• Module bus 24 V		

Information: \*) for the power supply voltage: Section 5.1.1.3 of EN 61131-2:2007 is fulfilled to severity level PS1. To achieve severity level PS2, a power supply unit that fulfills the necessary requirements must be selected.

## Interfaces

System bus	Module bus (EtherCAT)
USB	1 x 2.0 1 x 3.0
EtherCAT	1 x RJ45
Ethernet Gbit	2 x RJ45
Expansion card	1 x Card Edge connector. Further information available upon request
Graphics	1 x DVI (LVDS available upon request)

## Memory

Memory card	1 x CFast
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## Operation

Service display	LCD display with 2 lines with 16 characters each
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## Certification

CE	2014/30/EU and 2011/65/EU
UL	UL 61010-1 and UL 61010-2-201
UKCA	Conformity with relevant statutory requirements
KC	Korea EMC Certification

# KeControl C1

## Control modules

CP 035/M, CP 056/E, CP 056/Y, CP 057/Y (upon request)

### Product features

- // Built-in I/O elements
- // Expandable I/O elements and drive technology via EtherCAT
- // CAN and serial interfaces for peripheral devices
- // Fast Cut-Off Reaction, Fast Reaction Control, and Fast Closed-Loop Control
- // Flat design



### Brief description

CP 035/M and CP 05x are central control modules that have been optimized for the end-to-end automation of applications with high I/O counts, such as injection molding machines, die-casting or extrusion machines.

The large number of digital and analog input and output signals, the direct actuation of proportional valves, and the connection of temperature sensors make it possible to fully automate a wide variety of applications using just one component.

The optimized interaction between the KEBA hardware and the control modules is key for perfect results. For example in injection molding machines, innovative control features such as Fast Cut-Off Reaction, Fast Reaction Control, and Fast Closed-Loop Control as well as direct hardware support with response times up to 62.5  $\mu$ s are able to improve the process control performance and consequently improve the quality of the parts, and reduce rejects. At an injection speed of 500 mm/s and a cycle time of 1ms, Fast Cut-Off Reaction achieves a switch-over point accuracy of 32  $\mu$ m.

### Technical specifications

General data	
Overvoltage category	II
Protection class	III according to EN 61010-2-201
Galvanic isolation	No
Fan	Yes

Dimensions, weight	
Height	137 mm
Width	415 mm
Depth	55 mm
Weight	1,530 g

## Environmental conditions

Operating temperature	0 °C to +55 °C
Storage temperature	-40 °C to +70 °C
Relative humidity	10 % to 95 % (non-condensing)
Vibration/shock resistance	According to EN 61131-2

## CPU

	CP 035/M	CP 056/E	CP 056/Y	CP 057/Y
Processor	Intel Atom E3815 1.46 GHz single core	Intel Atom E3827 1.75 GHz dual core	Intel Atom E3845 1.91 GHz triple core	Intel Atom E3845 1.91 GHz quad core
Memory	1 GB single channel	1 GB dual channel	2 GB dual channel	4 GB dual channel
Battery-buffered SRAM	512 kB			

## Power supply

	CP 035/M	CP 056/E	CP 056/Y	CP 057/Y
Rated supply voltage	24 V DC (front; rated voltage tolerance range 19.2 V DC to 30 V DC according to EN 61131-2) *)			
Max. inrush current	5.1 A			
Max. total power consumption	35 W	135 W	140 W	140 W

Information: \*) for the power supply voltage: Section 5.1.1.3 of EN 61131-2:2007 is fulfilled to severity level PS1. To achieve severity level PS2, a power supply unit that fulfills the necessary requirements must be selected.

## Interfaces

	CP 035/M	CP 056/E	CP 056/Y	CP 057/Y
USB	1 x 2.0, 1 x 3.0			
EtherCAT	1 x RJ 45			
Ethernet Gbit	1 x RJ 45	2 x RJ 45 (1x 100MBit)		
Graphics	1x DVI			
CAN	1 x D-Sub 9-pole			
RS 232/485	1 x D-Sub 9-pole			
Onboard I/Os	48 x DI, 56 x DO, 6 x AI, 4 x AO, 2 x TI	48 x DI, 56 x DO, 8 x AI, 6 x AO, 10 x TI		

## Memory

Memory card	1 x MicroSD
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## Operation

Service display	1 x 7 segment display and control key
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## Certification

CE	2014/30/EU and 2011/65/EU
UL	UL 61010-1 and UL 61010-2-201
UKCA	Conformity with relevant statutory requirements
KC	Korea EMC Certification

# KeDrive D3 controls - D3-DU 3x0

## Control modules

D3-DU 330/A, D3-DU 330/B, D3-DU 360/A, D3-DU 360/B

### Product features

- // All-in-one controller in the form factor of the KeDrive D3 drive technology
- // Powerful and scalable
- // Maximum flexibility through the free selection of fieldbus
- // Can be expanded with 1-axis, 2-axis or 3-axis controllers



### Brief description

The D3-DU control solution for PLCs, motion and robotics is extremely powerful and offers maximum flexibility. Numerous CPU types, from the Intel Atom 1.9 GHz to the Intel Celeron 2 GHz, enable an application-optimized computing performance that allows drive control, visualization, closed-loop control, and standardized PLCs to run on a single control at low cost.

A built-in service display provides support for the quick configuration and diagnostics of the controls, and the drives. The KeDrive D3 controls come either with a heatsink (/A) or with ColdPlate (/B), depending on the selected (multi-axis) drive controller type.

### Technical specifications

General data	
Overvoltage category	II
Protection class	I according to EN 61131-2 (because PE connection is required)
Galvanic isolation	No
Fan	Yes

Dimensions, weight				
	D3-DU 330/A	D3-DU 330/B	D3-DU 360/A	D3-DU 360/B
Height	310 mm			
Width	55 mm			
Depth	241 mm	188.5 mm	241 mm	188.5 mm
Weight	2,860 g	2,450 g	2,700 g	2,290 g

## Environmental conditions

Operating temperature	+5 °C to +55 °C
Storage temperature	-40 °C to +70 °C
Relative humidity	10 % to 95 % (non-condensing)
Vibration resistance	According to EN 61131-2

## CPU

	D3-DU 330	D3-DU 360
Processor	Intel Atom E3845 1.91 GHz quad core	Intel Celeron 3955U 2.00 GHz dual core
Memory	2 GB dual channel	4 GB dual channel
Battery-buffered SRAM	1MB	

## Power supply

	D3-DU 330	D3-DU 360
Supply voltage	24 V DC, rated voltage tolerance: 19.2 V to 30 V, acc. to EN 61131-2	
Max. input current	10 A	
Max. total power consumption	26 W	25 W

## Interfaces

	D3-DU 330	D3-DU 360
USB	3 x USB 2.0	
EtherCAT	2 x RJ45	
EtherCAT or Sercos III	-	1 x RJ45
EtherCAT slave / EtherNet/IP adapter / PROFINET IO-Device	2 x RJ45	
Ethernet Gbit	2 x RJ45	
Graphics	1 x DVI	
PCIe	-	1 x display port

## Memory

Memory card	1 x CFast
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## Operation

Service display	LCD display with 2 lines with 16 characters each
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## Certification

CE	2014/30/EU and 2011/65/EU
UL	UL 61010-1 and UL 61010-2-201
UKCA	Conformity with relevant statutory requirements

# KeDrive D3 controls – D3-DU 3x5

## Control modules

### with built-in safety control

D3-DU 335/A, D3-DU 335/B, D3-DU 365/A, D3-DU 365/B

#### Product features

- // All-in-one controller in the form factor of the KeDrive D3 drive technology
- // Powerful and scalable
- // Maximum flexibility through the free selection of fieldbuses
- // Can be expanded with 1-axis, 2-axis or 3-axis controllers
- // Built-in cross-axis safety control including safe I/Os



#### Brief description

The D3-DU control solution for PLCs, motion and robotics is extremely powerful and offers maximum flexibility. Numerous CPU types, from the Intel Atom 1.9 GHz to the Intel Celeron 2 GHz, enable an application-optimized computing performance that allows drive control, visualization, graphics processing, closed-loop control, and standardized PLCs to run on a single control at low cost.

The control comes with built-in safety control including safe I/Os. The safety control is ideal for robotics applications. In addition to safe fieldbus communication, it offers safe motion monitoring of individual axes and simultaneous safe space monitoring (TCP, Tool Center Point).

A built-in service display provides support for the quick configuration and diagnostics of the control, the safety control, and the drives. The KeDrive D3 controls come either with a heatsink (/A) or with ColdPlate (/B), depending on the selected (multi-axis) drive controller type.

For more information on KeDrive D3 safety control, refer to the KeSafe product brochure.

#### Technical specifications

General data	
Overvoltage category	II (SRO circuit III)
Protection class	I according to EN 61131-2 (because PE connection is required)
IP code	Must be installed in an IP 54 housing
Safety characteristics	Up to category 4, PL e acc. to EN ISO 13849-1 Up to SIL 3 acc. to EN 62061 and EN 61508
Galvanic isolation	No
Fan	Yes

Dimensions, weight				
	D3-DU 335/A	D3-DU 335/B	D3-DU 365/A	D3-DU 365/B
Height	310 mm			
Width	55 mm			
Depth	241 mm	188.5 mm	241 mm	188.5 mm
Weight	3,230 g	2,820 g	3,070 g	2,660 g

## Environmental conditions

Operating temperature	+5 °C to +55 °C
Storage temperature	-40 °C to +70 °C
Relative humidity	10 % to 95 % (non-condensing)
Vibration resistance	According to EN 61131-2

## CPU

	D3-DU 335	D3-DU 365
Processor	Intel Atom E3845 1.91 GHz quad core	Intel Celeron 3955U 2.00 GHz dual core
Memory	2 GB dual channel	4 GB dual channel
Battery-buffered SRAM	1MB	

## Power supply

	D3-DU 335	D3-DU 365
Supply voltage	24 V DC, rated voltage tolerance: 19.2 V to 30 V, acc. to EN 61131-2	
Max. input current	10 A	
Max. total power consumption	25 W	60 W
Additional power consumption of safety equipment	Own consumption: 3.2 W At full output power, typically: 192 W	

## Interfaces

	D3-DU 335	D3-DU 365
USB	3 x USB 2.0	
EtherCAT (FSoE)	2 x RJ45	
EtherCAT (FSoE) or Sercos III	-	1 x RJ45
EtherCAT slave (FSoE slave) / EtherNet/IP adapter / PROFINET IO device (PROFIsafe)	2 x RJ45	
Ethernet Gbit	2 x RJ45	
Graphics	1 x DVI	
PCIe	-	1 x display port
Onboard I/Os	20 x SDI, 8 x SDO 0.5A, 2 x SDO 2A, 2 x SRO, 4 x TDO, 4 x DO	

## Memory

Memory card	1 x CFast
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## Operation

Service display	LCD display with 2 lines with 16 characters each
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## Certification

CE	2014/30/EU and 2011/65/EU
TÜV Rheinland	EU type examination acc. to Machinery Directive 2006/42/EC Annex IX
UL	UL 61010-1 and UL 61010-2-201
UKCA	Conformity with relevant statutory requirements

# KeControl C5 - NE 551

## Gbit Ethernet expansion card

### Product features

- // 2x Gbit Ethernet RJ45 interface
- // Plug connection for KeControl C5 control modules



### Brief description

The NE 551 Gbit Ethernet cards can be connected on the left of the KeControl C5 CPUs using the Card Edge connector. Internally, they are connected via PCI Express. NE 551 provides two independent Ethernet interfaces.

## Technical specifications

### Interfaces

KeControl C5 control module	1 x Card Edge connector
Ethernet Gbit	2 x RJ 45 (only 1 x RJ 45 usable with CP 50x)

### Dimensions

Height	106 mm
Width	26.5 mm (when installed)
Depth	82.5 mm (snap-on height 77.5 mm)
Weight	90 g

### Environmental conditions

Operating temperature	0 °C to +55 °C
Storage temperature	-40 °C to +70 °C
Relative humidity	10 % to 95 % (non-condensing)
Vibration/shock resistance	According to EN 61131-2

### General data

Overvoltage category	II
Protection class	III according to EN 61010-2-201

### Certification

CE	2014/30/EU and 2011/65/EU
UL	UL 61010-1 and UL 61010-2-201
UKCA	Conformity with relevant statutory requirements

# KeControl C5 - FE 571, FE 573 EtherCAT master expansion card

## Product features

- // 2 x EtherCAT master interfaces
- // Plug connection for KeControl C5 control modules



## Brief description

The FE 57x fieldbus master cards can be connected on the left of the KeControl C5 controllers using the Card Edge connector. They make it possible to create additional EtherCAT master interfaces on the controller and thus an expansive set-up of plants and machines through the use of numerous fieldbus components.

The EtherCAT interfaces can be supplied either with M8 or with RJ45 connectors. Depending on the requirements, this provides suitability for individual industrial applications.

The built-in switch supports a star topology of the EtherCAT slaves without the need for additional hardware.

## Technical specifications

### Interfaces

	FE 571	FE 573
KeControl C5 control module	1 x Card Edge connector	
EtherCAT master	2 x RJ45	2 x M8

### Dimensions

Height	106 mm
Width	26.5 mm (when installed)
Depth	82.5 mm (snap-on height 77.5 mm)
Weight	95 g

### Environmental conditions

Operating temperature	0 °C to +55 °C
Storage temperature	-40 °C to +70 °C
Relative humidity	10 % to 95 % (non-condensing)
Vibration/shock resistance	According to EN 61131-2

### General data

Overvoltage category	II
Protection class	III according to EN 61010-2-201

### Certification

CE	2014/30/EU and 2011/65/EU
UL	UL 61010-1 and UL 61010-2-201
UKCA	Conformity with relevant statutory requirements

# KeControl C5 - FE 560

## Multi-protocol fieldbus expansion card

### Product features

- // 1 x EtherCAT / EtherNet/IP / PROFINET
- // Plug connection for KeControl C5 control modules



### Brief description

The Ethernet-based fieldbus card FE 560 can be connected on the left of the KeControl C5 controllers using the Card Edge connector.

This allows the exchange and processing of process data between the higher-level control and the KeControl C5 control. All relevant protocols such as EtherCAT, EtherNet/IP and PROFINET are supported.

## Technical specifications

### Interfaces

KeControl C5 control module	1 x Card Edge connector
EtherCAT slave / EtherNet/IP adapter / PROFINET IO-Device	2 x RJ45

### Dimensions

Height	106 mm
Width	26.5 mm (when installed)
Depth	82.5 mm (snap-on height 77.5 mm)
Weight	95 g

### Environmental conditions

Operating temperature	0 °C to +55 °C
Storage temperature	-40 °C to +70 °C
Relative humidity	10 % to 95 % (non-condensing)
Vibration/shock resistance	According to EN 61131-2

### General data

Overvoltage category	II
Protection class	III according to EN 61010-2-201

### Certification

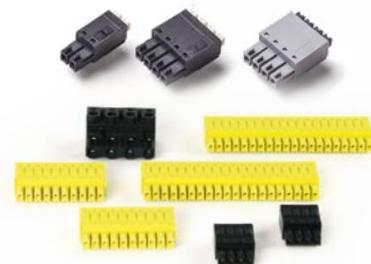
CE	2014/30/EU and 2011/65/EU
UL	UL 61010-1 and UL 61010-2-201
UKCA	Conformity with relevant statutory requirements

# KeControl Accessories

## Female connectors

Connectors for the power supply and/or connection of (safe) input and output signals.

Plug BCF3,81 2pos. 180G Push In BK	CP 5x0 controls
Plug BCF3,81 4pos. 180G Push In BK	CP 50x and C1 controls
Plug BCF3,81 4pos. 180G Push In AU GY	Temperature inputs of C1 controllers
D3-XT 215/A	Connector set D3-DU 3x5



## CFast card

Data volume for the operating system as well as the configuration data, application data, device data, and process data. For CP 5x0 and D3-DU 3xx controllers.

D3-XC 340/A	2GB
D3-XC 350/A	4GB



## MicroSD card

Data volume for the operating system as well as the configuration data, application data, device data, and process data. For CP 50x and C1 controllers.

XC 540/C-0000	2GB
XC 540/D-0000	4GB



## Mini I/O connectors

Mini I/O connectors for the serial and CAN interfaces of the CP 50x controllers. Installation requires the relevant crimping pliers.

Mini I/O plug kit Typ2 8pos. 180°
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## Mini I/O cables

Cables with prepared Mini I/O connector and open end (wire end ferrules) for the serial and CAN interfaces of the CP 50x controllers.

XW 599-010	1 m
XW 599-020	2 m
XW 599-030	3 m
XW 599-050	5 m



## Ethernet/EtherCAT cables

Cables for Ethernet and EtherCAT communication. Other lengths available upon request.

XW 020-005	0.5 m
XW 020-010	1 m
XW 020-020	2 m
XW 020-050	5 m
XW 020-100	10 m
XW 020-200	20 m



## Runtime licenses

One of the following basic licenses is required for running the controls.

RL Basic
RL Realtime
RL PLC
RL Motion
RL Robotics
RL Robotics Plus
RL CNC

## Workstation licenses

The following workstation license is required for configuring/programming the (safety) controls.

KeStudio Engineering annual
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## I/O modules

The KeConnect C5 I/O modules can be connected directly on the right to KeControl C5 controls or run remotely via a bus coupler.

For more information on the C5 I/O modules, refer to the KeConnect product brochure.

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