

475 Field Communicator

User's Manual



APPENDIX A REFERENCE DATA

PROCESSOR AND MEMORY SPECIFICATIONS

Microprocessor 80 MHz, max 133 MHz Hitachi® SH3

Memory **Internal Flash**
32 MB

System Card
1 GB Secure Digital card or higher

RAM
32 MB

PHYSICAL SPECIFICATIONS

Weight Approximately 1.65 lb (750 grams) includes battery

Display 3.5" diagonal, 1/4 VGA (240 by 320 pixels) color touch screen
Hard-coated surface
Dimensions approximately 2.79" x 2.10" (71 mm x 53.3 mm)

Keypad The keypad consists of the following:

- A Power key to turn on and off the 475 or to put it in standby
- A Backlight key to adjust the intensity of the light on the screen
- Four navigation (arrow) keys to select, open, and back out of menu items
- An Enter key to open menu items from the Field Communicator Main Menu or Settings menu, and select any highlighted button
- A Tab key to move between buttons or fields on a window
- A Function key that enables alternate functionality indicated by the blue text near the keys
- Alphanumeric keys for entering data

USAGE SPECIFICATIONS

Temperature limits	+14°F to +122°F (-10°C to +50°C) 0% to 95%RH (non-condensing) for +32°F to +122°F (0°C to +50°C)
Storage with batteries	-4°F to 131°F (-20°C to +55°C) for less than 1 month
Storage without batteries	-4°F to +140°F (-20°C to +60°C)
Enclosure rating	IP51 (front)
Shock	Passes the 1-meter drop test onto concrete
General guidelines	<ul style="list-style-type: none"> • Only use new, original parts. • Do not recharge the battery in hazardous areas. • Have repairs done by only qualified personnel. • Charge or power using only the Field Communicator power supply/charger.

CONNECTION SPECIFICATIONS

HART and fieldbus communication terminals	Three 4mm banana plugs (one common terminal to both HART and FOUNDATION fieldbus.)
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Connection types

IrDA port

± 15 degrees recommended maximum angle between the 475 interface and adapter or PC.

18 in. recommended maximum distance between the 475 interface and adapter or PC.

Bluetooth interface

The Bluetooth Interface is a licensed option for the 475 Field Communicator. If your 475 is not licensed for Bluetooth, it does not have a Bluetooth radio. To use Bluetooth you need an approved adapter using the Windows Bluetooth software and drivers (stack) included with Windows XP Professional Service Pack 2 or 3, Windows Vista Business Service Pack 1, or Windows 7 Professional. The adapter should be plug-and-play if no other Bluetooth software or drivers were installed on your PC. The *Easy Upgrade* Utility cannot communicate with an adapter using third-party drivers. See www.fieldcommunicator.com or the readme file for more information.

30 feet (10 meters) recommended maximum distance between the 475 and a Bluetooth adapter attached to a PC.

Card reader

Only supported card readers can be used with the System Card. Unsupported card readers may corrupt files. See the readme file on your Resource CD or DVD or www.fieldcommunicator.com for the list of supported card readers.

The card reader can be used only with the Field Communicator *Easy Upgrade* Utility.

BATTERY SPECIFICATIONS**Battery type**

Two rechargeable Li-Ion cells, not serviceable

Connection

Green six-pin mini din (female) jack on the side of the battery

Charge

+50°F to +104°F (10°C to +40°C)

Guidelines for the Li-Ion battery (Power Module)

- Do not recharge the battery in hazardous areas. The power supply/charger is not IS-approved.
- Charge or power using only the Field Communicator power supply/charger.
- Recharge the battery frequently, preferably after each use. Limit full discharges, if possible.

Lights

Five lights (LEDs) on the side of the battery indicate the remaining level of battery charge. When you press and release the Charge Indicator button below these lights, the lights slowly illuminate. Each light indicates 20 percent of remaining charge, and the battery is fully charged when all of the lights are illuminated. See Figure 2-1 on page 2-12 for the location of the Charge Indicator button.

Operating time

10 or more hours when the backlight is to highest setting
 20 or more hours when the backlight is off
 80 or more hours when using standby

Storage

-4°F to +131°F (-20°C to +55°C) less than one month

Storage Guidelines for the Li-Ion Battery

- Use a location at room temperature or cooler. Prolonged storage at higher temperatures can permanently reduce the charge capacity and performance.
- Ensure the remaining charge is at or near mid-capacity. The charge will slowly drain during storage. Periodically recharge the battery during storage to ensure it does not drain to low levels.

POWER SUPPLY/CHARGER SPECIFICATIONS

Connection

Green six-pin mini din (male) plug

Lights

The power supply/charger has three colored lights that indicate the conditions below. Each light displays a different color.

Color	Condition
Green	The battery is fully charged.
Flashing green	The battery is nearly fully charged.
Yellow	The battery is charging.
Flashing yellow	The power supply/charger is not connected to the 475 Field Communicator.
Flashing yellow and red	The remaining charge in the battery is low.
Red	Charging cannot occur. Contact Technical Support for more information.

Voltage

100-240 VAC, 50/60Hz,
US/UK/EU connection types included

Technical data

Input voltage	100 - 240 VAC \pm 10%
Input current	750 mA max.
Standby current	20 mA max.
Input fuse type	TES 2A 250 V Timelag
Output voltage 1	0 - 8.3 V
Output current 1	1000 mA max.
Output voltage 2	0 - 9.0 V
Output current 2	1400 mA max.
Output power rating	20 W
Operating temperature	0°C - +40°C
Storage temperature	-20°C --+80°C
Measurements [L x B x H]	112 mm x 51.5 mm x 29.5 mm
Total Mass	240 g.
Altitude	Up to 2000m
Pollution Degree	2
Installation Category	2
IEC Protection Class	Double Insulation

ORDER INFORMATION

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

(1) Base Model 475 includes Field Communicator unit with color LCD display, System Card, Leadset with connectors, Carrying Case, Getting Started Guide, 475 Resource CD or DVD, stylus and straps.

(2) This option requires that the Easy Upgrade option (code U) is specified.

(3) To obtain an Australian 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 feature allows the user 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 Option 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 up to 1000 configurations and print them using the Easy Upgrade Utility.*
- (8) Bluetooth enables communication to a PC via the Bluetooth protocol. See list of countries with Bluetooth approval at www.fieldcommunicator.com.*
- (9) A fully charged Li-Ion Power Module is capable of delivering power for 40 hours of typical field use. If requirements exceed this specification, a spare Power Module (code A) should be specified.*