cMT-XMBS series

Installation Instruction

① Installation and Startup Guide

This document covers the installation of cMT-XMBS Standard Connection Box, for the detailed specifications and operation, please refer to Datasheet, Brochure and User Manual. Please read all warnings, precautions, and instructions on the device carefully before use.

Install Environment:

Electrical Environment	The product has been tested to conform to European CE requirements. This means that the circuitry is designed to resist the effects of electrical noise. This does not guarantee noise immunity in severe cases. Proper wire routing and grounding will insure proper operation.
Environmental Considerations	(1) Make sure that the units are installed correctly and that the operating limits are followed. Avoid installing units in environments where severe mechanical vibration or shocks are present. (2) Do not operate the unit in areas subject to explosion hazards due to flammable gases, vapors or dusts. (3) Do not install the unit where acid gas, such as SO_2 exists. (4) This unit should be mounted in the vertical position and for use on the flat surface enclosure. (5) For use in Pollution Degree 2 Environment and dry location. (6) Relative Humidity: 10% ~ 90% (non-condensing)
IP Rating	IP 66
Cleaning Considerations	Clean the device using dry cloths. Do not use liquid or spray detergents for cleaning.
⚠ Warning	Protection impairment if used in a manner not specified by the manufacturer. Déficit de protection si utilisé d'une manière non spécifiée par le fabricant.

② Unpacking the Unit

Unpack and check the delivery. If damage is found, please contact the supplier.
**NOTE: Place the unit on a stable surface during installation. Dropping it or letting it fall may cause damage.**
The package includes: (1) Installation Instruction, 2-sided A4 *1 (2) cMT-XMBS *1

③ Installation Instructions

Mounting screws: Please prepare four M4 or #8 flathead screws to secure the connection box. The mounting hole diameter is 4.6 mm.
Allow adequate clearance around the connection box for ventilation and cable routing. Also, consider heat generated by nearby devices and ensure the ambient temperature around the connection box remains within 0 ~ 55°C.
Minimum required clearances (from enclosure): Top: 10 mm / Sides: 10 mm / Bottom: 120 mm.
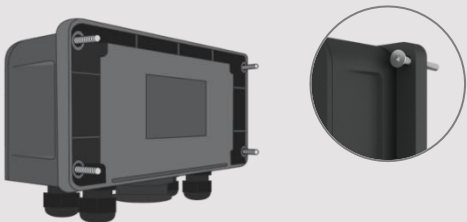
Disassembly and Installation of the Standard Connection Box Front Cover

Parts
① Front Cover
② Mounting Screws
③ Cable Glands
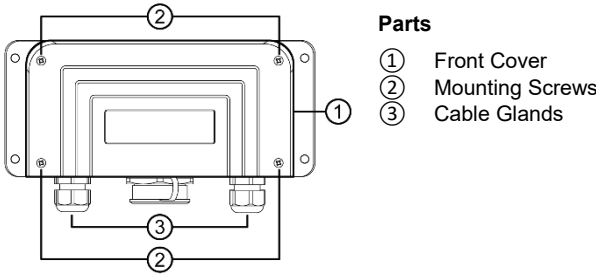
Procedure

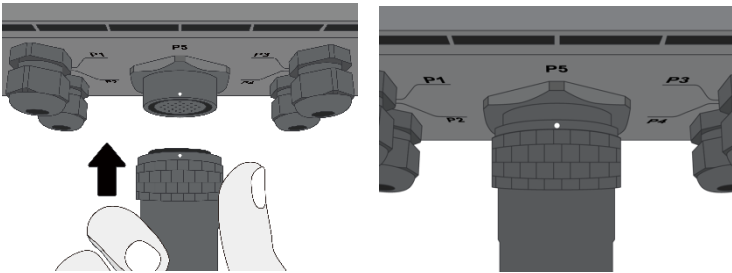Before wiring the Standard Connection Box, remove the front cover and connect the cable:
1. Loosen the mounting screws and remove the front cover.
2. Route and connect the cable.
3. Reinstall the front cover and tighten the mounting screws.

Torque Specifications

- Mounting screws: 2.1~3.4 lbf·in (ensure waterproofing and prevent damage to the enclosure's screw holes)
- Cable glands (for Ø 4~8 mm cable): 33~48 lbf·in

Connecting the Handheld HMI to the Standard Connection Box

1. Align the red dot on the handheld HMI's cable connector with the red dot on the connection box's cable connector.
2. Push the cable connector in firmly until you hear it snap into place indicating it's fully engaged.
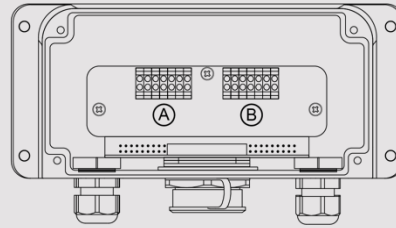

Removing the Standard Connection Box

1. Use your thumb and index finger to pull the cable connector's outer ring all the way back, and pull the connector straight out to detach.
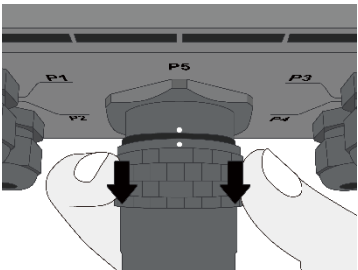
4 Wiring Terminal Pin Assignment

Connector Specifications:
Wire AWG: 24~16
Wire Strip Length: 9~10 mm

A Wiring Terminal

24V Power		Emergency Stop Switch		Key Switch		Ground
24V+	24V+	STOP NC_1	STOP COM_1	KEY NO_1	KEY COM_1	
24V-	24V-	STOP NC_2	STOP COM_2	KEY NC_1		FG

B Wiring Terminal

3-Position Enable Switch		RS-485		LAN		Detect / GND
ENABLE NO_1	ENABLE COM_1	4W_TX+	4W_TX-	LAN_TX+	LAN_TX-	DET_24V
ENABLE NO 2	ENABLE COM 2	2W_DATA+ 4W RX+	2W_DATA- 4W RX-	LAN_RX+	LAN_RX-	GND

CAUTION

NOTE: Make sure that all local and national electrical standards are met when installing the unit. Contact your local authorities to determine which codes apply.

⚠ **Power**
Use power output that meets SELV (Safety Extra-Low Voltage) requirements. The unit can be powered by DC power only, voltage range: 24±20%, compatible with most controller DC systems. The power conditioning circuitry inside the unit is accomplished by a switching power supply. The peak starting current can be as high as 2A.

⚠ **Fusing Requirements**
If the handheld HMI display does not turn on within 5 seconds of power-up, remove power. The handheld HMI features a resettable fuse to protect against overcurrent faults in the DC circuit; the fuse will reset automatically after a period of time. Check wiring for proper connections and try to power up again.
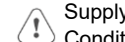
⚠ **High Voltage**
The handheld HMI's resettable fuse will prevent damage under overcurrent conditions; however, protection is not guaranteed. DC voltage sources must be properly isolated from main AC power and similar hazards.

⚠ **Emergency Stop**
A Hard-wired EMERGENCY STOP should be fitted in any system using an HMI to comply with ICS Safety Recommendations.

⚠ **Supply Voltage Condition**
Do not power the unit and inductive DC loads, or input circuitry to the controller, with the same power supply. Note: The 24 VDC output from some controllers may not have enough current to power the unit.

⚠ **Wire Routing**
a. Power wire length should be minimized (Max: 500m shielded, 300m unshielded).
b. Please use twisted pair cables for power wire and signal wire and conform to the impedance matching.
c. If wiring is to be exposed to lightning or surges, use appropriate surge suppression devices.
d. Keep AC, high energy, and rapidly switching DC power wiring separated from signal wires.
e. Add a resistor and capacitor in the parallel connection between the ungrounded DC power supply and the frame ground. This provides a path for static and high frequency dissipation. Typical values to use are 1M Ohm and 4700pF.

DANGER

⚠ **Hardware Considerations**
The system designer should be aware that devices in Controller systems could fail and thereby create an unsafe condition. Furthermore, electrical interference in an operator interface can lead to equipment start-up, which could result in property damage and/or physical injury to the operator.
If you use any programmable control systems that require an operator, be aware that this potential safety hazard exists and take appropriate precautions. Although the specific design steps depend on your particular application, the following precautions generally apply to installation of solid-state programmable control devices, and conform to the guidelines for installation of Controllers recommended in NEMA ICS 3-304 Control Standards.
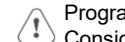
⚠ **Programming Considerations**
To conform to ICS Safety Recommendations, checks should be placed in the controller to ensure that all writable registers that control critical parts of plant or machinery have limit checks built into the program, with an out-of-limit safe shut down procedure to ensure safety of personnel.

Limited Warranty

This product is limited warranted against defects in design and manufacture.
The proven defective product will either be repaired or replaced, at Weintek's discretion.
This warranty shall not cover any product which is
(a) Out of warranty period which is 12 months from the manufacturing month of the HMI products.
(b) Damage caused by Force Majeure, accident, negligence, improper installation or misuse.
(c) Product has been repaired or taken apart by unauthorized technicians.
(d) Products whose identification markings have been removed or damaged.