375 FIELD COMMUNICATOR

GETTING STARTED



⚠ IMPORTANT NOTICE

The Getting Started document provides basic guidelines for 375 Field Communicators. It does not provide in-depth instructions for configuration, diagnostics, maintenance, service, troubleshooting, or intrinsically safe (I.S.) installations.

Refer to the 375 Field Communicator User's Manual for more instructions. Additional 375 Field Communicator documentation can be found on www.fieldcommunicator.com.

⚠ WARNING

Explosions could result in serious injury or death:
Use in an explosive environment must be in accordance with the appropriate local, national, and international standards, codes, and practices. Please review the Product Certifications section of the 375 Field Communicator User's Manual for any restrictions associated with safe use.

Electrical shock can result in serious injury or death.

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FOUNDATION is a trademark of the Fieldbus Foundation.

IrDA is a registered trademark of the Infrared Data Association.

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INTRODUCTION

The 375 Field Communicator can make your work easier and more productive by providing interactive communications with HART® and FOUNDATION™ fieldbus devices in your processes. Before using the 375 Field Communicator, there are a number of preparatory steps to perform and several safety precautions to follow.

PRODUCT OVERVIEW AND PRECAUTIONS

The 375 Field Communicator supports HART and FOUNDATION fieldbus devices, letting you configure or troubleshoot in the field. When using the 375 Field Communicator to communicate with devices, follow all standards and procedures applicable to the location. Failure to comply may result in equipment damage and/or personal injury. Be sure to understand and comply with the following items:

- An IS-approved 375 Field Communicator can be used in Zone 0 (FM and CSA only), Zone 1, or Zone 2, Division 1 and Division 2 locations (KL option only).
- An IS-approved 375 Field Communicator may be connected to loops or segments that are attached to equipment located in Zone 0, Zone 1, Zone 2, Zone 20, Zone 21, Zone 22, Division 1 and Division 2 (KL option only).
- The 375 Field Communicator includes an FSTN type LCD with touch-screen display, a Nickel-Metal Hydride (NiMH) Battery Pack or Lithium Ion Power Module, an SH3 processor, memory components, and integral communication and measurement circuitry.
- Three terminals are on the top of the 375 Field Communicator. Each red terminal is a positive connection for its protocol, while the black terminal is a common terminal shared by both protocols. An access door ensures that only one pair of terminals is exposed at any one time. Several markings indicate which pair of terminals is for which protocol.
- The touch screen must be contacted using blunt items only, preferably the stylus included with the 375 Field Communicator. Using sharp instruments, such as screwdrivers, can cause failure of the touch screen and void the warranty. Repair of the touch screen requires replacement of the entire 375 Field Communicator display assembly, which is possible only at an authorized service center.
- When connecting the 375 Field Communicator to an active FOUNDATION fieldbus segment, ensure there is adequate spare current capacity to power the 375 Field Communicator fieldbus circuits. The 375 Field Communicator draws approximately 17 mA.
- The infrared port and card reader let the 375 Field Communicator or its System Card interface with a PC.
- Use the keypad or touch screen to enter data into the 375 Field Communicator.
- An Expansion Module (EM) (labeled Expansion Module) is a removable memory card that snaps into the Expansion Port. The EM can be removed or installed in a hazardous area.
- Only the Expansion Module or Expansion Port Plug should be inserted into the Expansion Port. System Cards/Secure Digital cards or other objects must not be put into the Expansion Port. Failure to comply will void the IS approval and the warranty.
- The Secure Digital cards used in the System Port must be those supplied by the 375 Field Communicator manufacturer. Failure to comply will void the IS approval and the warranty.
- The 375 Field Communicator supports two types of batteries: the NiMH Battery Pack and the Lithium Ion Power Module. The NiMH Battery Pack has a black, 4-pin power supply/charger connector, and the Lithium Ion Power Module has a green, 6-pin connector. See Figure 1 for the location of the connector. In this manual, the term “battery” is used to describe functionality that is common to both types of batteries. Any differences are noted.
- When transporting a Lithium Ion Power Module, follow all applicable regulations.
- The battery can be removed and installed in a hazardous area environment.

- The battery must not be charged in hazardous area environments.
- Use the 375 Field Communicator power supply/charger (00375-0003-0005) with only the 375 Field Communicator.
- Use only the power supply/charger to charge the battery. Failure to comply may permanently damage your 375 Field Communicator and will void the IS approval and the warranty.
- Protect the battery and power supply/charger from moisture, and respect operating and storage temperature limits.
- Do not cover the battery or power supply/charger, subject it to direct sunlight, or place it upon or next to heat-sensitive materials.
- Do not open or modify the battery or the power supply/charger. There are no user-serviceable components or safety elements inside. Opening or modifying them will void the warranty.

Figure 1. 375 Field Communicator



ASSEMBLY

Before operating the 375 Field Communicator, ensure:

- The 375 Field Communicator is not damaged.
- The battery is fully seated.
- All screws are sufficiently tightened.
- An Expansion Module or Expansion Port Plug is in place.
- The Communication Terminal recess is free of dirt and debris.

CHARGING THE BATTERY

CAUTION
The previous 4-pin power supply/charger is incompatible with the Lithium Ion Power Module.

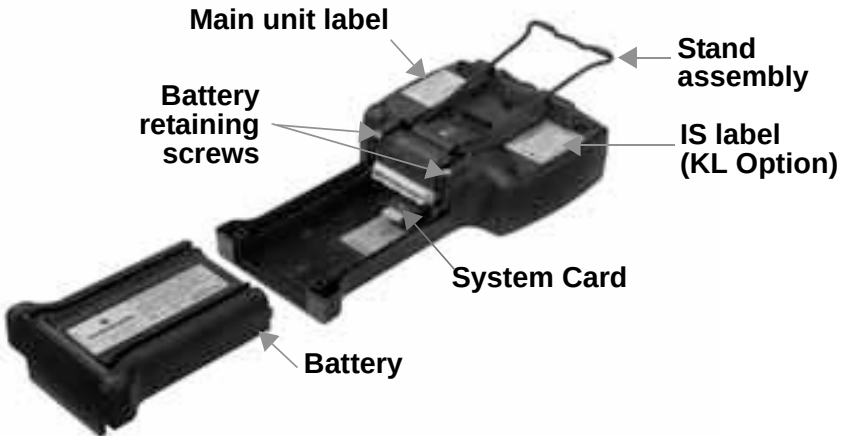
Prior to first portable use, fully charge the battery. The power supply/charger is compatible with the Lithium Ion Power Module and the NiMH Battery Pack. However, the NiMH Adapter Cable must be used to charge the NiMH Battery Pack with the power supply/charger. The power supply/charger has a green connector to match the appropriate connector on the Lithium Ion Power Module or NiMH Adapter Cable. See Figure 2.

The battery can be charged separately or while attached to the 375 Field Communicator. A full charge is indicated by the solid green light on the power supply/charger and takes approximately two to three hours. The 375 Field Communicator is fully operable when charging.

Figure 2. NiMH Adapter Cable used to charge the NiMH Battery Pack



Figure 3. Back side of the 375 Field Communicator



INSTALLING THE SYSTEM CARD AND BATTERY

1. Place the 375 Field Communicator face down on a level, secure surface.
2. Lock the stand into the hanger position. To pivot past the stand position, squeeze the stand together near the hinge, see Figure 3.
3. With the battery removed, place the System Card (labeled System Card), with the card contacts facing up, on the System Card guide ribs located directly below the battery connector. Slide the System Card forward into the System Socket until it is firmly in place.

⚠ WARNING

The System Card must not be inserted into the Expansion Port. Failure to comply can cause hardware damage and will void the IS approval and the warranty.

4. With the 375 Field Communicator still face down, ensure the tops of the two battery retaining screws are flush with the top of the communicator. Install the battery by aligning the sides of the battery and the communicator, and carefully sliding the battery forward until it is secure.

CAUTION
If the battery and 375 Field Communicator are not properly aligned, the connector pins can be damaged.

5. Carefully hand tighten the two battery retaining screws to secure the battery. (Do not over tighten, 0.5Nm maximum torque load.) The tops of the screws should be close to flush with the stand groove.

STARTING THE 375 FIELD COMMUNICATOR

1. On the keypad, press and hold the On/Off key until the multifunction LED blinks (approximately two seconds). During start up, the 375 Field Communicator checks the System Card for any software upgrades and notifies you if an upgrade is required. Then, the 375 Main Menu displays.
2. From the 375 Main Menu, use the up and down arrow keys to select menu items and the right-arrow key to launch them. Settings and system information are available in the Settings menu. For details, see the latest version of the 375 Field Communicator User's Manual.

REMOVING THE BATTERY AND SYSTEM CARD

1. With the 375 Field Communicator off, place it face down on a level, secure surface.
2. Loosen the two battery retaining screws until the top of each screw is flush with the top of the 375 Field Communicator.
3. Slide the battery off the communicator.

CAUTION
Do not pull up on the battery as this could damage the connector pins.

4. Grasp the System Card tag and slide it straight out of the 375 Field Communicator.

CAUTION
Do not pull up on the System Card as this could damage the card or the System Socket.

COMMUNICATION TERMINALS

The access door on the top of the 375 Field Communicator can be put in two positions. Use the markings on the access door and in between the terminals to select the desired protocol. Use the provided leadset to connect the 375 Field Communicator to the loop or segment. Refer to the latest version of the 375 Field Communicator User's Manual for additional information.

CAUTION
Only connections to a HART loop and FOUNDATION fieldbus segment are allowed.

TECHNICAL SUPPORT

Contact your supplier or go to http://www.fieldcommunicator.com/supp.htm for technical support contact information.

MAINTENANCE, REPAIR, AND TROUBLESHOOTING

Any maintenance, repair, or replacement of components not listed below must be performed by specially trained personnel at authorized service centers. You can perform common maintenance procedures on the 375 Field Communicator as described below:

- Cleaning the exterior. Use only a dry, lint-free towel or dampen the towel with a mild soap and water solution.
- Charging, removing, and replacing the battery
- Removing and replacing the System Card
- Removing and replacing the Expansion Module or Expansion Port Plug
- Removing and replacing the utility plate and stand
- Ensuring that all exterior screws are sufficiently tightened
- Ensuring that the Communication Terminal recess is free of dirt and debris

WASTE DISPOSAL

Products with the following label comply with the Waste Electrical and Electronic Equipment (WEEE) directive, 2002/96/EC, which applies to European Union (EU) member states only.



The label indicates this product should be recycled and not treated as household waste. Customers in EU member states should contact their Emerson sales representative for information on discarding any part of the 375 Field Communicator.

For customers in all other world areas, if it is necessary to discard any part of the 375 Field Communicator, adhere to the waste-disposal regulations applicable in your locality.

HAZARDOUS SUBSTANCES

Products with the following label are lead-free and comply with the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) directive, 2002/95/EC, which applies to EU member states only.



The purpose of the directive is to limit the use of lead, cadmium, mercury, hexavalent chromium, polybrominated biphenyl (PBB), and polybrominated diphenyl ether (PBDE) flame retardants in electronic equipment.

PRODUCT CERTIFICATIONS

Overview

All 375 Field Communicators come with the main unit label (see Figure 3). Intrinsically Safe (KL option) 375 Field Communicators also have an additional label opposite the main unit label. If the 375 Field Communicator does not contain this label (NA option), it should be considered non-IS approved.

Approved manufacturing locations

Emerson Process Management — Leicester, England

European directive information

CE compliance

Electromagnetic compatibility (2004/108/EC)

Tested to specifications EN 61000-6-3, EN 61000-6-2, and EN 61326-1.

ATEX Directive (94/9/EC) (KL option only)

Emerson Process Management complies with the ATEX Directive.
Specific ATEX Directive Information is located within this document and the 375 Field Communicator User's Manual.
Applicable standards EN 60079-0, EN 60079-11, and EN 60079-26.

Hazardous locations certifications (KL option only)

International certifications

IECEx

Certification No.: IECEx BVS 08.0044
Ex ia IIC T4 (-10°C ≤ Ta ≤ 50°C)

North American certifications

Factory Mutual (FM)

Intrinsically Safe for Class I, Division 1, Groups A, B, C, and D and Class I, Zone 0, AEx ia IIC T4 (Ta = 50 °C) hazardous locations when connected as indicated in the control drawing 00375-1130 in the 375 Field Communicator User's Manual. See the control drawing for input and output parameters.

Canadian Standards Association (CSA)

Intrinsically safe for use in Class 1, Zone 0, Ex ia IIC T4 hazardous locations when connected as indicated in the control drawing 00375-1130 in the 375 Field Communicator User's Manual. See the control drawing for input and output parameters.

European certifications

ATEX Intrinsic Safety

Certification No.: BVS 03 ATEX E 347 Ex II 2 G (1 GD)
Ex ia IIC T4 (-10 °C ≤ Ta ≤ +50 °C)
CE 1180

HART Intrinsically Safe electrical parameters

Input Parameters	
U_i	= 30 Volt DC
I_i	= 200 mA
P_i	= 1.0 Watt
L_i	= 0
C_i	= 0
Output Parameters	
U_0	= 1.9 Volt DC
I_0	= 32 µA

FOUNDATION fieldbus

Intrinsically safe FISCO					
U_{IIIC}	= 17.5 Volt DC	I_{IIIC}	= 215 mA	P_{IIIC}	= 1.9 Watt
U_{IIIB}	= 17.5 Volt DC	I_{IIIB}	= 380 mA	P_{IIIB}	= 5.3 Watt
U_0	= 1.9 Volt DC	I_0	= 32 µA		
Intrinsically safe Non-FISCO					
U_i	= 30 Volt DC	I_i	= 380 mA	P_i	= 1.3 Watt
U_0	= 1.9 Volt DC	I_0	= 32 µA		
L_i	= 0	C_i	= 0		

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