

# FB1100/FB1200 Flow Computer HMI Module Field Replacement Guide



For Part Numbers (Kits):

- 399379-01-0
- 621627011-KIT
- 399380-01-0
- 621627020-KIT

## Device Safety Considerations

- **Reading these Instructions**

Before operating the device, read these instructions carefully and understand their safety implications. In some situations, improperly using this device may result in damage or injury. Keep this manual in a convenient location for future reference. Note that these instructions may not cover all details or variations in equipment or cover every possible situation regarding installation, operation, or maintenance. Should problems arise that are not covered sufficiently in the text, immediately contact Customer Support for further information.

- **Protecting Operating Processes**

A failure of this device – for whatever reason -- may leave an operating process without appropriate protection and could result in possible damage to property or injury to persons. To protect against this, you should review the need for additional backup equipment or provide alternate means of protection (such as alarm devices, output limiting, fail-safe valves, relief valves, emergency shutoffs, emergency switches, etc.). Contact Remote Automation Solutions for additional information.

- **Returning Equipment**

If you need to return any equipment to Remote Automation Solutions, it is your responsibility to ensure that the equipment has been cleaned to safe levels, as defined and/or determined by applicable federal, state and/or local law regulations or codes. You also agree to indemnify Remote Automation Solutions and hold Remote Automation Solutions harmless from any liability or damage which Remote Automation Solutions may incur or suffer due to your failure to ensure device cleanliness.

- **Grounding Equipment**

Ground metal enclosures and exposed metal parts of electrical instruments in accordance with OSHA rules and regulations as specified in *Design Safety Standards for Electrical Systems*, 29 CFR, Part 1910, Subpart S, dated: April 16, 1981 (OSHA rulings are in agreement with the National Electrical Code). You must also ground mechanical or pneumatic instruments that include electrically operated devices such as lights, switches, relays, alarms, or chart drives.

**Important:** Complying with the codes and regulations of authorities having jurisdiction is essential to ensuring personnel safety. The guidelines and recommendations in this manual are intended to meet or exceed applicable codes and regulations. If differences occur between this manual and the codes and regulations of authorities having jurisdiction, those codes and regulations must take precedence.

- **Protecting from Electrostatic Discharge (ESD)**

This device contains sensitive electronic components which be damaged by exposure to an ESD voltage. Depending on the magnitude and duration of the ESD, it can result in erratic operation or complete failure of the equipment. Ensure that you correctly care for and handle ESD-sensitive components.

## System Training

A well-trained workforce is critical to the success of your operation. Knowing how to correctly install, configure, program, calibrate, and trouble-shoot your Emerson equipment provides your engineers and technicians with the skills and confidence to optimize your investment. Remote Automation Solutions offers a variety of ways for your personnel to acquire essential system expertise. Our full-time professional instructors can conduct classroom training at several of our corporate offices, at your site, or even at your regional Emerson office. You can also receive the same quality training via our live, interactive Emerson Virtual Classroom and save on travel costs. For our complete schedule and further information, contact the Remote Automation Solutions Training Department at 800-338-8158 or email us at [education@emerson.com](mailto:education@emerson.com).

## Ethernet Connectivity

This automation device is intended to be used in an Ethernet network which **does not** have public access. The inclusion of this device in a publicly accessible Ethernet-based network is **not recommended**.

# Removing/Replacing HMI Module

The flow computer includes a human machine interface (HMI) module. Depending upon the type ordered, it may include Wi-Fi® capability and/or a liquid crystal display (LCD). In all cases the methods for removing/replacing are the same.

## Restriction

Hazardous area approvals require that any part replaced in the field be the exact same part (like for like). Upgrading or substituting a different HMI module type for the factory-installed HMI module type violates hazardous area certification.

Refer to the table below for the correct field replacement kit part number.

Item	Field Replacement Kit Part Number
Display assembly with LCD and Wi-Fi	399379-01-0
Display assembly with LCD, but without Wi-Fi	621627011-KIT
Display assembly without LCD but with Wi-Fi	399380-01-0
Display assembly without LCD and without Wi-Fi	621627020-KIT
UL File Number for these kits: E192567	

## Ambient Temperature Range

May be used up to a *maximum* ambient temperature of 80 °C and a *minimum* ambient temperature of -40 °C; refer to the data plate attached to the device for ambient temperature.

## Required Tools

- #1 Phillips-head screwdriver
- #2 Phillips-head screwdriver
- 3/32-inch flat head screwdriver (for 3.81 mm pitch terminal block connections and disconnecting the internal connector to the sensor)
- Hexagonal torque wrenches with 3mm head bit. Range must be 10 to 12 in-lbs[(1.1 to 1.4 N-m).

## Electrical Rating

- **Input Voltage:** 5.7-30Vdc, 10 Watts Max
- **I/O Ratings (FB1200 Flow Computer):**
  - 4 Digital Outputs: 0.5A, 24Vdc
  - 2 Analog Outputs: 4-20 mA

## WARNING

EXPLOSION HAZARD –Substitution of any components may impair suitability for Class I, Division 1 or Class I, Division 2.

### WARNING

EXPLOSION HAZARD – Do not disconnect equipment unless power has been removed or the area is known to be non-hazardous.

### DANGER

EXPLOSION HAZARD: Ensure the area in which you perform this operation is non-hazardous. Performing this operation in a hazardous area could result in an explosion.

### DANGER

EXPLOSION HAZARD: Never remove end cap(s) in a hazardous location. Removing cover(s) in a hazardous location could result in an explosion.



#### Important

If this equipment is used in a manner not specified by the manufacturer, the protection provided by equipment may be impaired.



#### Important

The HMI module includes the Wi-Fi transceiver; once you remove the HMI module; Wi-Fi communication with the flow computer ceases.

## Removing/Replacing the HMI Module

UL Listed HMI Module Field Installed Accessory Kit for Use in Class I, Division 1, Groups C&D and Class I, Division 2, Groups A, B, C, and D

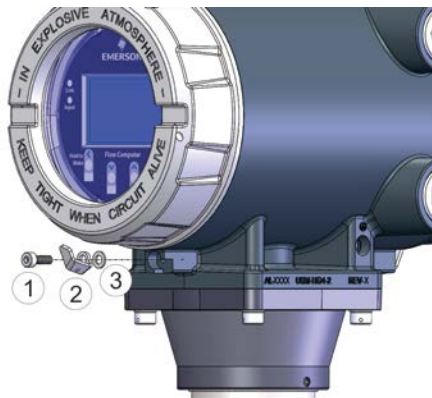
- Flow Computer HMI Module Display Assembly with LCD and Wi-Fi Field Installed Accessory Kit Part No. 399379-01-0 for use with UL Listed Model Series FB1100 and FB1200.
- Flow Computer HMI Module Display Assembly with LCD and without Wi-Fi Field Installed Accessory Kit Part No. 621627011-KIT for use with UL Listed Model Series FB1100 and FB1200.
- Flow Computer HMI Module Display Assembly without LCD and with Wi-Fi Field Installed Accessory Kit Part No. 399380-01-0 for use with UL Listed Model Series FB1100 and FB1200.
- Flow Computer HMI Module Display Assembly without LCD and Wi-Fi Field Installed Accessory Kit Part No. 621627020-KIT for use with UL Listed Model Series FB1100 and FB1200.

### WARNING

EXPLOSION HAZARD –Never remove end cap(s) in a hazardous location. Removing cover(s) in a hazardous location could result in an explosion.

1. Remove the retaining clamp on the front end cap (if present) using a 3 mm hexagonal wrench.

## Components of Retaining Clamp Assembly



- 1 Screw
- 2 Retaining Clamp
- 3 Washer

2. Grasp the end cap (front or rear).

### Front End Cap



### Rear End Caps



3. Unscrew the end cap turning it counter-clockwise until the cover comes off. Set it aside in a safe location.

### Note

If you need more leverage place a long screwdriver or other appropriate tool across the two notches in the cover to act as a pry bar.

### Front End Cap (unscrewed)



### Important

When replacing the rear end cap, ensure wires connecting to the terminal plate do not get crimped or caught between the end cap threads and the enclosure.

4. With a #1 Phillips-head screwdriver, loosen the four captive fastening screws on the HMI module.

### Captive Fastening Screws



5. Grasp the HMI module and remove it by gently pulling it straight out.
6. To replace the HMI module, line up the printed circuit board (PCB) with the slot on the back of the replacement module and gently press the new HMI module on. Tighten the four captive fastening screws with a torque of 6 in-lbs (0.7 N-m).
7. Carefully align the end cap threads with the threads of the enclosure and replace the front end cap. Screw the end cap clockwise (eight full turns) until it is tightly sealed to the enclosure. End caps must have at least 8 full threads engaged upon reassembly.
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#### Note

If you need more leverage place a long screwdriver or other appropriate tool across the two notches in the cover to act as a pry bar.

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9. If applicable, tighten the retaining clamp using the screw and washer onto the end cap using a 3mm hexagonal wrench. When tightening, torque to 10 to 12 in-lbs (1.1 to 1.4 N-m).



# FB1100/FB200 Flow Computer HMI Module Field Replacement Guide

D301816X012

November 2020

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