

475 Field Communicator

- Full-color graphical user interface
- Powerful field diagnostics
- Bluetooth® communication
- Long-lasting Lithium-Ion power module
- Universal support for HART® and FOUNDATION™ fieldbus devices



The 475 Field Communicator is designed to support all HART and FOUNDATION fieldbus devices from all vendors.

Introduction

The 475 Field Communicator builds on the industry-leading technology of the 375 Field Communicator while adding innovative new capabilities including color display, Bluetooth communication, and advanced field diagnostics with applications like ValveLink™ Mobile.

What you get is the most powerful handheld available – universal, user upgradeable, intrinsically safe, rugged and reliable. Only the 475 Field Communicator can deliver all this in a single handheld communicator.



WirelessHART



EMERSON
Process Management



Gain advanced diagnostics in the field through ValveLink Mobile and enhanced graphics.

Product Description

The 475 Field Communicator is designed to simplify your work in the field. The intuitive full color user interface allows you to leverage the same practices for both HART and FOUNDATION fieldbus devices. It includes a larger touch screen than PDAs or Pocket PCs, supports HART versions 5, 6, and 7 (including *WirelessHART™*) devices, and allows you to upgrade your 475 Field Communicator onsite using the Internet.

See and Feel the Difference

The touch screen display uses transfective technology, making it easy to read in both bright sunlight

and normal lighting. To make sure all conditions are covered, a multi-level backlight is included, allowing bright, crisp display even in plant areas with dim light.

The touch screen display and large physical navigation buttons provide for efficient use both on the bench and in the field.

The full color graphics capability is provided as standard with every 475 Field Communicator. It uses powerful EDDL technology to allow you to read data from field devices in a graphical manner. Charts, graphs, gauges, and product images are just a few of the ways in which important device data can be displayed using the 475 Field Communicator's color LCD display.

The weight of the 475 Field Communicator is evenly distributed for comfortable one-handed operation in the field. It runs on Windows CE, a robust, real-time operating system.

The 475 Field Communicator has plenty of memory to allow for future expansion. It has 32 MB of application memory and 1 GB of memory on its System Card.

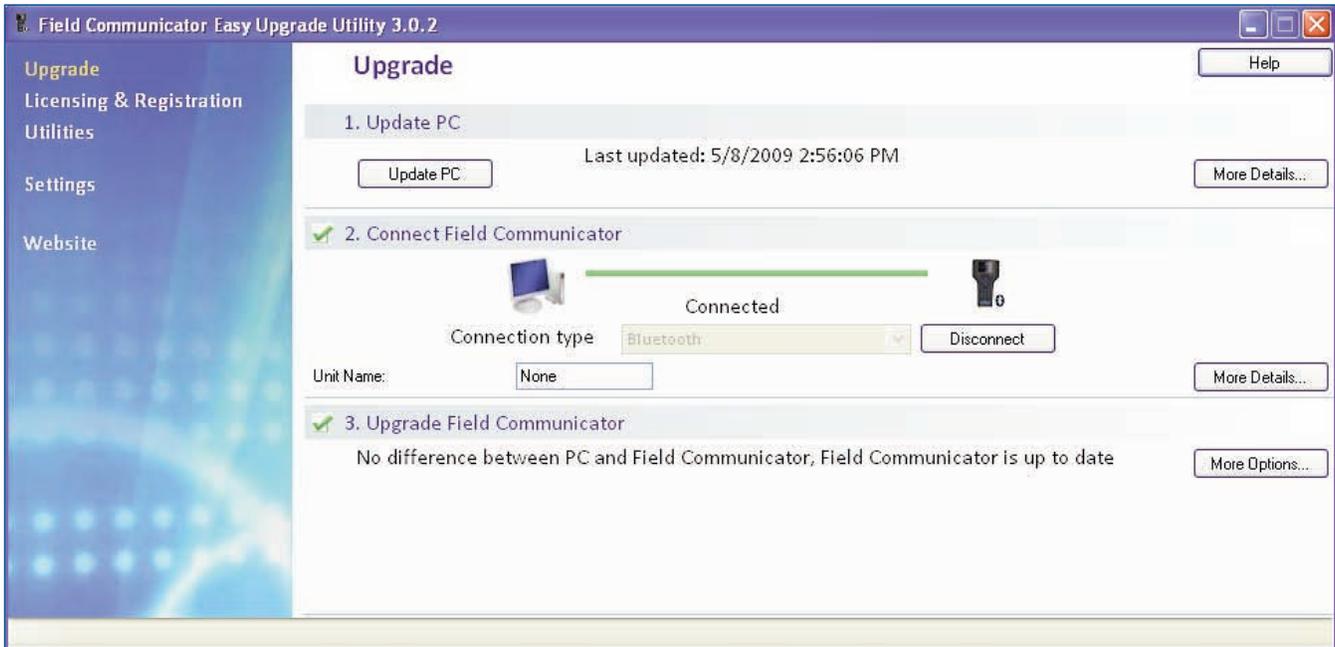
User Upgradeable

Easy Upgrade Keeps Your Communicator Current

The 475 Field Communicator is user upgradeable via the Internet. Avoid the time delays of sending your communicator to a service center for upgrades. With the *Easy Upgrade* option, you can download new device drivers, functionality, or licenses directly to your 475 Field Communicator. Keeping your 475 Field Communicator updated is easy.

New HART and FOUNDATION fieldbus devices, as well as functional updates to existing devices, are introduced continually by device vendors. Keeping up-to-date with the required Device Descriptions (DDs) for all the devices in your plant can be a real challenge.

With *Easy Upgrade*, when new HART and FOUNDATION fieldbus DDs become available, you can simply download them from the Internet and upgrade your 475 Field Communicator. Update at your site, within your control, when it's convenient for you.



The Easy Upgrade Utility allows you to transfer system software, DDs, and HART device configurations between the 475 Field Communicator and a PC. Connect using IrDA, Bluetooth, or an SD Card Reader.

Online Licensing

The Online Licensing capability provided with *Easy Upgrade* allows you to enable new options for your 475 Field Communicator over the Internet. With Online Licensing, powerful options like FOUNDATION fieldbus can be added by simply purchasing the license and downloading it directly to your communicator.

Universal – HART and FOUNDATION fieldbus

With over 1,100 different HART and FOUNDATION fieldbus devices available from more than 100 manufacturers, the 475 Field Communicator works with all your devices to positively impact your bottom line.

Through *Easy Upgrade*, you always have access to the latest HART and fieldbus drivers. With the 475 Field Communicator, you are guaranteed universal HART and FOUNDATION fieldbus support in a single, intrinsically safe handheld communicator.



Device Configuration

Tag: PT165
Manufacturer: Rosemount
Model: 36515 Diag
142 Variables

Printed on: 5/19/2009 9:06:38 AM

Parameter	Value	Parameter	Value
Version	Custom 8	Lower Sensor Limit	0.0000
Unit Variable	Generic Device/Variable	Level_High_Comp	1.0
Alarm Description	None	Manufacturer	Rosemount
Alarm Enable	Off	Minimum Storage	30000 #
Alarm Mode	Off	Mean Change Alarm	20.01420 m2D0
Baseline Mean Value	0.00000 m2D0	Mean Change Alarm	Medium
Baseline Standard Dev	0.00000 m2D0	Mean High Alarm	Alert
Brn1 Mode	Off	Mean Custom Alarm	100%
Calibration Type	Unipolar (Unipolar)	Mean Upper Thresh	0.00000 m2D0
Chart Mode	Off	Message	MISSING CAP
Damping	0.50 s	Min Span	1.0000
Device	PT165	Min Span	0.0
Display	FOUNDATION XMT	Mode	Off
Device Status	OK	Mode	30514 Diag
Diagnostic History	None	Mode Number I	1
Display Unit	Rosemount	Mode Number II	2
Electronics HW Rev	1	Mode Number III	3
Electronics SW Rev	207	Module Config	Std container (C)
Field Device Rev	1	Module Range	None
Field Device Rev	1	No Label Available	0x00
		Normal Alarm	1
		Number	None

Easily store and print device configurations for analysis and documentation requirements.



The 475 Field Communicator, with its handy carrying case, provides a single tool for configuring and diagnosing HART and FOUNDATION fieldbus devices.

Intrinsically Safe

The 475 Field Communicator meets the Intrinsic Safety requirements of the listed regulatory agencies and standards. All of the available Hazardous Locations approvals are provided in a single model option (see Ordering Information).

- CENELEC/ATEX
- Factory Mutual (FM)
- Canadian Standards Association (CSA)
- FISCO
- IECEx



ATEX



Even the power module is approved for installation in hazardous areas.

Rugged and Reliable

It's called "Field Communicator" for a reason. Some tasks just have to be performed at the device in the field. The 475 Field Communicator is designed for tough use in your plant or mill.

Its large keys and physical navigation buttons allow for one-handed operation, even with your work gloves on. The rugged display is designed to take the knocks and shocks from normal use in the plant.

The 475 Field Communicator's Protective Rubber Boot provides added protection in the field and in your toolbox. Both the rubber boot and 475 housing are designed in accordance with Intrinsic Safety standards to limit

the build up of static electrical energy.

The 475 Field Communicator is designed, manufactured, and tested to very demanding specifications. It is ready to go wherever you need to go to get the job done.



The protective rubber boot provides added protection in the field.

475 Field Communicator

Powerful Diagnostics

Interface with AMS Device Manager

The 475 Field Communicator is fully compatible with AMS Device Manager, the industry standard for asset management software. In fact, Control Magazine readers have selected AMS Device Manager as the #1 Calibration Software package for over 10 years in a row.

AMS Device Manager uses the intelligence from field devices to create a predictive maintenance environment. AMS Device Manager allows you to configure, calibrate,

document, and troubleshoot HART, FOUNDATION fieldbus, and WirelessHART devices.



Transfer device configuration data to AMS Device Manager via the IrDA port or Bluetooth interface on your 475 Field Communicator and PC. Take your 475 Field Communicator out to the field to configure or update one or more devices. Save up to 1,000 device

configurations in your communicator or transfer them to AMS Device Manager.

Together, the 475 Field Communicator and AMS Device Manager enable you to efficiently manage all of your devices.

Device Configuration Management

Using the Easy Upgrade Utility, you can back up hundreds of device configurations and can transfer them between your communicator and a PC. This library of device configurations is easy to view and print for analysis.



AMS
Suite

475
FIELD
COMMUNICATOR

Identify Valve Problems

Run valve diagnostics in the field with the ValveLink Mobile application. You can quickly perform tests including valve signature, dynamic error band, and step response on HART Fisher® FIELDVUE™ digital valve controllers. ValveLink Mobile does not currently support FOUNDATION fieldbus devices.

The intuitive user interface makes ValveLink Mobile easy to use and understand. Diagnose issues in the field or transfer the results to

an asset management system like AMS Suite for in-depth analysis and documentation.

Diagnose Network Problems

The 475 Field Communicator can be used to configure all the FOUNDATION fieldbus devices in your plant. Use it to perform diagnostics for effective start-up and troubleshooting of fieldbus segments. Create a quality segment by diagnosing the network DC voltage and average noise.

Detect power supply problems by monitoring low frequency noise on a segment. Locate incorrect terminations and faulty devices by diagnosing the communications signal level.

For HART loops, the 475 Field Communicator allows you to verify whether the DC voltage in the loop is correct.

Specifications

PROCESSOR AND MEMORY

Microprocessor

- 80 MHz Hitachi® SH3

Memory Internal Flash

- 32 MB

System Card

- 1 GB secure digital card

RAM

- 32 MB

PHYSICAL

Weight

- Approximately 1.65 lb. (0.75kg) with battery

Display

- 1/4 VGA (240 by 320 pixels) color, 3.5 in. (8.9 cm) transfective display with touch screen
- Anti-glare coated

Keypad

- 25 keys including 4 action keys, 12 alphanumeric keys, tab key, function key, backlight key, power key, and 4 cursor-control (arrow) keys; membrane design with tactile feedback

POWER SUPPLY / CHARGER

Battery

- Rechargeable Lithium-Ion power module

Battery Operating Time

- 20 hours – continuous use
- 40 hours – typical use
- 80 hours – standby mode

Battery Charger Options

- Input voltage 100-240 VAC, 50-60 Hz
- Cables included with U.S., Europe, and U.K. plugs

CONNECTION

Battery Charger

- Mini DIN 6-pin jack

HART and Fieldbus

- Three 4mm banana plugs (one common to HART and FOUNDATION fieldbus)

IrDA Port

- IrDA (Infrared Data Access) port supporting up to 115 Kbps
- ±15 degrees recommended maximum angle from center line
- Approximately 18 in. (45.7 cm) recommended maximum distance

Bluetooth

- Up to 32.8 ft. (10 m) communication distance
- Uses standard Windows drivers
- FCC, IC, and CE approvals

ENVIRONMENTAL

Usage

- -10° C (14° F) to +50° C (122° F)
- 0% to 95% RH (non-condensing) for 0° C (32° F) to +50° C (122° F)

Charge

- 10° C (50° F) to +40° C (104° F)

Storage With Batteries

- -20° C (-4° F) to +55° C (131° F)

Storage Without Batteries

- -20° C (-4° F) to +60° C (140° F)

Enclosure Rating

- IP51 (from front)

Shock

- Tested to survive a 1-meter drop test onto concrete

EASY UPGRADE REQUIREMENTS

Usage

- PC with Internet access
- CD Rom drive
- IrDA port (or adapter) or Bluetooth (or adapter)
- SD Card Reader (required for some upgrades)
- Windows XP (SP2 or SP3) or Windows Vista Business (SP1)

475 Field Communicator Spare Parts List

Description	Part Number
Ruggedized 250 Ohm Load Resistor	00275-0096-0001
Rechargeable Lithium-Ion Power Module	00475-0002-0022
Power Supply & Charger (Li-ion/NiMH) US/UK/EU connection types included	00475-0003-0022
Power Supply/Charger Standard Cord Set (US/UK/EU cords)	00375-0003-0002
Australian (AU) cord for Power Supply/Charger	00375-0003-0003
Lead Set with connectors	00375-0004-0001
Hand Strap (pack of 2)	00475-0005-0002
Carrying Case (with spare Hand Strap and Stylus)	00475-0005-0003
Magnetic Hanger	00475-0005-0004
Protective Rubber Boot with Stand	00475-0005-0005
Stylus (pack of 2)	00475-0006-0001
IrDA to USB Adapter ⁽¹⁾	00375-0015-0002
System Card (SD) Reader (with USB Interface) ⁽²⁾	00375-0018-0022
Bluetooth Adapter ⁽¹⁾	00475-0018-0023
Stand	00475-0044-0001
Getting Started Guide	00475-0045-3001
Resource CD	00475-0049-0001
Online Licensing ⁽⁴⁾	
FOUNDATION fieldbus License Via Web	00375-0142-0002
<i>Easy Upgrade</i> (New) License via Web ⁽³⁾	00375-0142-0003
<i>Easy Upgrade</i> (ReNew) License via Web ⁽³⁾⁽⁵⁾	00375-0142-2003
AMS Device Manager Handheld Interface Kit ⁽⁶⁾	
AMS Device Manager Field Communicator Interface Kit (25 tags)	AW7005HC00025
AMS Device Manager Field Communicator Interface Kit (100 Tags and above)	AW7005HC20000

- (1) Can be used to support communication between the 475 and the Easy Upgrade Programming Utility or AMS Device Manager (with Handheld Communicator Interface Kit). IrDA or Bluetooth communication is required to register the 475 and use the Online Licensing system.
- (2) The System Card (SD) Reader allows a user to upgrade a System Card much faster than when using IrDA or Bluetooth. Due to file size constraints, major upgrades require the use of a card reader.
- (3) The *Easy Upgrade* feature allows users to add new System Application software and Device Descriptions (DDs) to the 475 for a period of 3 years. To upgrade without this feature, the System Card must be sent to a Service Center and the upgrade will be completed for a fee.
- (4) The Field Communicator Online Licensing system is available to end users but it may also be performed by an agent on the user's behalf. It is at the agent's discretion if an additional fee should apply. Any order must be accompanied by the System Card S/N. Instant notification available licenses for download can be provided to email addresses provided at time of order. For more details, see the Online Licensing procedure at www.fieldcommunicator.com
- (5) The ReNew option is available on System Cards where the *Easy Upgrade* license has been expired for less than 90 days. Date of expiration can be obtained by interfacing the 475 with v1.6.0 (or higher) of the Easy Upgrade Programming Utility.
- (6) Requires AMS Device Manager (v6.2 or higher). Both AMS Device Manager and the Handheld Communicator Interface Kit are available for sale through select channels only. See www.assetweb.com for more details.

475 Field Communicator Ordering Information

Model	Product Description
475	Field Communicator ⁽¹⁾
Code	Communication Protocol
H	HART
F	HART and FOUNDATION fieldbus ⁽²⁾
	
Code	Battery Type
P	Rechargeable Lithium-Ion Power Module
Code	Power Supply/Charger
1	Power Supply and Charger NiMH/Li-Ion (US/UK/EU connection types included) ⁽³⁾
9	Not included ⁽⁴⁾
Code	Language
E	English
D	German
J	Japanese
R	Russian
Code	Product Certifications
KL	ATEX, FM, CSA and IECEx Intrinsically Safe (includes FISCO as applicable)
NA	No Approval
Code	Easy Upgrade
U	Easy Upgrade (3 year) Option ⁽⁵⁾
9	Not Included
Code	Standard Options
GM	Graphics (included at No Charge) ⁽⁶⁾ Device Configuration Management (included at No Charge) ⁽⁷⁾
Code	Bluetooth
T	Bluetooth Communication ⁽⁸⁾
9	No Bluetooth Communication
Code	Options
A	Spare Rechargeable Lithium-Ion Power Module ⁽⁹⁾
S	Protective Rubber Boot with Stand
Typical HART Model Number: 475 H P 1 E KL U GMT S	
Typical HART/Fieldbus Model Number: 475 F P 1 E KL U GMT S	

- (1) Base Model 475 includes Field Communicator unit with Color LCD display, System Card, leadset with connectors, carrying case, Getting Started Guide, Resource CD, stylus, and straps.
- (2) Must specify *Easy Upgrade* Option (Code U) when ordering this model option.
- (3) To obtain an Australia power cord, order part number 00375-0003-0003.
- (4) This option should only be considered if the user already has a 375 or 475 Power Supply/Charger. If it is a 375 Power Supply / Charger, it must be the Li-Ion/NiMH version.
- (5) The *Easy Upgrade* capability allows users to add new System Application software and Device Descriptions (DDs) to the 475 for a period of 3 years. To upgrade without this feature, the System Card would have to be sent to a Service Center.
- (6) The Graphics functionality enables a user to access enhanced graphical features when using the HART or FOUNDATION fieldbus application.
- (7) Device Configuration Management provides the capability to store in excess of 1,000 configurations and print them.
- (8) Bluetooth enables communication to a PC via the Bluetooth protocol.
- (9) A fully charged Lithium-Ion Power Module is capable of delivering power for 20 hours of typical field use. If requirements exceed this specification, a Spare Power Module (code A) should be specified.

Emerson Process Management
Asset Optimization Division
12001 Technology Drive
Eden Prairie, MN 55344 USA
T 1(952)828-3206
F 1(952)828-3006

©2010, Emerson Process Management.

The contents of this publication are presented for informational purposes only, and while every effort has been made to ensure their accuracy, they are not to be construed as warranties or guarantees, express or implied, regarding the products or services described herein or their use or applicability. All sales are governed by our terms and conditions, which are available on request. We reserve the right to modify or improve the designs or specifications of our products at any time without notice.

All rights reserved. AMS, Fisher, FIELDVUE, and ValveLink are mark of one of the Emerson Process Management group of companies. The Emerson logo is a trademark and service mark of Emerson Electric Co. All other marks are the property of their respective owners.