

## TCK3-APL Quickstart Guide



### 1 Safety Precautions

Thank you for purchasing a TechNexion TCK series device. This installation guide will be helpful in the installation, wiring and inspection of your TechNexion embedded fanless box PC. Before using the product, please read this guide to ensure correct use. You should thoroughly understand all safety precautions before proceeding with the installation, wiring, and operation. Place this instruction sheet in a safe location for future reference. The following suggestions will help you.

#### 1.1 Storage and Installation

- Keep the device dry. Precipitation, humidity, and all types of liquids or moisture can contain minerals that will corrode electronic circuits. If your device does get wet, allow it to dry completely.
- Do not use or store the device in dusty or dirty areas. Its parts and electronic components can be damaged.
- Do not store the device in hot areas. High temperatures can shorten the life of electronic devices, damage batteries, and warp or melt certain plastics.
- Do not store the device in cold areas. When the device returns to its normal temperature, moisture can form inside the device and damage electronic circuit boards.
- Do not attempt to open the device. This product is designed for specific applications and needs to be installed by qualified personnel.
- Do not drop, knock, or shake the device. Rough handling can break internal circuit boards and fine mechanics.
- Do not paint the device. Paint can clog the parts and prevent proper operation.
- Unauthorized modifications or attachments could damage the device and may violate regulations governing radio devices.

#### 1.2 Wiring

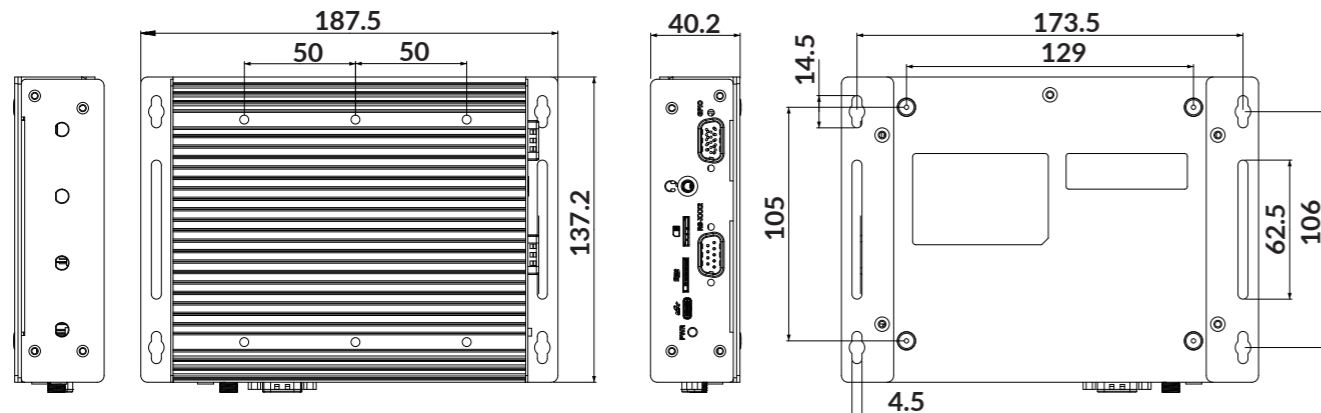
- Make sure that the available power source matches the required input power of the device. Failure to observe this caution may result in electric shock or fire.
- Do not power the unit by DC input when you apply power over the PoE (RJ45).

#### 1.3 Maintenance and Inspection

- Do not touch any internal or exposed parts of the device as electrical shock may result.
- Do not open the device while power is on. Otherwise electrical shock may result.
- Do not use harsh chemicals, cleaning solvents, or strong detergents to clean the device.
- Be sure the ventilation holes are not obstructed during operation. Otherwise malfunction may result due to bad ventilation or overheating.

These suggestions apply equally to your device, battery, charger, or any enhancement. If any device is not working properly, take it to the nearest authorized service facility for service.

### 2 Dimensions



Unit : mm

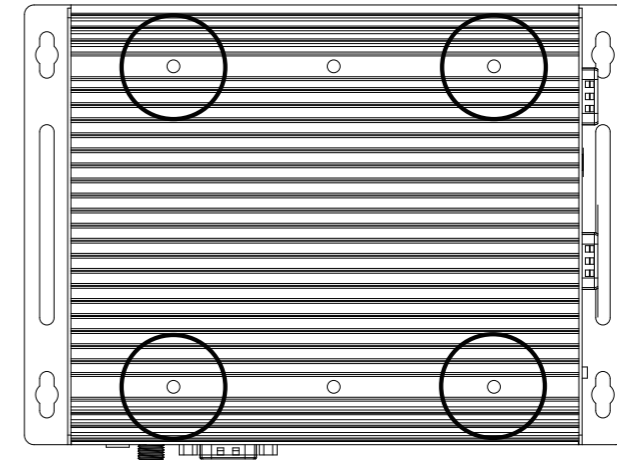
### 3 Installation Instructions

This section describes the mounting procedures for TCK series device. The material in the mounting area must provide sufficient strength for support of this embedded box PC.

#### 3.1 VESA Mounting

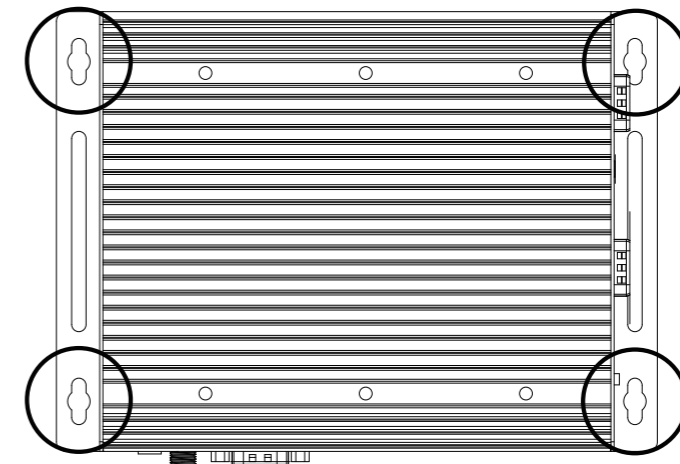
The TCK3-BSW is compatible with the VESA MIS-D Standard 100\*100mm hole pattern. There are 4 VESA MIS-D (M4) mounting holes on the top side of the device. M4 screw holes are a depth of 6mm.

Top view:



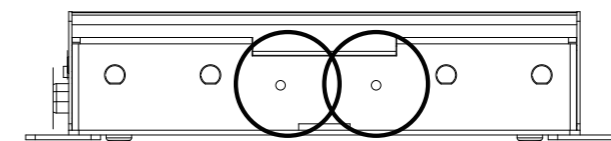
#### 3.2 Surface Mounting

There are 4 mounting holes (M5) on the top side of the device required for surface mounting. Four M4 or M5 screws with at least 8mm head-to-tip length are required to secure this device to the surface.

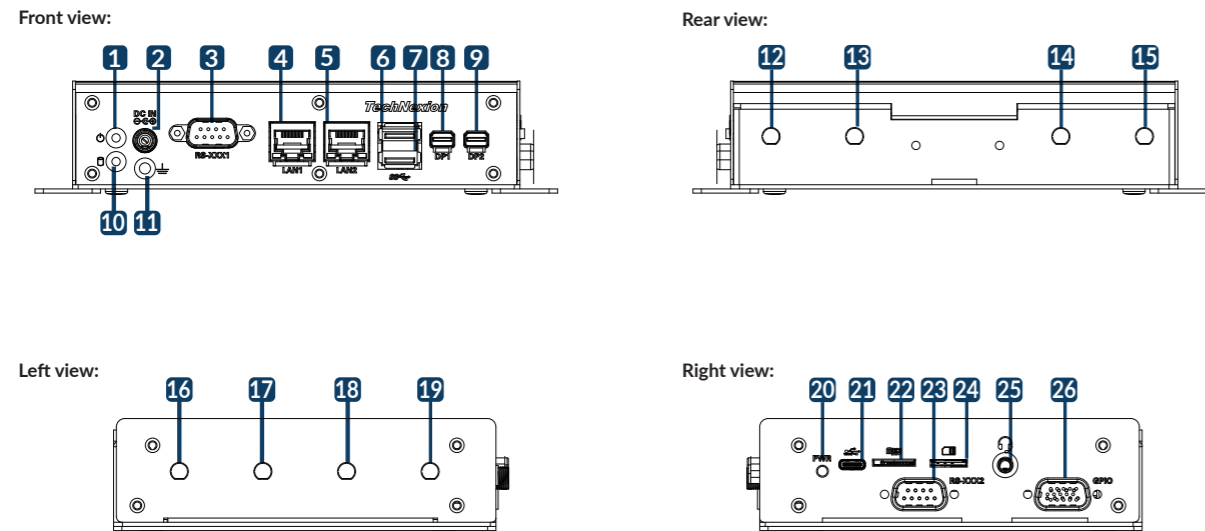


#### 3.3 DIN Mounting

The device can be mounted on a DIN rail by using a DIN-rail bracket. There are two mounting holes (M3) on the rear side of the device required for DIN bracket mounting (30mm DIN rail standard). Secure the DIN bracket to the back of this device by using two M3 screws with at least 5mm head-to-tip length.



## 4 External Connectors



No.	Description	No.	Description
1	Power LED indicator	14	Antenna hole
2	Power Input connector	15	Antenna hole
3	RS-XXX1 (Serial Port) DB9 connector	16	Antenna hole
4	LAN1 RJ45 connector	17	Antenna hole
5	LAN2 RJ45 connector	18	Antenna hole
6	USB Host connector	19	Antenna hole
7	USB Host connector	20	Power button
8	miniDP1 connector	21	USB OTG (Type-C) connector
9	miniDP2 connector	22	microSD cardslot
10	SATA LED indicator	23	RS-XXX2 (Serial Port) DB9 connector
11	Grounding screw M4	24	Micro-SIM cardslot
12	Antenna hole	25	3.5mm audio jack
13	Antenna hole	26	GPIO DB15 connector

## 5 Pin Definition

### 5.1 Digital I/O Connector (GPIO)

This product is available with one GPIO connector. The non-galvanic isolated GPIO connector has the following pinout:

Port	Pin #	Signal	Description	Voltage
	1	VCC	Supply output	5V
	2	GPIO1A	DIG_IN2/OUT2	3.3V
	3	GPIO1C	DIG_IN4/OUT4	3.3V
	4	GPIO2A	DIG_IN6/OUT6	3.3V
	5	GPIO2C	DIG_IN8/OUT8	3.3V
	6	GND	Common Ground	
	7	GND	Common Ground	
	8	GND	Common Ground	
	9	GND	Common Ground	
	10	GND	Common Ground	
	11	VCC	Supply output	5V
	12	GPIO1B	DIG_IN3/OUT3	3.3V
	13	GPIO1D	DIG_IN5/OUT5	3.3V
	14	GPIO2B	DIG_IN7/OUT7	3.3V
	15	GPIO2D	DIG_IN9/OUT9	3.3V

Header on TCK3-APL: DB15 (15-pin) high density D-Sub male connector.  
Cable receptacle: DB15 (15-pin) high density D-Sub female connector.

### 5.2 Serial Ports (RS-XXX1/RS-XXX2)

This product is available with two full function non-galvanic isolated RS-232 serial ports: RS-XXX1 and RS-XXX2. The ports have the following pinout:

Port	Pin #	Signal	Description	Device
	1	SERIAL1_DCD	Port#1 Data Carrier Detect (input)	COM1
	2	SERIAL1_RXD	Port#1 Receive data (input)	COM1
	3	SERIAL1_TXD	Port#1 Transmit data (output)	COM1
	4	SERIAL1_DTR	Port#1 Data Terminal Ready (output)	COM1
	5	GND	Ground	
	6	SERIAL1_DSR	Port#1 Data Set Ready (input)	COM1
	7	SERIAL1_RTS	Port#1 Request-to-send (output)	COM1
	8	SERIAL1_CTS	Port#1 Clear-to-send (input)	COM1
	9	VCC	5V supply output	

Header on TCK3-APL: DB9 (9-pin) standard D-Sub male connector.  
Cable receptacle: DB9 (9-pin) standard D-Sub female connector.

Port	Pin #	Signal	Description	Device
	1	SERIAL2_DCD	Port#2 Data Carrier Detect (input)	COM2
	2	SERIAL2_RXD	Port#2 Receive data (input)	COM2
	3	SERIAL2_TXD	Port#2 Transmit data (output)	COM2
	4	SERIAL2_DTR	Port#2 Data Terminal Ready (output)	COM2
	5	GND	Ground	
	6	SERIAL2_DSR	Port#2 Data Set Ready (input)	COM2
	7	SERIAL2_RTS	Port#2 Request-to-send (output)	COM2
	8	SERIAL2_CTS	Port#2 Clear-to-send (input)	COM2
	9	VCC	5V supply output	

Header on TCK3-APL: DB9 (9-pin) standard D-Sub male connector.  
Cable receptacle: DB9 (9-pin) standard D-Sub female connector.

## 6 LED Light Indicators

The TCK3-APL has two LED Light indicators. The Power LED Light indicator is lit, when the system is powered on. The SATA LED Light indicator is blinking, when the SATA SSD is active.

INDICATOR:	LED#	Color	ON	OFF
	1	Green	Power on	Power off
	2	Red	SATA SSD is active (blinking)	SATA SSD is not active

## 7 Software and Driver Installation

The unit is by default preloaded with software that can download and install a selection of Linux OS images over hardwired network. Simply connect a display to the unit through the miniDP connector and a network through the Ethernet LAN RJ45 connector and power it up, then follow the steps on the screen to load the software. Local proxies will interfere with this process. For more information, go to our Knowledge Base at: <https://www.technexion.com/support/knowledge-base/>

To download drivers for the Windows operating systems, go to our Download Center at: <https://www.technexion.com/support/download-center/>

For more information about installing and configuring the Windows operating systems, see: <https://msdn.microsoft.com/en-us/>

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