

Titan 300 TGL-UP3
SYS-D64-IPC
INSTALLATION, USE AND WARNINGS MANUAL

Edition: 05/2024

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1. Preliminary information

1.1 Device description

The **SYS-D64-IPC** device is single board computer enclosed in a metal box with a heat sink.

The technology developed by **SECO S.p.A.** can be used and applied in various fields, such as:



Edge Computing



Industrial automation and control

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1.2 Recipients

This manual is intended for ordinary people and installers (expert users).



IMPORTANT
The user must read this manual before start with any kind of operation.

1.3 Warranty

The warranty shall be **voided** in the event of:

- failure to comply with safety regulations;
- tampering with the device;
- changes to the safety conditions established by the Manufacturer in the device management software;
- improper use of the device;
- use of the device by untrained and/or unauthorized personnel or failure to respect duties, as indicated in the manual;
- changes or repairs carried out by the user without written authorization from the Manufacturer;
- partial or total failure to comply with the instructions;
- defects in the mains power supply (electricity, power supply, etc.);
- poor maintenance;
- use of non-original spare parts;
- exceptional events such as floods, fires (if not triggered by the device).

The complete warranty terms are set out in the sales contract.



IMPORTANT
The Manufacturer is not liable for improper use of the device.

2. Identification

2.1 Manufacturer identification

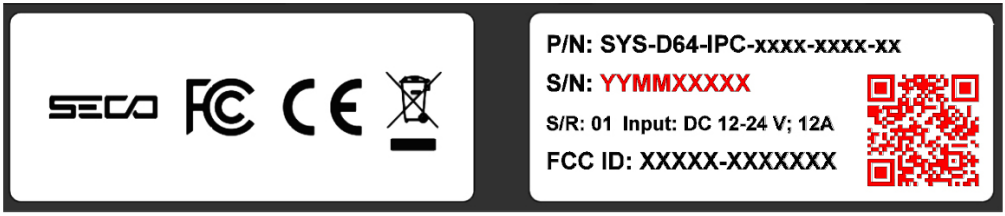
MANUFACTURER	**SECO S.p.A**
Address	Via Achille Grandi n°20 52100 Arezzo – Italy Tel: +39 0575 26979 Fax: +39 0575 350210

2.2 Device identification

Device	SYS-D64-IPC
Serial number	YYMMXXXXX
Year of manufacturing	2023

2.3 Device identification plate

The device is equipped with an **identification plate** located on the side. The plate features the device identification information to be reported to **SECO S.p.A.** if necessary, as shown in the table:



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SYS-D64-IPC -XXXX-XXXX-Cx	IPC - Code that identifies the application field.
SYS-D64-IPC -XXXX–XXXX-Cx	XXXX–XXXX - Code that identifies the electronic board inside the device.
SYS-D64-IPC - XXXX-XXXX-Cx	Cx – Code that identifies: · Commercial Operating Temperature Range = "C" · Industrial Operating Temperature Range = "I" · Product Revision Index = "x"

CAUTION
It is strictly forbidden to remove the identification plate and/or replace it with other plates.

3. Technical specifications

3.1 SYS-D64-IPC device hardware specifications

The table below features the board hardware specifications:

Processor	11th Generation Intel® CoreTM and Celeron® Pentium® Processors, also available in industrial temperature range · Intel® CoreTM i7-1185G7E, Quad Core @ 1.8GHz (4.4GHz in Turbo Boost) with HT, 12MB Cache, 28/15/12W cTDP, commercial · Intel® CoreTM i5-1145G7E, Quad Core @ 1.5GHz (4.1GHz in Turbo Boost) with HT, 8MB Cache, 28/15/12W cTDP, commercial · Intel® CoreTM i3-1115G4E, Dual Core @ 2.0GHz (3.9GHz in Turbo Boost) with HT, 6MB Cache, 28/15/12W cTDP, commercial · Intel® Celeron® 6305E, Dual Core @1.8GHz, 4MB Cache, 15W TDP, commercial · Intel® CoreTM i7-1185GRE, Quad Core @ 1.8GHz (4.4GHz in Turbo Boost) with HT, 12MB Cache, with IBECC, 28/15/12W cTDP – Industrial (w/ Turbo OFF) · Intel® CoreTM i5-1145GRE, Quad Core @ 1.5GHz (4.1GHz in Turbo Boost) with HT, 8MB Cache, with IBECC, 28/15/12W cTDP - Industrial (w/ Turbo OFF) · Intel® CoreTM i3-1115GRE, Dual Core @ 2.2GHz (3.9GHz in Turbo Boost) with HT, 6MB Cache, with IBECC, 28/15/12W cTDP - Industrial (w/ Turbo OFF) (*)IBECC: In-Band Error Correction Code
Memory	2x DDR4-3200 SODIMM Slots with IBECC (In-Band Error Correction Code), up to 64GB supported.
Mass Storage	Up to 2x M.2 NVMe Slots (Socket 3 Key M size 2280, PCI-e Gen4 Supported) · NMVe disk has to be pre-installed inside the system before being shipped. · Sizes to be configurable: 128GB, 2x128GB, 256GB, 2x 256GB, 512GB, 2x512GB. · Both extended and commercial grade part numbers have to be configurable.

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Network connection	2x GbEthernet LAN ports implemented using as many Intel® I225 GbE controllers M.2 Connectivity Slot (Socket 1 Key E type 2230), for optional accessory WiFi + BT external modules, external antennas M.2 WWAN Slot (Socket 2 Key B size 2242/3042) for optional accessory M.2 Modem, external antennas · microSIM extender on-board for the Modem, to be included by default in the system (i.e. always present)
USB	2x USB 3.2 Gen2x1 on Standard Dual Type-A USB 3.2 socket 2x USB 3.2 Gen2x1 ports available on as many USB type-C slots with DP 2x USB 2.0 on pin header
Video	2x Multimode DisplayPort 1.4, on Dual DP++ Connector 2x Multimode Display Port 1.4 on USB Type-C Connectors (Alternate Mode)
Serial Ports	Front Panel header for Power / Reset Button 8x GPIOs 2 x RS-232/ RS-485 / RS-422 configurable 1x I2C interface 1x SPI interface 3.3V, 5V and 12V on expansion connector
Audio	Line Out, S/PDIF Out and Mic In on internal pin header
Other Interfaces	Optional TPM 1.2/2.0 Module onboard
Power Supply	AC/DC Power Supply Unit · Switching Power Supply · 24Vout · 220W Pout in the range -30°C..50°C / 110W Pout @ 70°C (@230VAC) · 220W Pout in the range -30°C..40°C / 110W Pout @ 70°C (@100VAC) · Insulation's class: Class I with ground connection
Operating System	Microsoft® Windows 10 IoT Enterprise LTSC 2021 Linux (Kernel ≥ 5.4 version)
Operating temperature in user environment	-40 °C ÷ +60 °C (industrial) / CPU: 35 W (PL1: 28 W, PL2: 35 W) 0 °C ÷ +50 °C (commercial)** / CPU: 35 W (PL1: 28 W, PL2: 35 W)
Humidity	10~95% @40°C non-condensing

Type of installation	Fastening for integration use on industrial machine using threaded pins directly on the mechanical plate Table top free installation Fastening for table top or wall mounting using VESA standard mounting plate

ATTENTION

****The values indicated refer to the maximum temperature of the environment of use of the device. It is the customer's responsibility to verify that the temperature remains within the admissible range indicated in this manual and, if necessary, adopt any passive cooling solution together with an application-dependent cooling system that can ensure that the heat sink temperature will not damage the device itself and/or the connected mechanical parts.**

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3.2 Software Specifications

The software version released on the website **https://www.seco.com/it/products**, which is always updated and available, even in later versions.

3.3 CE reference directives

SECO S.p.A. places the device on the market, equipping and providing it with:

SECO S.p.A. places the device on the market, equipping and providing it with:

- **CE marking as IT device**
- **Declaration of Conformity***
- **User manual***

*These documents are available after a request to the manufacturer.

Please also note that the device has been designed according to the following Directives:

- **2014/30/EU** Electromagnetic Compatibility Directive.
- **2012/19/EU** (WEEE).
- **2011/65/EU** (RoHS).
- **1907/2006/EG** (REACH).

The device also meets the requirements of the following standards:

- **EN 62368-1:2014+A11:2017**
- **EN 55032:2015+A11:2020**
- **EN 55035:2017+A11:2020**
- **EN IEC 63000:2018.**

IMPORTANT
The Manufacturer is not liable for improper use of the device.

3.4 FCC disclaimer

This device complies with Part 15 of FCC Rules, Operation is Subject to following two conditions:
(1) This device may not cause harmful interference, and
(2) This device must accept any interference received including interference that cause undesired operation.

CAUTION: Any changes or modifications to the equipment not expressly approved by the party responsible for compliance could void user s authority to operate the equipment.
This equipment has been tested and found to comply within the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a different circuit from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help.



IMPORTANT
The Manufacturer is not liable for improper use of the device.

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4. Safety devices

4.1 Warnings



CAUTION
It is the user's responsibility to apply preventive and protective measures, in accordance with the legislation of the country of installation and use of the device.



CAUTION
Only use the accessories supplied by the manufacturer.



CAUTION
Only connect certified peripherals / devices to the device.



CAUTION
Always disconnect the electrical power supply before carrying out any work on the device.



CAUTION
Check that the electrical voltage meets the values indicated in this manual before connecting the device.



CAUTION
Disconnect the device from any power source before cleaning.



CAUTION
Do not use liquid detergents or sprays for cleaning the device.



CAUTION
Do not pour liquids of any kind on the device. This may cause fires and/or electric shocks.



CAUTION
Keep the device away from exposure to moisture values outside the admissible range indicated in this manual.



CAUTION
The device must always be fixed to a machine before proceeding with any type of operation and/or use.



CAUTION
It is strictly forbidden to modify the appliance in order not to compromise the characteristics relating to the declared requirements.



WARNING
It is strictly forbidden to cover the device during operation.



WARNING
It is strictly forbidden for the operator to touch the device during operation.



CAUTION
For the mouse, keyboard, USB stick and other peripherals connected to the USB port, the plastic shell must have fire rating of V-0 or higher.

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4.2 Safety pictograms affixed on the device and used in the manual

The device and the manual are equipped with symbols, as indicated in the table below:

PICTOGRAM	DESCRIPTION
	**CE marking**
	**FCC marking**
	**Danger of hot surfaces!** Skin burns in case of contact. Do not touch with your hands or other body parts.
	**Caution!** Risks deriving from not reading the instructions.
	**RAEE** Indicates the separate collection of electronic and electrical equipment according to Directive 2012/19/EU.
	Symbol used to indicate the need to consult the instruction manual before using the equipment.

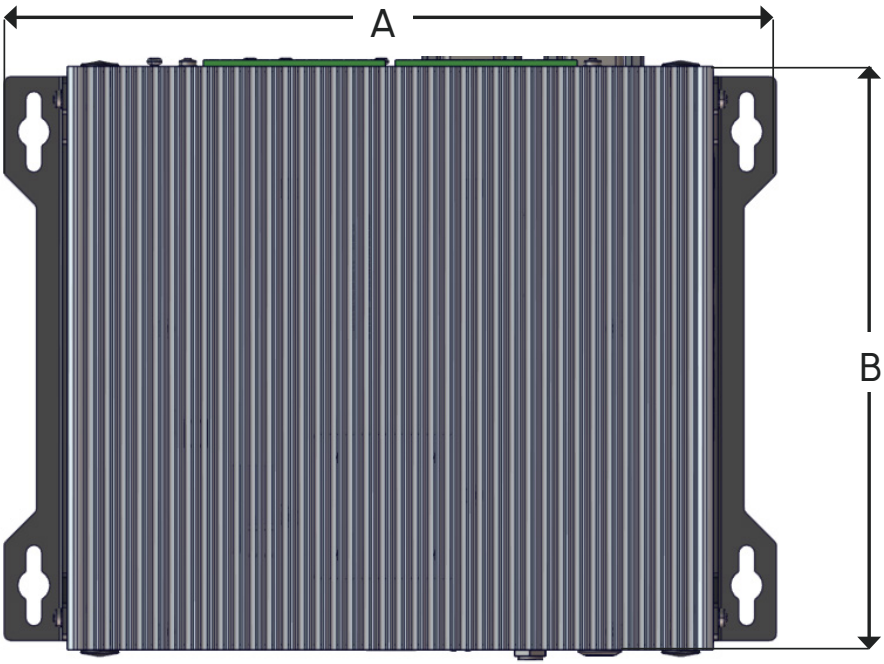
5. Characteristics and components of the device

The **SYS-D64-IPC** device is a gateway enclosed in a metal box with a heat sink.

CAUTION
When running, the device can reach very high temperatures, causing the danger of burns when in contact with the heat sink.

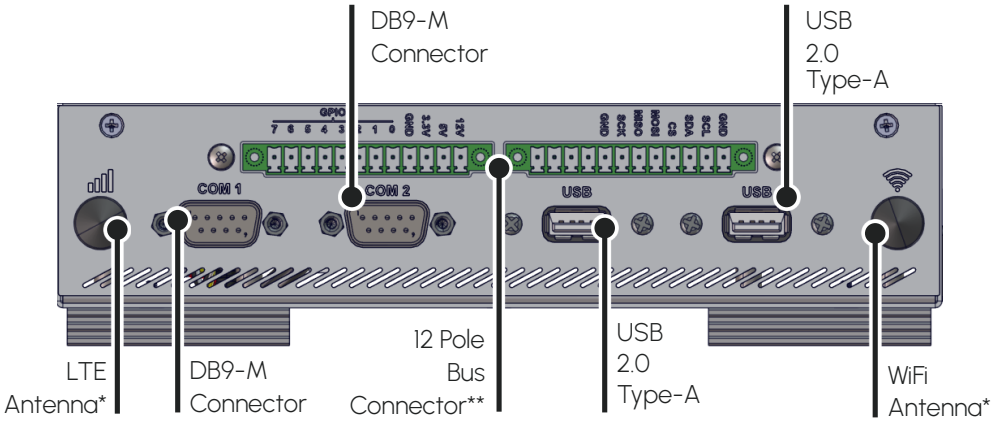
5.1 Measurement layout

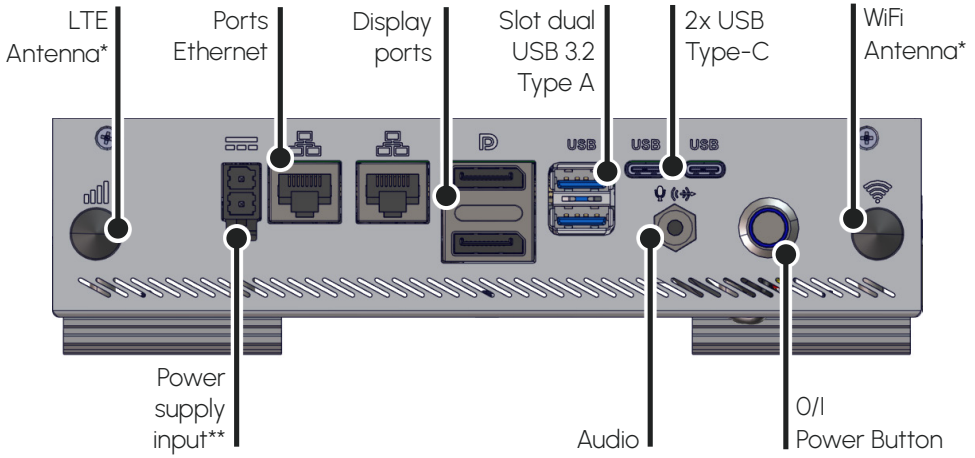
Length (A)	236 mm
Width (B)	183 mm
Height	73 mm



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5.2 Components

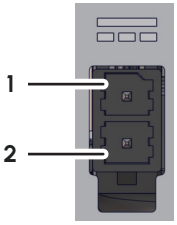




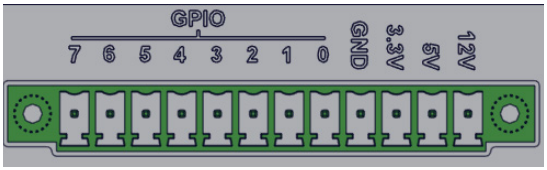
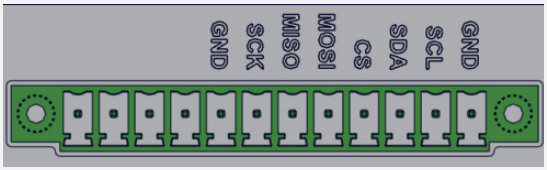
**Predisposition for the installation of the antenna (if present) for the cellular module (telephone). This part is not covered by the IEC 62368-1 certification.*

***See table in the following page.*

Power supply input

IMAGE	DESCRIPTION
	**1** GND (ground) pin **2** +12/24Vdc pin

12 Pole Bus Connector

IMAGE



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6. Installation

6.1 Permitted environmental conditions

Use of the device and of associated control systems that differ from those listed below is **not** permitted.

In particular, the installation and operation environment must **not** be:

- Exposed to environmental temperatures exceeding -40 °C ÷ +60 °C (industrial) CPU: 35 W (PL1: 28 W, PL2: 35 W).
- Exposed to environmental temperatures exceeding 0 °C ÷ +50 °C (commercial) CPU: 35 W (PL1: 28 W, PL2: 35 W).



Only for the system without power supply.

- Exposed to limit areas of 2,000 m.a.s.l.
- Exposed to relative humidity that exceed to 10~95% at 40°C non-condensing value.
- Exposed to corrosive fumes.
- Exposed to excessive dust.
- Exposed to abrasive dust.
- Exposed to oil vapours.
- Exposed to powder or gas explosive mixtures.
- Exposed to salt air.
- Exposed to vibrations, impacts or abnormal shocks.
- Exposed to weather conditions beyond the limits permitted or dripping.
- Exposed to unusual transport or storage conditions that exceed to -40÷80°C relative humidity 10~95%.
- Exposure to high or rapid thermal changes (above 5K/h).
- Presence of nuclear radiation.



CAUTION
Environmental conditions that differ from those specified may seriously damage the device. Positioning the device in environments that do not correspond to those indicated shall render the warranty null and void for the parts to be replaced.

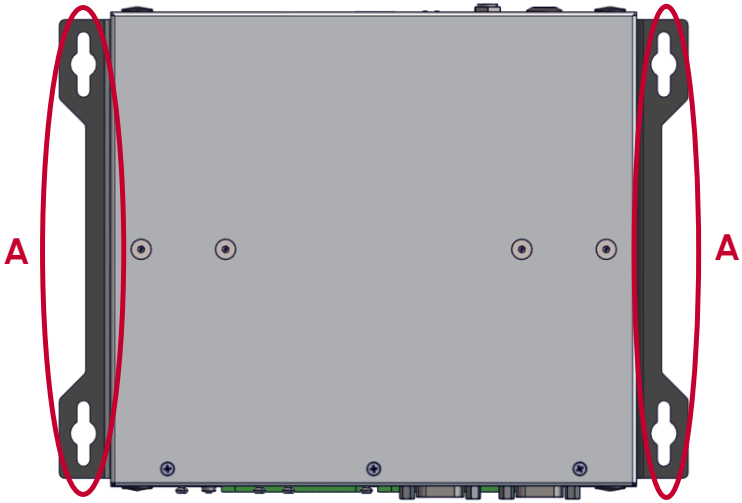


SECO S.p.A. shall not be held liable if these instructions are not complied with.

6.2 Installing the device

To install the device properly on **machine/wall/sheet/other**, follow the procedure below:

1	Make sure the electric connection on the destination machine is off and the electric power supply is disconnected from the device;
2	Prepare the machine /sheet/other making 4 holes of 4mm each, spaced according to the hole spacing;
3	Fix device to the machine, using 4 screws that will be screwed in matching holes in the plate with the 4 holes made in step 2;
4	Proceed to connect the electric supply to the device. Once inserted, turn the connector clockwise in order to lock it in place;
5	Proceed to electrically connect the destination machine.

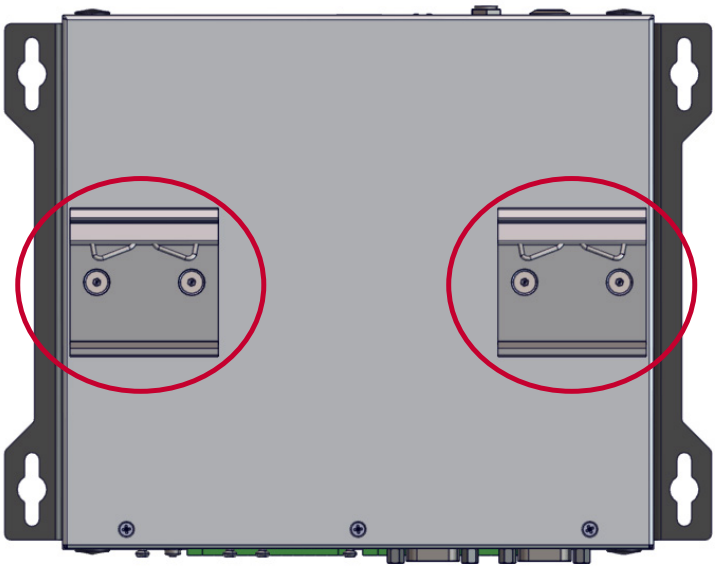


SECO S.p.A. shall not be held liable if these instructions are not complied with.

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To install the device properly on wall using **DIN bar support**, follow the procedure below:

1	Make sure the electric connection on the destination machine is off and the electric power supply is disconnected from the device;
2	Proceed to fasten the device to the standard **DIN bar support** pushing it until will be locked;
3	Proceed to connect the electric supply to the device. Once inserted, turn the connector clockwise in order to lock it in place;
4	Proceed to electrically connect the destination machine.



SECO S.p.A. shall not be held liable if these instructions are not complied with.

6.3 Versions available

The **SYS-D64-IPC** device is available in different versions that integrate various configurations of the electronic board "**D64**".

Below are the tables with the main configurations of the device:

SYS-D64-IPC-0000-0000-0x	Primary
SYS-D64-IPC-2xxx-xxxx-Ex	Option CPU Intel® Tiger Lake UP3 i7-1185GRE 2.8GHz 4c 28W (IOTG IND, IBECC, ExtTemp, FSEDP)
SYS-D64-IPC-5xxx-xxxx-Ex	Option CPU Intel® Tiger Lake UP3 i5-1145GRE 2.6GHz 4c 28W (IOTG IND, IBECC, ExtTemp, FSEDP)
SYS-D64-IPC-7xxx-xxxx-Ex	Option CPU Intel® Tiger Lake UP3 i3-1115GRE 3.0GHz 2c 28W (IOTG IND, IBECC, ExtTemp, FSEDP)
SYS-D64-IPC-x1xx-xxxx-Ex	RAM Module SO-DIMM 4GB 1.2V 260 pin DDR4-3200 TA -40 +95°C - Lead Free
SYS-D64-IPC-x2xx-xxxx-Ex	2x RAM Module SO-DIMM 4GB 1.2V 260 pin DDR4-3200 TA -40 +95°C - Lead Free
SYS-D64-IPC-x3xx-xxxx-Ex	RAM Module SO-DIMM 8 GB 1.2V 260 pin DDR4-3200 TA -40 +95°C - Lead Free
SYS-D64-IPC-x4xx-xxxx-Ex	2x RAM Module SO-DIMM 8 GB 1.2V 260 pin DDR4-3200 TA -40 +95°C - Lead Free
SYS-D64-IPC-x5xx-xxxx-Ex	Modules RAM SO-DIMM 16 GB 1.2V 260 pin DDR4-3200 TA -40 +85°C No ECC - Lead Free
SYS-D64-IPC-x6xx-xxxx-Ex	2x Modules RAM SO-DIMM 16 GB 1.2V 260 pin DDR4-3200 TA -40 +85°C No ECC - Lead Free
SYS-D64-IPC-x7xx-xxxx-Ex	Modules RAM SO-DIMM 32 GB 1.2V 260 pin DDR4-3200 TA -40 +85°C No ECC - Lead Free
SYS-D64-IPC-x8xx-xxxx-Ex	2x Modules RAM SO-DIMM 32 GB 1.2V 260 pin DDR4-3200 TA -40 +85°C No ECC - Lead Free
SYS-D64-IPC-xx1x-xxxx-Ex	SSD Module 128GB NVMe PCIe G3x4 M.2_2280, TLC BiCS5 serie MEC3K0E -40°C to +85°C - Lead Free
SYS-D64-IPC-xx2x-xxxx-Ex	2x SSD Module 128GB NVMe PCIe G3x4 M.2_2280, TLC BiCS5 serie MEC3K0E -40°C to +85°C - Lead Free
SYS-D64-IPC-xx3x-xxxx-Ex	SSD Module 256GB NVMe PCIe G3x4 M.2_2280, TLC BiCS5 serie MEC3K0E -40°C to +85°C - Lead Free
SYS-D64-IPC-xx4x-xxxx-Ex	2x SSD Module 256GB NVMe PCIe G3x4 M.2_2280, TLC BiCS5 serie MEC3K0E -40°C to +85°C - Lead Free

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SYS-D64-IPC-xx5x-xxxx-Ex	SSD Module 512GB NVMe PCIe G3x4 M.2_2280, TLC BiCS5 serie MEC3K0E -40°C to +85°C - Lead Free
SYS-D64-IPC-xx6x-xxxx-Ex	2x SSD Module 512GB NVMe PCIe G3x4 M.2_2280, TLC BiCS5 serie MEC3K0E -40°C to +85°C - Lead Free
SYS-D64-IPC-xxx1-xxxx-Ex	No 4G Module
SYS-D64-IPC-xxxG-xxxx-Ex	Module 4G
SYS-D64-IPC-xxxx-1xxx-Ex	No Module Wi-fi/BT
SYS-D64-IPC-xxxx-Wxxx-Ex	Module Wi-Fi/BT
SYS-D64-IPC-xxxx-x1xx-Ex	Microsoft® Windows 10 IoT Enterprise LTSC 2021
SYS-D64-IPC-xxxx-x2xx-Ex	Linux (Kernel ≥ 5.4 version)
SYS-D64-IPC-xxxx-xx0x-Ex	No fixing
SYS-D64-IPC-xxxx-xx1x-Ex	Din bar option
SYS-D64-IPC-xxxx-xx2x-Ex	Wall mont option
SYS-D64-IPC-xxxx-xxx1-Ex	I/O board protection
SYS-D64-IPC-xxxx-xxx2-Ex	NO I/O board protection

7. Maintenance

User should clean the product with a dry cloth when necessary, based on his visual inspection.

CAUTION
Disconnect the device from any power source before cleaning operation.

WARNING
The enclosure of the device must be cleaned only with a dry cloth.

After cleaning, the user should check that the product is still correctly installed.

8. Waste disposal



Electrical equipment no longer in use must not be thrown away with normal municipal waste. The substances and materials it contains must be disposed of separately in an appropriate manner.
The device must be disposed correctly as it is a waste of electric and electronic equipment (WEEE).

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