

Eckelmann

OPERATION AND MONITORING



Eckelmann industrial PC (E°PC)

Quick Start Guide

IMPORTANT!

READ CAREFULLY BEFORE USE!

KEEP FOR FUTURE REFERENCE!

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Please indicate when placing reorder

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English

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CHANGE LOG

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1.1	3.5.3	June 2023	A. van den Brink-Litschel	E°PC G0421 modified
1.2	3.3, 3.4	Dezember 2023	A. van den Brink-Litschel	E°PC G0421 modified, E°PC C0715 added, E°PC C0515/C0615 removed

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1 About this Guide

1.1 About the product

1.1.1 Manufacturer and product designation

- Manufacturer: Eckelmann FCS GmbH
- Designation: E°PC: E°PC B0xxx (box PC), E°PC Cxxxx/G0xxx (panel PC), E°PC P0xxx (panel)

This guide applies to all E°PC devices built from 2023 onwards.

- Type plate: The type plate of the respective unit is located, together with the interface overview, on the right-hand side of the housing (E°PC B0xxx) or under the rear housing cover (E°PC Cxxxx/G0xxx) and contains the data shown in the following illustration:

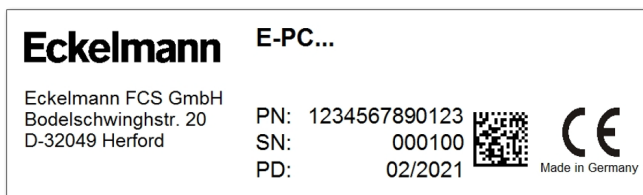


Abb. 1: Type plate

Position (designation)	Entry/meaning
PN: ...	Item number
SN: ...	Serial number
PD: MM/YYYY	Month/year of production

Tab. 1: Type plate: Explanation

1.1.2 Performance specification

The E°PC is an industrial PC meant for installation in a control cabinet.

It is available in several processor performance classes and with different operating systems.

► For more information, see the overviews in the chapters on the individual unit series.

1.2 Contents of this guide

This Quick Start Guide contains technical data, as well as information on installation and commissioning, of an Eckelmann industrial PC (E°PC).

In order to avoid handling mistakes, this guide must be kept available for operating and maintenance personnel at all times.

Keep it for future reference when operating the machine or machining line in which the E°PC has been integrated!

1.3 Target audience

The target audience of this Quick Start Guide are technicians and skilled personnel who are familiar with the basic functioning of automation systems and especially industrial PCs in an industrial environment.

The document assumes the level of knowledge of trained employees. Make sure that the employees have read and understood the document.

1.4 Disclaimer of liability

In order to handle and operate Eckelmann industrial PCs safely and without failure, it is necessary to adhere strictly to the information given in this document and adequately train all personnel. The manufacturer accepts no liability for any damage resulting from disregard of this information or employment of untrained personnel.

1.5 Conventions

This document uses the following conventions and symbols:

Notes that are particularly relevant and useful are highlighted as follows:



NOTE

Here you find a piece of information that is particularly helpful to achieve optimum use of the device.

Number format: Numbers in hexadecimal format are highlighted using the prefix 0x (for example 0x1F).

Operating instructions for personnel begin with the note *Instruction*. Subsequently, the numbered action sequence is given.



Reference: This symbol refers to additional relevant user information.

1.6 Explanation of warning statements

1.6.1 Structure

A warning statement is composed as follows:

1. a signal bar coloured according to hazard level, displaying a signal word
2. a brief and concise description of the hazard, including a specific pictogram
3. a description of its likely consequences
4. a description of avoidance measures

Example:

DANGER!

Hazardous voltage in adapter

Death or severe injury through electrocution

- Pull the mains connector before you open the casing!










The following table describes the hazard levels:

Signal bar	Hazard level
DANGER!	<p>Severe damage such as death or irreversible injury Damage will probably occur if precautionary measures are not taken.</p>
WARNING!	<p>Severe damage such as death or irreversible injury Damage will possibly occur if precautionary measures are not taken.</p>
CAUTION!	<p>Light injuries (reversible) Damage will possibly occur if precautionary measures are not taken.</p>
NOTICE	<p>Material damage Damage may occur if precautionary measures are not taken.</p>

Tab. 2: Hazard levels

1.6.2 Warning signs

This guide uses the following warning signs:

Pictogram	Type of hazard	Consequences
	General hazard	Ignoring this warning may lead to personal damage (up to and including severe injuries or death).
	Data loss	Ignoring this warning may lead to data loss.
	Damage to electronic parts	Ignoring this warning may cause destruction of electronic components in the device.
	Electromagnetic hazard	Ignoring this warning may lead to electromagnetic disturbances.
	Crushing of hands or fingers	Ignoring this warning may lead to injuries to hands and fingers.
	Hot surfaces	Ignoring this warning may lead to burns.
	Hazardous voltage	Ignoring this warning may lead to severe injuries or death.
	Crushing hazard	Ignoring this warning may lead to bruising, lacerations or bone fractures.
	Mechanical damage to the machine	Ignoring this warning may cause destruction of machine parts.

Tab. 3: Warning signs – pictograms and meanings

2 Safety information and precautions

2.1 Intended use and operating conditions

2.1.1 Intended use

Eckelmann FCS products are intended for use in stationary industrial tools and for monitoring and controlling machines and machining lines.

Eckelmann industrial PCs are designed for operation in an industrial environment and for use in industrial automation systems.

Eckelmann industrial PCs are built according to the current state of the art and are safe to operate when used as intended.

2.1.2 Ambient conditions

It is imperative that you comply with all specifications regarding technical data and ambient conditions!

The use of these units is only permitted under the following conditions:

- The location is in closed, dry rooms.
- The units are installed in a safe housing (e.g. control cabinet).

The following conditions are **not permissible**:

- Operating these units outdoors (without installation in an appropriate protective housing). If necessary, consult with Eckelmann FCS..
- Operating these units in a potentially explosive atmosphere, unless this has been expressly permitted in such areas after the application of special protective measures (e.g. after installation in a corresponding protective housing or equivalent measures).

Permissible ambient temperature:

- The ambient temperature must not be exceeded or fall below the permissible threshold values, even after installation in an appropriate protective housing!

► Find the permissible ambient temperatures for the respective units in this guide, in the chapters on the individual IPC series.

- Take into account the operating temperatures that occur at your installation location (control cabinet).



Find further technical data on ambient conditions in this guide, in the chapters on the individual IPC series.

2.1.3 Cooling information

Ensure that the air circulation inside the control cabinet is not blocked by the installation method.

The ventilation slots must not be covered under any circumstances!

Take note of the permissible working temperature range for the E°PC. Make sure that this temperature range is not exceeded or undercut.



Find the permissible ambient temperatures for the respective units in this guide, in the chapters on the individual IPC series.

If necessary, install supplementary fans or air-conditioning units!

2.2 Personnel qualification requirements

Special expertise is required for project planning, programming, installation, commissioning and maintenance work. This work may only be carried out by trained or specially trained personnel.

The installation, commissioning and maintenance personnel must have training that authorises them to intervene on the installation and the automation system.

The project planning and programming personnel must be familiar with the safety concepts of automation technology.

Specialist knowledge is required for work on electrical installations. Work on electrical systems may only be carried out by **qualified electricians** (compare the definition of an electrically skilled person in IEC 60364-4-41) or under their direction and supervision or by persons instructed in electrical engineering. All applicable regulations must be observed.

The operating personnel must be instructed in the use of the system/machine and the control system and must know the operating instructions. Likewise, the operating personnel must be familiar with the necessary protective equipment and protective measures and have knowledge of national accident prevention regulations, first aid measures and the local rescue facilities.

2.3 General safety precautions and hazards

2.3.1 Safety rules for electric equipment

Touching live electrical components can lead to electrocution. This will cause internal burn injuries, cramps, ventricular fibrillation and cardiac arrest.

Do not touch electrical components, even when these are disconnected from the power supply! Because of delayed electric discharge, it can be extremely dangerous to touch components even when disconnected.

Disabling safety functions will endanger persons and machinery. Make sure that no persons are at risk when you disable safety functions. Be sure to enable all safety functions again after disabling them and make sure that they are functional.

Environmental effects (spray water, dust and so on) can cause malfunctions and endanger workers. Be sure to observe the IP codes for the individual electrical components regarding shock protection, protection against foreign solid bodies and protection against water.

Correct cleaning will prevent damage to the electrical installation. Make sure that you clean the electrical installation according to its IP codes

2.3.2 Specific hazards

▶ Apply the principles of standard DIN VDE 0105-100 (Operation of electrical installations - Part 100: General requirements).

Only operate the unit with a functioning protective earth!

- There is a separate protective earth connection (4 mm² cable) on the unit.
- Make sure that your protective earth system is electrically connected to the unit.
- Make a functional earth connection between the E°PC and your control cabinet! Use the protective earth connection provided for this purpose.

Condensation after a change of location

- Make sure that the unit (after a change of location) has adapted to the new ambient temperature. If condensation forms inside the enclosure, it can damage the unit.

Electromagnetic compatibility

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- Operate the E°PC only when the housing is completely closed!
- Use only shielded interface cables with metal plugs.
- Make sure that the shield cable is electrically connected to the plug housing.
- Only disconnect or reconnect the plug connections when the computer is switched off.

Use original spare parts only!

- Modifications and alterations to our components are not permitted. You need our express approval for this. Only use the components and spare parts specified by Eckelmann FCS!

After a service or repair intervention:

- Make absolutely sure that all integrated safety and protective devices are ready for operation again. Failure to do so violates your obligation.

It is imperative that you also take into account the safety requirements of the machine manufacturer!

- The manufacturer of a machine or system in which Eckelmann industrial PCs are used must prepare a hazard analysis and consequently take measures to ensure safe operation of the entire system.
- EMERGENCY STOP devices must be functional in all operating modes, including during commissioning and maintenance.

3 Panel PC: Technical Data

3.1 General information (panel PCs)

- Robust industrial panel PCs
- Platform concept:
 - one mainboard for different sizes (construction and screen)
 - versions with additional operating elements, second screen, ...
 - build-in units, options for VESA mounting



Abb. 2: Example: E°PC G0421 (base model), G0421E (with control elements), G0421E2 (with control elements and second screen)

Overview:

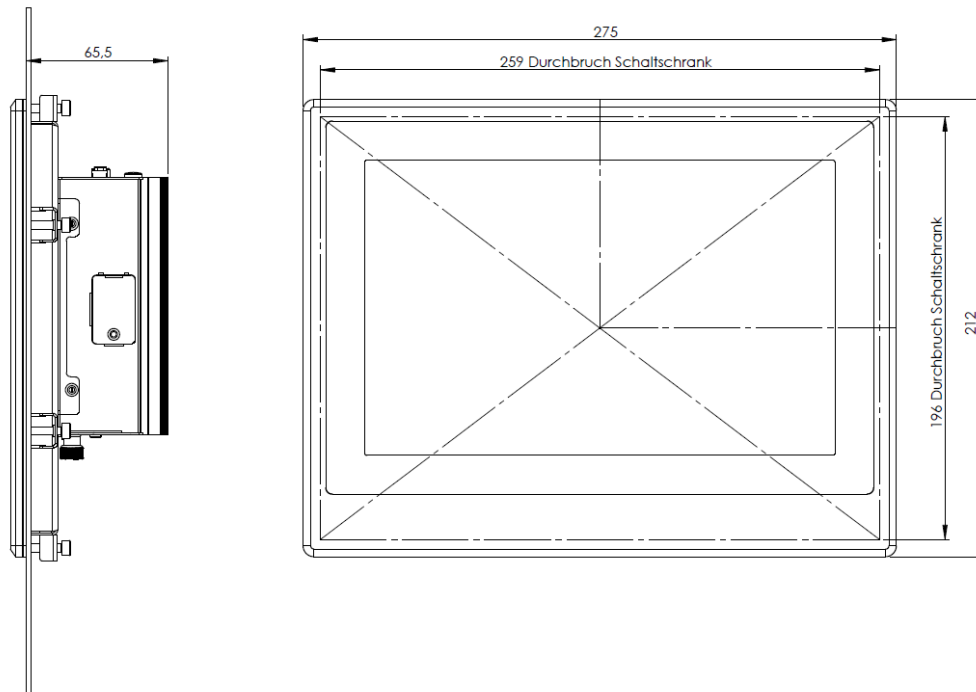
E°PC ...	C4107	C4110	C0715	G0421...
Display	7" touch panel, 800 x 480, single touch	10.1" touch panel, 1280 x 800, single touch	15" TFT Display 1024 x 768, Singletouch (optional)	21.5" TFT display 1920 x 1080, multi-touch
CPU	Intel® Celeron®-processor N3350, Dual Core	Intel® Celeron® processor N3350, Dual Core	Intel® Core i3/i5/i7/Celeron (9. Gen.)	Intel® Core i3/i5/i7 or Pentium Gold (9th gen., Coffee Lake)
RAM	4 GB RAM DDR3	4 GB RAM DDR3	8 GB RAM	8 GB, max. 64 GB
USB interfaces	2 x USB 3.0/2 x USB 2.0	2 x USB 3.0/2 x USB 2.0	10 x USB	4 x USB 3.0, 4 x USB 2.0
Gb-Ethernet	2 x 10/100/1000	2 x 10/100/1000	2 x 10/100/1000 2 x 10/100/1000 (optional)	2 x 10/100/1000 2 x 10/100/1000 (optional)

E°PC ...	C4107	C4110	C0715	G0421...
DVI-D	---	---	1 x	1 x
DisplayPort	1 x	1 x	2 x	2 x
RS-232	2 x	2 x	2 x	2 x
More	Expansion: 1 x Full-size Mini PCIe (USB/PCIe) 1 x Half-size Mini PCIe (USB/PCIe/mSATA)	1 x Full-size Mini PCIe (PCIe/USB/4G) 1 x Full-size Mini PCIe (mSATA) 1 x Half-size Mini PCIe (PCIe/USB/LPC)	---	also available with additional control elements (G0421E) and second screen (G0421E2)

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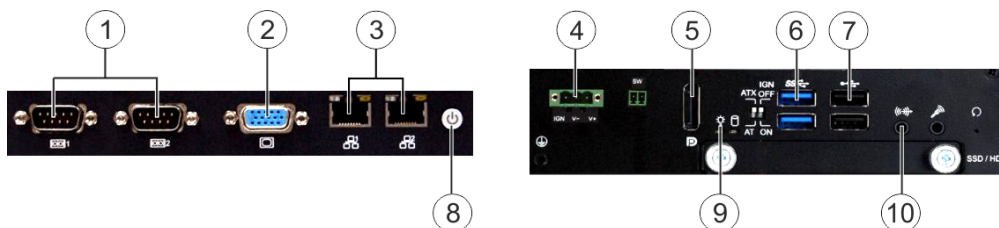
3.2 E°PC C4110

3.2.1 Dimensions



All dimensions indicated in mm

3.2.2 Interfaces



Explanation

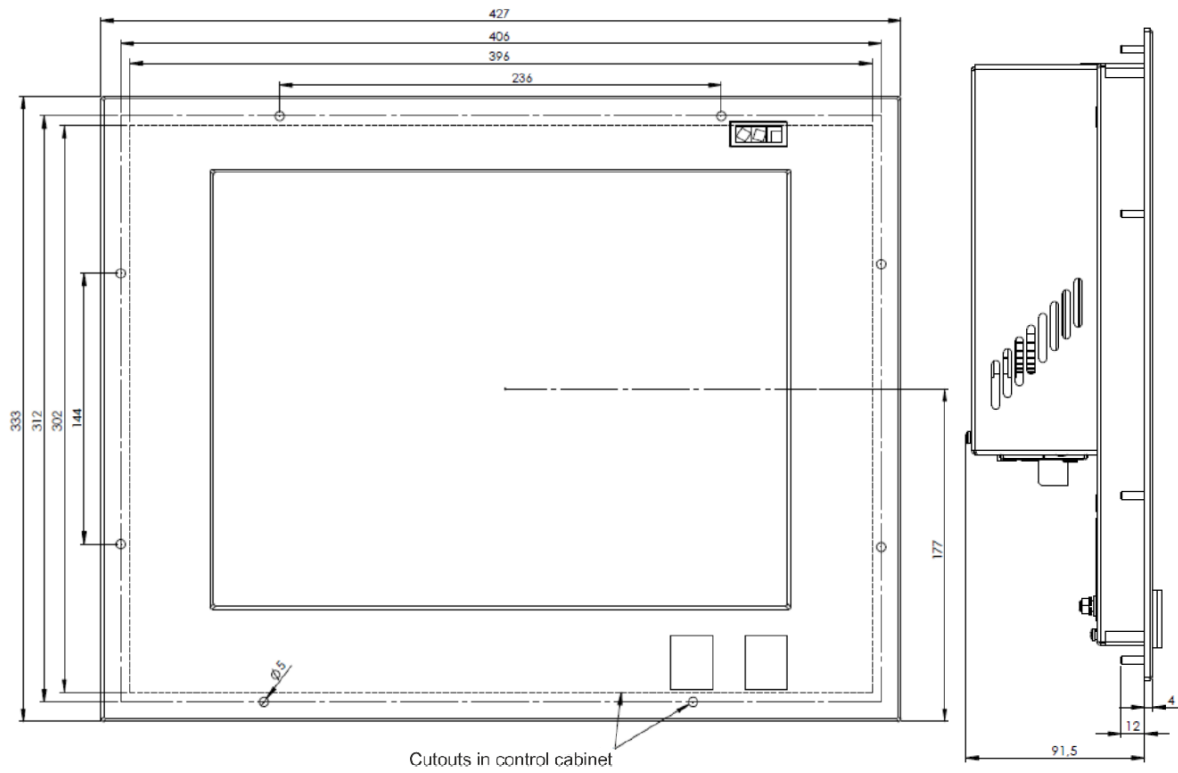
No.	Interface	No.	Interface	No.	Interface	No.	Interface	No.	Interface
1	COM1, COM2	3	LAN 1 + 2	5	Display Port	7	USB 2.0	9	Status LED
2	VGA	4	Supply voltage	6	USB 3.0	8	POWER switch	10	Audio: Line out

3.2.3 Technical data

Elektrischer Anschluss	
Supply voltage	24 V DC
Permitted tolerance of input voltage	16 ... 24 V DC
Power consumption (max.)	24 W
Operation	
Display	10.1" TFT panel
Resolution	1280 x 800
Touch	Single touch, resistive
Mouse	viaUSB
Mainboard	
Type	SBC
Main unit	
CPU	Intel® Celeron®-Prozessor N3350, dual core, 1.1 GHz (2.4 GHz), 6 W
RAM	4 GB Single Channel DDR3L 1333 MHz
Mass storage	2.5" SATA, 240 GB
Operating system	Windows 10 Enterprise
Interfaces	
Serial	2 x RS-232/422/485 (DB-9)
Ethernet	2 x GbE (RJ-45) (10/100/1000 Mbps), Intel i210
USB	2 x USB 3.0/2 x USB 2.0
Monitor	1 x Display-Port/1 x VGA
Audio	1 x Line-out/1 x Mic-in
Expansion	1 x Full-size Mini PCIe (PCIe/USB/4G) 1 x Full-size Mini PCIe (mSATA) 1 x Half-size Mini PCIe (PCIe/USB/LPC)
Case	
IP code	Front side: IP65
Permitted ambient temperature (operation)	0 to +60 °C
Permitted ambient temperature (storage)	-30 to +80 °C
Max. relative air humidity	5 to 85% (non-condensing)
Weight	2.5 kg
Dimensions (in mm) W/H/D	275 x 212 x 65.5
Cutout dimensions (control cabinet, in mm) (W/H)	259 x 196

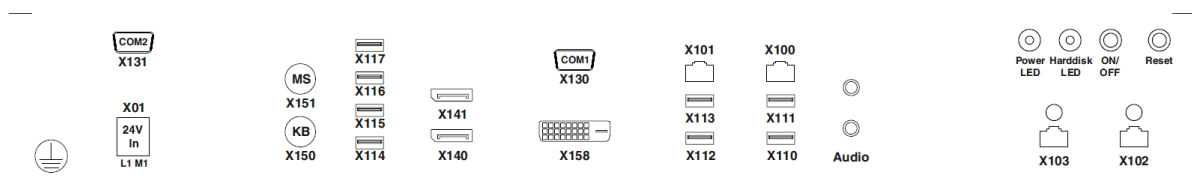
4.1 E°PC C0715

4.1.1 Dimensions



All dimensions indicated in mm

4.1.2 Interfaces



(Schematic illustration, not all interfaces are available with all fittings and customised variants)

Explanation

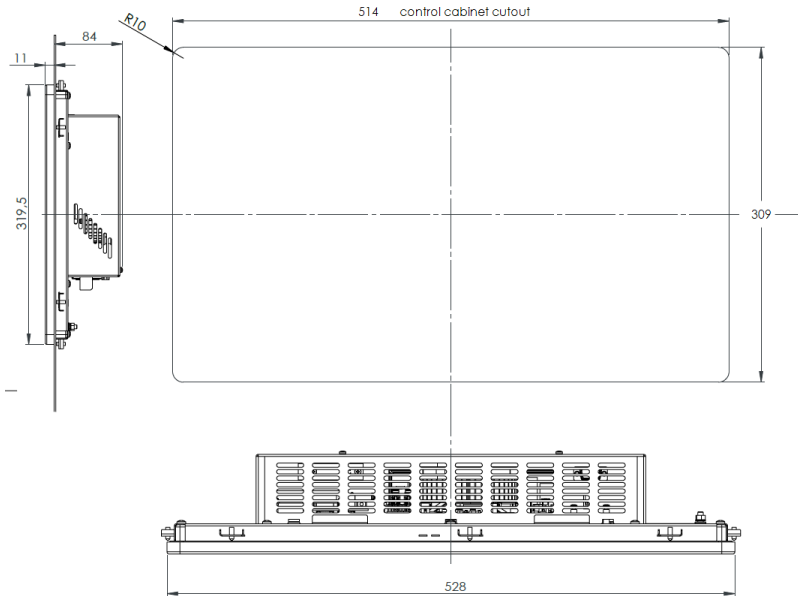
Label	Interface	Label	Interface
X100-X103	Gb-Ethernet	X140/X141	DisplayPort
X110-X113	USB 3.x	X150	PS/2, keyboard
X114-X117	USB 2.0	X151	PS/2, mouse
X130/X131	COM1/COM2 (RS-232)	X158	DVI

4.1.3 Technical data

Electrical connection	
Supply voltage	24 V DC
Permitted tolerance of input voltage	18 ... 30 V DC
Power consumption (max.)	100 W
Operation	
Display	15" TFT, LED backlight
Resolution	1024 x 768
Touch	Single touch, analog resistive (optional)
Mouse/keyboard	via PS/2 or USB
Mainboard	
Type	Mini ITX
Main unit	
CPU	Intel® Core i3/i5/i7 or Celeron (9th gen.,)
RAM	RAM 8 GB/max. 64 GB
Mass storage	M.2-SSD NVME > 256 GB optional SATA-SSD > 500 GB
Operating system	Windows® 10 IoT Enterprise 2021 LTSC
Interfaces	
Serial	2 x RS-232
Ethernet	2 x 10/100/1000 2 x 10/100/1000 (optional)
USB	2 x USB 3.2, 2 x USB 3.1, 4 x USB 2.0 (rear-side) 2 x USB 2.0 (front side)
Monitor	1 x DVI-D, 2 x Display Port V1.2
PS/2	1 x keyboard/1 x mouse
Case	
IP code	Front side: IP54, rear side: IP20
Permitted ambient temperature (operation)	0 °C ... +40 °C
Permitted ambient temperature (storage)	-20 °C ... +60 °C
Max. relative air humidity	50 % at 40 °C ambient temperature, free of corrosive gases
Weight	5.7 kg
Dimensions (in mm) W/H/D	427 x 333 x 91.5
Cutout dimensions (control cabinet, in mm) (W/H)	396 x 302

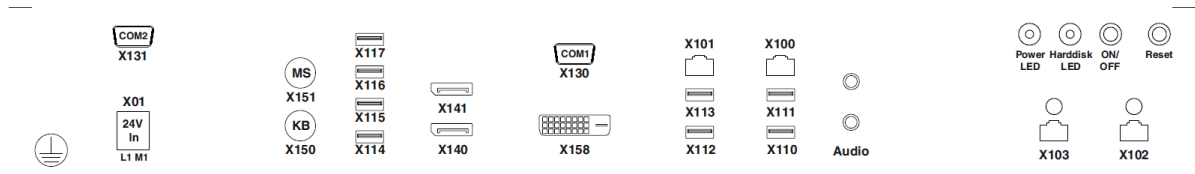
4.2 E°PC G0421

4.2.1 Dimensions



All dimensions indicated in mm

4.2.2 Interfaces



(Schematic illustration, not all interfaces are available with all fittings and customised variants)

Explanation

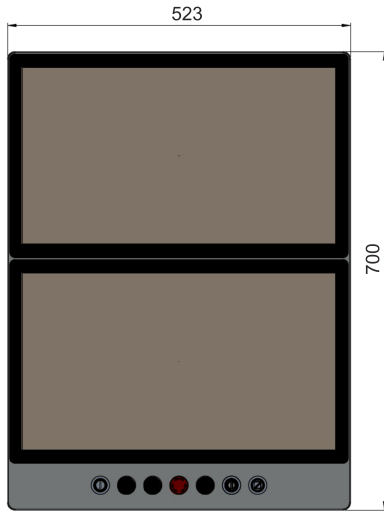
Label	Interface	Label	Interface
X100-X103	Gb-Ethernet	X140/X141	DisplayPort
X110-X113	USB 3.0	X150	PS/2, keyboard
X114-X117	USB 2.0	X151	PS/2, mouse
X130/X131	COM1/COM2 (RS-232)	X158	DVI

4.2.3 Technical data

Electrical connection	
Supply voltage	24 V DC
Permitted tolerance of input voltage	18 ... 30 V DC
Power consumption (max.)	100 W
Operation	
Display	21.5" TFT, LED backlight
Resolution	1920 x 1080
Mouse/keyboard	via PS/2 or USB
Mainboard	
Type	Mini ITX
Main unit	
CPU	Intel® Core i3/i5/i7 or Pentium Gold (9th gen., Coffee Lake)
RAM	8 GB / max. 64 GB
Mass storage	M.2-SSD, 256 GB (NVME) optional SATA-HDD > 500 GB or SATA-SSD > 240 GB
Operating system	Windows® 10 IoT Enterprise
Interfaces	
Serial	2 x RS232
Ethernet	2 x 10/100/1000 2 x 10/100/1000 (optional)
USB	4 x USB 3.0, 4 x USB 2.0 (rear-side)
Monitor	1 x DVI-D 2 x Display Port V1.2
PS/2	1 x keyboard/1 x mouse
Case	
IP code	Front side: IP54, rear side: IP20
Permitted ambient temperature (operation)	0 °C ... +40 °C
Permitted ambient temperature (storage)	-20 °C ... +60 °C
Max. relative air humidity	50 % at 40 °C ambient temperature, free of corrosive gases
Weight	8.0 kg
Dimensions (in mm) W/H/D	528 x 319.5 x 95 mm
Cutout dimensions (control cabinet, in mm) (W/H)	514 x 309 mm

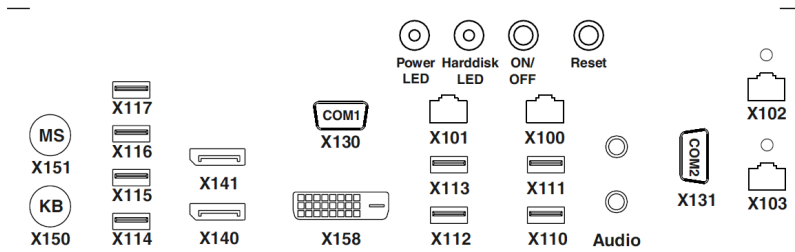
4.3 E°PC G0421E2

4.3.1 Dimensions



All dimensions indicated in mm

4.3.2 Interfaces



(Schematic illustration, not all interfaces are available with all fittings and customised variants)

Explanation

Label	Interface	Label	Interface
X100-X103	Gb-Ethernet	X140/X141	DisplayPort
X110-X113	USB 3.0	X150	PS/2, keyboard
X114-X117	USB 2.0	X151	PS/2, mouse
X130/X131	COM1/COM2 (RS-232)	X158	DVI

4.3.3 Technical data

Electrical connection	
Supply voltage	24 V DC
Permitted tolerance of input voltage	20 ... 30 V DC
Power consumption (max.)	160 W
Operation	
Display	2 x 21.5" TFT, LED backlight
Resolution	1920 x 1080
Touch	Capacitive multi-touch with up to 10 touch-points
Mouse/keyboard	via PS/2 or USB
Mainboard	
Type	Mini ITX
Main unit	
CPU	Intel® Core i3/i5/i7 or Pentium Gold (9 th gen., Coffee Lake)
RAM	8 GB / max. 64 GB
Mass storage	M.2-SSD, 256 GB (NVME) optional SATA-HDD > 500 GB or SATA-SSD > 240 GB
Operating system	Windows® 10 IoT Enterprise
Interfaces	
Serial	2 x RS232
Ethernet	2 x 10/100/1000 2 x 10/100/1000 (optional)
USB	4 x USB 3.0, 4 x USB 2.0 (rear-side)
Monitor	1 x DVI-D 2 x Display Port V1.2
PS/2	1 x keyboard/1 x mouse
Gehäuse	
IP code	Front side: IP54, rear side: IP20
Permitted ambient temperature (operation)	0 °C ... +40 °C
Permitted ambient temperature (storage)	-20 °C ... +60 °C
Max. relative air humidity	50 % at 40 °C ambient temperature, free of corrosive gases
Weight	20.5 kg, depending on configuration
Dimensions (in mm) W/H/D	523 x 700 x 114
Control components	max. 7 control components, mounting cutouts: Ø 22,5 mm

Mounting type

Monitor arm attachment, VESA 100

5 Box PC: Technical Data

5.1 General information (E°PC Box)

- Industrial PC for control cabinet
- Robust steel case

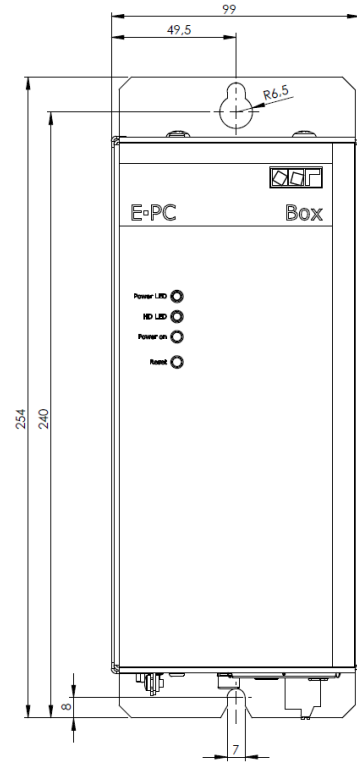
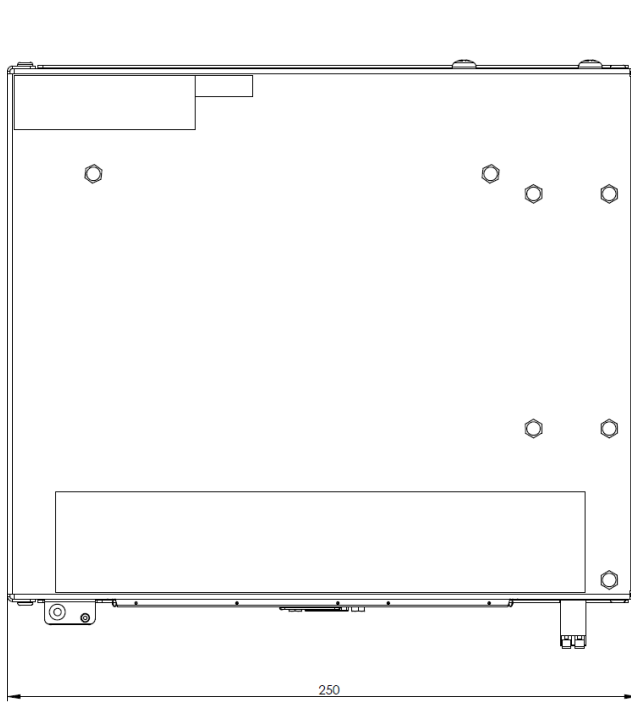


Overview:

E°PC ...	B0303	B0403
CPU	Intel® Core™ i3/i5/i7	Intel® Core™ i3/i5/i7 9 th gen.
RAM	8 GB	8 GB
USB interfaces	4 x USB 3.0/4 x USB 2.0	4 x USB 3.0/4 x USB 2.0
Gb-Ethernet	2 x/max. 8 x	2 x/max. 8 x
DVI-D	1 x	1 x
DisplayPort	2 x	2 x
RS-232	2 x	2x
More	Expandable via PCI Express x16 gen. 3 (low profile)	Expandable via PCI Express x16 gen. 3 (low profile)

5.2 E°PC B0303

5.2.1 Dimensions



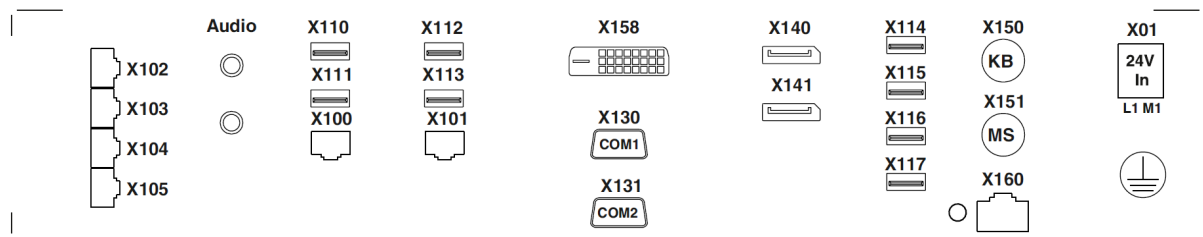
All dimensions indicated in mm

5.2.2 Control elements and interfaces

Front side

- 2 x status LEDs for POWER ON and HD activity
- 1 micro key each for POWER ON and Reset

Interfaces (bottom side)



(Schematic illustration, not all interfaces are available with all fittings and customised variants)

Explanation

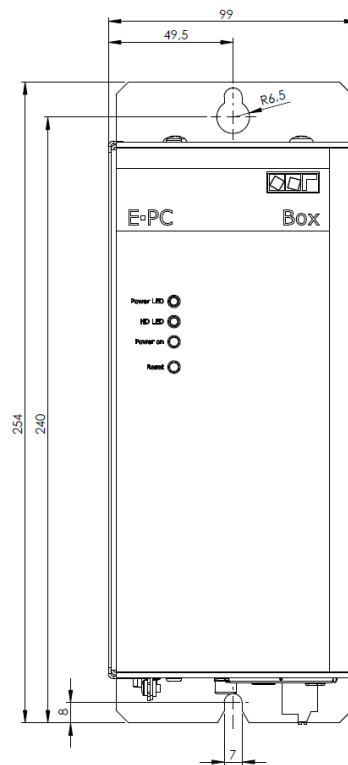
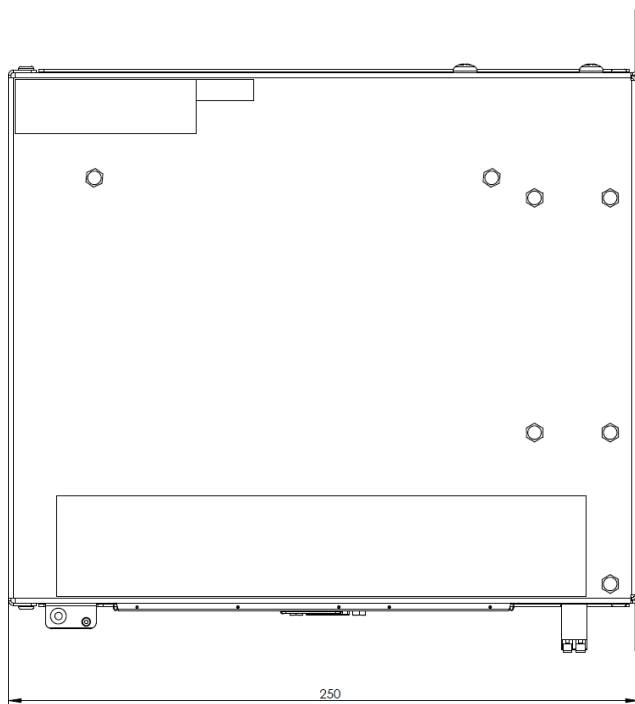
Label	Interface	Label	Interface
X100-X105	Gb-Ethernet	X140/X141	DisplayPort
X01	Supply voltage 24 V	X150	PS/2, keyboard
X110-X113	USB 3.0	X151	PS/2, mouse
X114-X117	USB 2.0	X130/X131	COM1/COM2 (RS-232)
X158	DVI	X160	Transmitter for Extender/Repeater, optional

5.2.3 Technical data

Electrical connection	
Supply voltage	24 V DC
Permitted tolerance of input voltage	18 ... 30 V DC
Power consumption (max.)	100 W
Mainboard	
Type	Mini ITX
Bus system	PCIe
Chipset	Intel® Q170
Main unit	
CPU	Intel® Core™ i3/i5/i7 or Celeron®, 6 th or 7 th gen.
RAM	8 GB/max. 32 GB
Mass storage	M.2 SSD ≥ 128 GB
Operating system	Windows® 10 Enterprise
Interfaces	
Serial	2 x RS-232
Ethernet (10/100/1000)	2 x Gb-Ethernet/max. 8 x Gb-Ethernet via expansion
USB	4 x USB 3.0/4 x USB 2.0
Monitor	2 x Display Port V1.2 1 x DVI-D
Keyboard	PS/2
Mouse	PS/2
Expansion slot	1 x PCI Express x16 gen. 3 (low profile) 1 x Mini PCI Express
Display extender (optional)	For detached panel
Case	
IP code	IP20
Case material	Galvanised sheet steel
Permitted ambient temperature (operation)	0 °C ... +45 °C
Permitted ambient temperature (storage)	-20 °C ... +60 °C
Max. relative air humidity	50 % at 40 °C ambient temperature, free of corrosive gases
Weight	2.6 kg
Dimensions (in mm) W/H/D	99/254/250

5.3 E°PC B0403

5.3.1 Dimensions



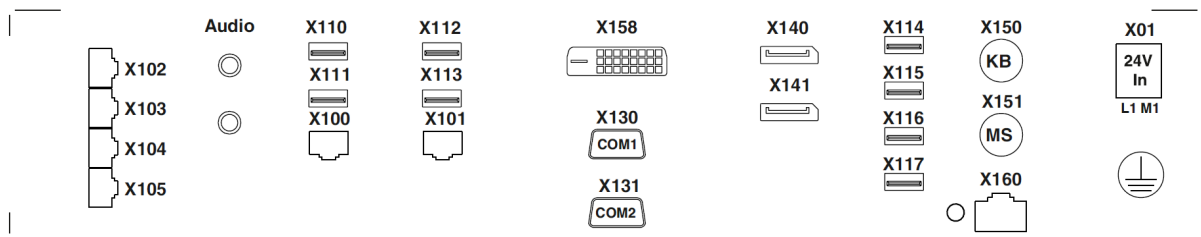
All dimensions indicated in mm

5.3.2 Control elements and interfaces

Front side

- 2 x status LEDs for POWER ON and HD activity
- 1 micro key each for POWER ON and Reset

Interfaces (bottom side)



(Schematic illustration, not all interfaces are available with all fittings and customised variants)

Legende

Label	Interface	Label	Interface
X100-X105	Gb-Ethernet	X140/X141	DisplayPort
X01	Supply voltage 24 V	X150	PS/2, keyboard
X110-X113	USB 3.0	X151	PS/2, mouse
X114-X117	USB 2.0	X130/X131	COM1/COM2 (RS-232)
X158	DVI	X160	Transmitter for Extender/Repeater, optional

5.3.3 Technical data

Electrical connection	
Supply voltage	24 V DC
Permitted tolerance of input voltage	18 ... 30 V DC
Power consumption (max.)	100 W
Mainboard	
Type	Mini ITX
Bus system	PCIe
Chipset	Intel® Q170
Main unit	
CPU	Intel® Core™ i3/i5/i7 or Celeron®, 9 th gen.
RAM	8 GB/max. 32 GB
Mass storage	M.2 SSD ≥ 128 GB
Operating system	Windows® 10 Enterprise
Interfaces	
Serial	2 x RS-232
Ethernet (10/100/1000)	2 x Gb-Ethernet/max. 8 x Gb-Ethernet
USB	4 x USB 3.0/4 x USB 2.0
Monitor	2 x Display Port V1.2 1 x DVI-D
Keyboard	PS/2
Mouse	PS/2
Expansion slot	1 x PCI Express x16 gen. 3 (low profile) 1 x Mini PCI Express
Display extender (optional)	For detached panel
Case	
IP code	IP20
Case material	Galvanised sheet steel
Permitted ambient temperature (operation)	0 °C ... +45 °C
Permitted ambient temperature (storage)	-20 °C ... +60 °C
Max. relative air humidity	50 % at 40 °C ambient temperature, free of corrosive gases
Weight	2.6 kg
Dimensions (in mm) W/H/D	99/254/250

6 Assembly and Installation

6.1 Installation

6.1.1 Control cabinet mounting (E°PC B0xxx)

Due to its compact installation dimensions, the E°PC B0xxx is particularly well suited for mounting in a control cabinet or in a suitable console housing.

The protection class is IP 20.

NOTICE



Overheating of the electronics due to incorrect installation

Operational failure or loss of data

- Make sure that the air circulation inside the control cabinet is not blocked by the installation method.
- The ventilation slots must not be covered under any circumstances!
- Pay attention to the permissible working temperature range for the E°PC B0xxx.
 - ▶ The permissible working temperatures for the respective units can be found in this manual in chapter 5, „Box PC: Technical Data“.
- Make sure that this temperature range is not exceeded or undercut.
- If necessary, install supplementary fans or air conditioners!

6.1.2 Mounting (E°PC Cxxxx/G0xxx)

Due to its low installation depth, the E°PC Cxxxx/G0xxx is particularly well-suited for installation in a control cabinet or in a suitable console housing.

Select the location for installation in such a way that reflections on the screen are avoided!

The protection class for the individual unit types is indicated in chapter 3, „Panel PC: Technical Data“.

NOTICE



Overheating of the electronics due to incorrect installation

Operational failure or loss of data

- Make sure that the air circulation inside the control cabinet is not blocked by the installation method.
- The ventilation slots must not be covered under any circumstances!
- Pay attention to the permissible working temperature range for the E°PC Cxxxx/G0xxx.
 - ▶ The permissible working temperatures for the respective units can be found in this manual in chapter 3, „Panel PC: Technical Data“.
- Make sure that this temperature range is not exceeded or undercut.
- If necessary, install supplementary fans or air conditioners!

6.1.3 Assembly

The E°PC is characterised by an easy-to-assemble and service-friendly concept.

Instruction

Proceed as follows for installation:

1. (E°PC B0xxx:) Fasten the E°PC B0xxx with screws (M6) on the prepared mounting plate.



For the installation dimensions, see the data for the respective model in chapter 5, „Box PC: Technical Data“.

(E°PC Cxxxx/G0xxx:)



For the installation dimensions, see the data for the respective model in chapter 3, „Panel PC: Technical Data“.

2. Establish an electrically conductive earth connection between the PC and your control cabinet (cable cross-section 4 mm²).
3. Check the function of your protective earthing system.
4. Make the necessary electrical connections for power supply and data exchange.

6.2 Connection and operation of a display and control unit (E°PC B0xxx)

A display or operating unit is required to operate the E°PC B0xxx.

This can be operated via a standard cable connection (DVI and USB, max. cable length 3 m). If your application requires a connection over greater distances (up to max. 30 m), special extender solutions are available for this purpose.

In this case, please contact Eckelmann FCS (Service-FCS@eckelmann.de oder info-fcs@eckelmann.de or the contact details given on the inside cover of this guide).

6.3 Power supply

The Eckelmann industrial PC requires a supply voltage of 24 V DC.

▶ The permissible range of input voltage for the respective devices can be found in this guide, in the chapters on the individual IPC series.



NOTE

For direct operation on 115 V or 230 V AC mains, you need a power supply unit with integrated safety transformer according to VDE 0551 (IEC 742).

The power supply must meet the requirements of an unregulated 24 V DC safety extra-low voltage (SELV/PELV).

7 Commissioning

7.1 Switching on the IPC

7.1.1 Ex-works configuration

Unless otherwise requested by the customer, the Eckelmann industrial PC is delivered with the operating system Windows 10 completely installed.

Your E°PC is therefore immediately ready for operation.

Ex works, the integrated hard disk is divided into a primary partition (C:) and an extended partition (D:).



NOTE

The IPC is always delivered with a system image for the operating system, drivers and application programs. This system image is based on the ordered product variant (item number) or according to customer requirements.



Additional software is not necessary for the operation of your machine. Please contact customer service of Eckelmann FCS (Service-fcs@eckelmann.de) or the service department of the machine of the machine manufacturer if, for example, you require printer software or similar.

7.1.2 Checklist before switching on

Check the following points before switching on:

- Does the applied supply voltage correspond to the permissible input voltage range?



Find the permissible input voltage range for the respective units in this guide in the chapters on the individual IPC series.

- Does the polarity (+ and -) match the marking on your supply voltage connection?

7.2 Application for machine control

An Eckelmann industrial PC is not intended for use as a stand-alone machine controller, but as a user interface (operation, visualization) in connection with a machine controller (e.g. Eckelmann E°EXC).

▶ For information on a wide range of Eckelmann machine controllers, see [Eckelmann E°EDP: Steuerungstechnik](#).

8 Decommissioning and Disposal

8.1 Disassembly

Only trained and authorised personnel are permitted to disassemble the device. When disassembling the device, follow the same safety instructions as during maintenance.

8.2 Disposal

Eckelmann FCS exclusively delivers components for machine equipment. We do not carry out measures for recovery or municipal waste management.



NOTE

The client is obliged in accordance with contractual agreements to carry out the disposal of waste electrical and electronic equipment in compliance with legal requirements based on EC directive 2012/19/EU.

