

Omron TM Collaborative Robot S Series: Touch Screen

User's Manual



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Statement of Responsibilities for Cybersecurity Threats

To maintain the security and reliability of the system, a robust cybersecurity defense program should be implemented, which may include some or all of the following:

Anti-virus protection

- Install the latest commercial-quality anti-virus software on the computer connected to the control system and keep the software and virus definitions up-to-date.
- Scan USB drives or other external storage devices before connecting them to control systems and equipment.

Security measures to prevent unauthorized network access

- Install physical controls so that only authorized personnel can access control systems and equipment.
- Reduce connections to control systems and equipment via networks to prevent access from untrusted devices.
- Install firewalls to block unused communications ports and limit communication between systems. Limit access between control systems and systems from the IT network.
- Control remote access and adopt multifactor authentication to devices with remote access to control systems and equipment.

- Set strong password policies and monitor for compliance frequently.

Data input and output protection

- Backup data and keep the data up-to-date periodically to prepare for data loss.
- Validate backups and retention policies to cope with unintentional modification of input/output data to control systems and equipment.
- Validate the scope of data protection regularly to accommodate changes.
- Check validity of backups by scheduling test restores to ensure successful recovery from incidents.
- Safety design, such as emergency shutdown and fail-soft operations in case of data tampering and incidents.

Additional recommendations

- When using an external network environment to connect to an unauthorized terminal such as a SCADA, HMI or to an unauthorized server may result in network security issues such as spoofing and tampering.
- You must take sufficient measures such as restricting access to the terminal, using a terminal equipped with a secure function, and locking the installation area by yourself.
- When constructing network infrastructure, communication failure may occur due to cable disconnection or the influence of unauthorized network equipment.
- Take adequate measures, such as restricting physical access to network devices, by means such as locking the installation area.
- When using devices equipped with an SD Memory Card, there is a security risk that a third party may acquire, alter, or replace the files and data in the removable media by removing or unmounting the media.

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Revision History

Revision	Date	Description
01	June, 2023	Original release

1. Production Function and Specification

1.1 Function

TM Screen is a touch screen for the TM Robot S Series. Users can combine Robot Stick with the TM Screen into a teach pendant for an easier and better teaching experience while controlling the robot.

1.2 Specification

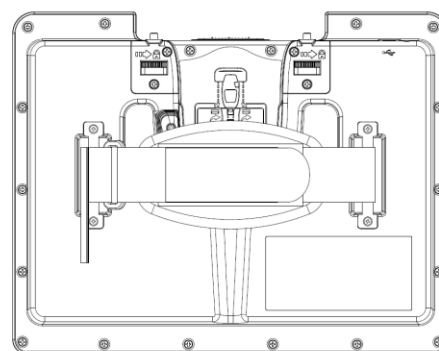
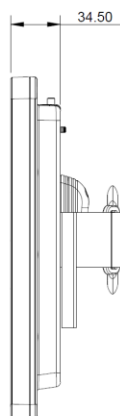
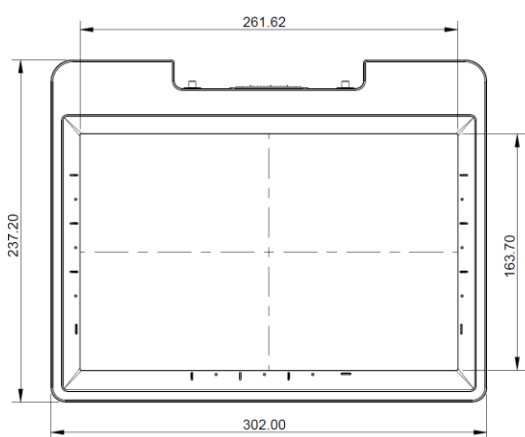
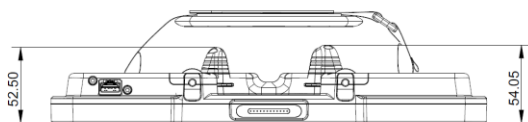
Depth	34.5 mm
Width	302.0 mm
Height	237.2 mm
Weight	1.45 kg
Applicable Robot / Control Box	TM Robot S Series with HW5.02



DANGER:





When combining Robot Stick with TM Screen into a teach pendant, it is forbidden to integrate the robot with Screen/Keyboard/Mouse resulting in the multi-control of the robot. It is the responsibility of users and system integrators to ensure the robot is under one control source only.

1.3 Three-View Diagram



2. Packing List

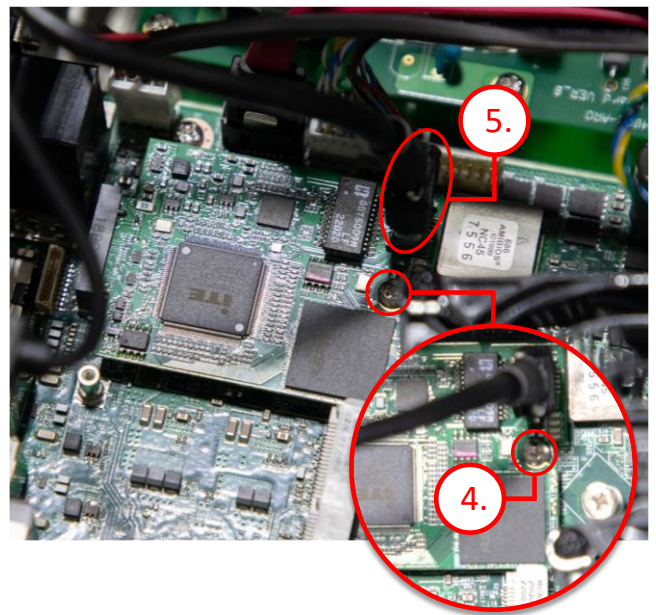
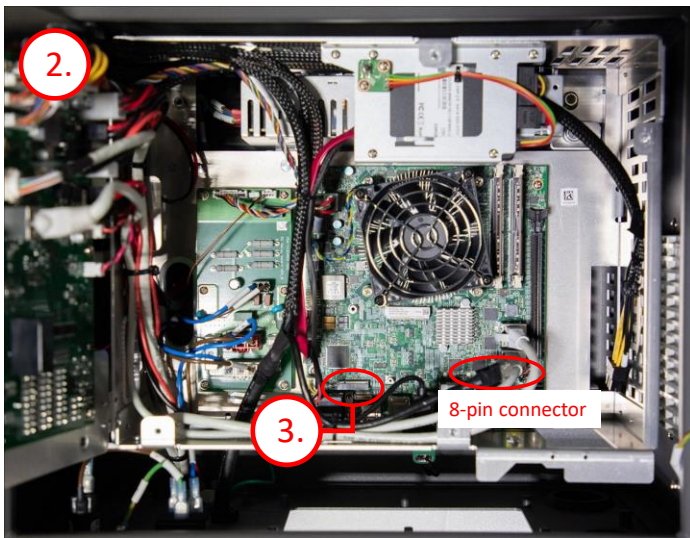
TM Screen comes with the following items in the package.

#	Item	Description	Quantity
1		TM Screen	1
2		TM Pen	1
3		Host Board	1
4		M3*L5 screw	1

3. Installation

3.1 Host Board Installation

1. Make sure there is no power provided to the control box.
2. Open the robot control box.
3. Plug the host board into the slot shown below.
4. Secure the host board with the M3*L5 screw.
5. Plug the 8-pin connector onto the host board.



WARNING:

Users should be well-trained and make sure to comply with the following items:

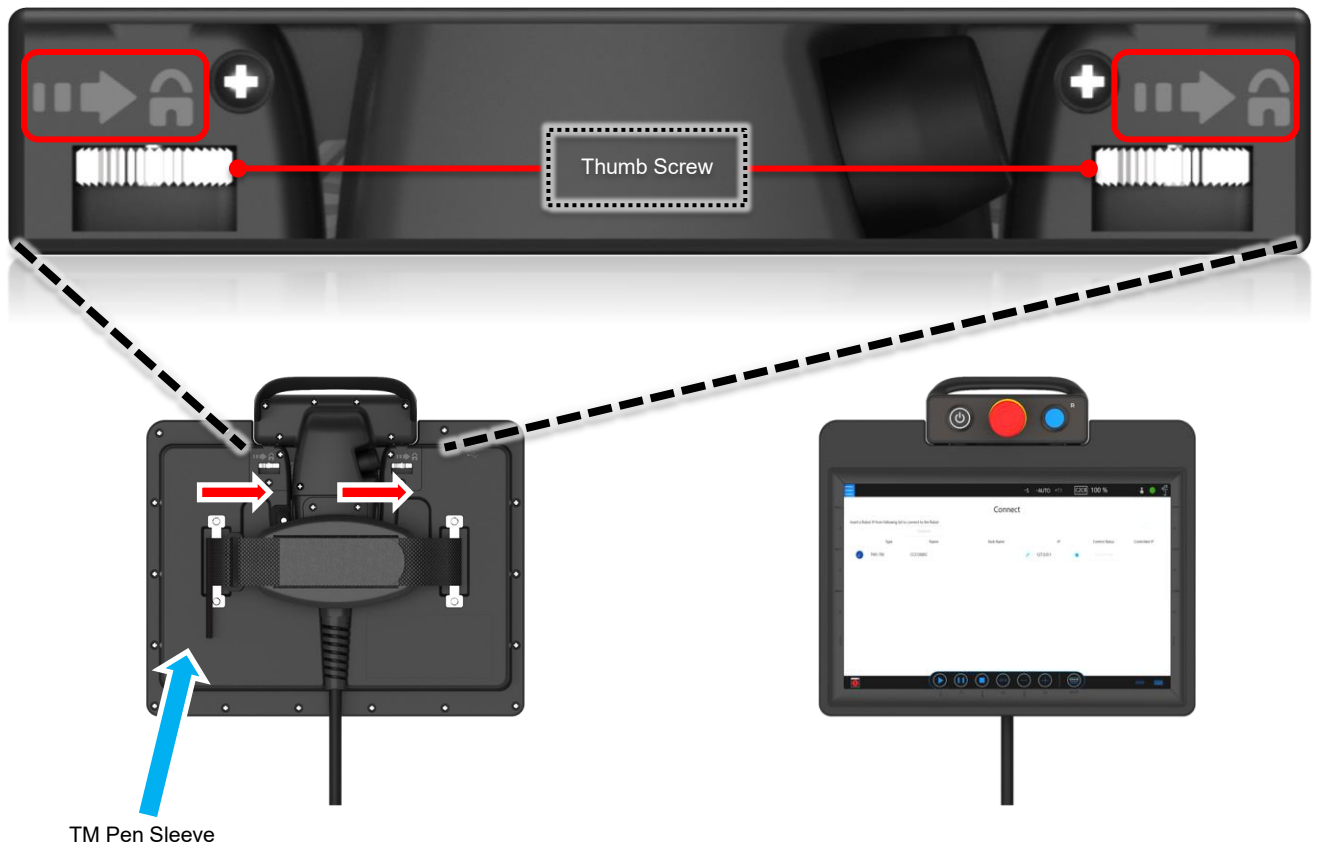
1. Make sure the control box is correctly grounded (electrical grounding).
2. Make sure there is no power provided to the control box.
3. Make sure the installation direction of the board is correct.
4. Make sure the board is securely plugged-in and fastened.
5. Make sure there is no other touch from a metal material or disconnection of internal wirings mistakenly.

3.2 TM Screen Assembly

1. Loosen the TM Screen hand strap.
2. Plug the TM Screen in to the Robot Stick along its side tracks.



3. Rotate to tighten both thumb screws on the back of the TM Screen to make sure the module is fastened to the Robot Stick securely.



DANGER:

When combining Robot Stick with TM Screen into a teach pendant, it is forbidden to integrate the robot with Screen/Keyboard/Mouse resulting in the multi-control of the robot. It is the responsibility of users and system integrators to ensure the robot is under one control source only.

4. After assembly, six function buttons (Play, Pause, Stop, M/A, +, -) will show on the TM Screen UI. The homing bars on the bezel help users locate the function buttons without difficulty.



3.3 TM Pen Assembly

1. Twist the pen until it comes off as two pieces.



2. Put the tip end outwards and put both pieces together.
3. Twist to tighten the pen until it is firmly secured.



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