



HHC-1000 Handheld Communicator

User Manual
March 2018
(Firmware Version 1.22)

EL# 29033_Revision 032018

Copyright©2018, Electrolab, Incorporated. All rights reserved. This document may not be reproduced, copied (except for a single archive copy), used, disclosed, transferred (including sold, leased, or rented) adapted or modified except in accordance with the terms and conditions of the License Agreement between the user and Electrolab, Inc.

Electrolab, Inc. makes no representations of warranties with respect to the contents hereof and specifically disclaims any implied warranties of merchantability of fitness for any particular purpose. Electrolab, Inc. reserves the right to revise this publication and to make changes from time to time in its content without the obligation to notify any person or organization of such revision or changes.

Table of Contents

Table of Contents	iii
Description	1
Figure 1 - HHC-1000 Handheld communicator	1
Figure 2 - HHC-1000 – Pin Diagram	1
Commands	2
Main Menu:	2
F1 Set Points:	2
F1/F1 Communications:	3
F1/F2 Level:	3
F1/F3 Temperature:	4
F1/F4 Set Points 2:	4
F1/F4/F1 4_20mA:	4
F1/F4/F4 Set Points 3:	5
F2 Data Request Menu:	5
F2 Data Request 1:	5
F2/F4 Data Request 2:	6
F3 System Menu:	6
F3 System:	6
F4 Read Set Points Menu:	7
F4 Read Set Points 1:	7
F4/F4 Read Set Points 2:	7
F4/F4/F4 Read Set Points 3:	8
F4/F4/F4/F4 Read Set Points 4:	8
Special Commands	9
Hidden Keyboard symbols in Numeric Mode	9
HHC-1000 Specifications	9
ADDENDUM- HHC Cable Connectors & Adapters	10
Contact Information	11

Description

The HHC-1000 Handheld Communicator is used for field service and configuration of the Model 2100 Digital Level Sensor. Powered by four (4) “AA” batteries, the HHC-1000 Handheld Communicator generates 12V at 70mA power. This output of energy equips the HHC-1000 Handheld Communicator for sufficient communication with a single sensor or with another external, compatible device, making it an ideal choice for communication among multiple sensors. A picture of the HHC-1000 is shown in Figure 1. Pin Diagram and connections are shown in Figure 2.



Figure 1 - HHC-1000 Handheld Communicator

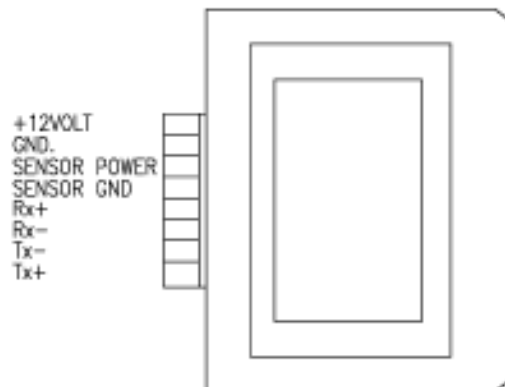


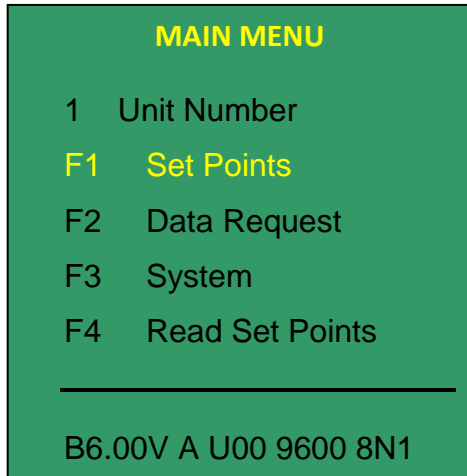
Figure 2 - HHC-1000 – Pin Diagram

Commands

After turning the Unit ON, the Main Menu will appear. The following commands may then be used to configure the level sensor.

(NOTE: The screens shown apply to Software Version 1.22)

Main Menu:

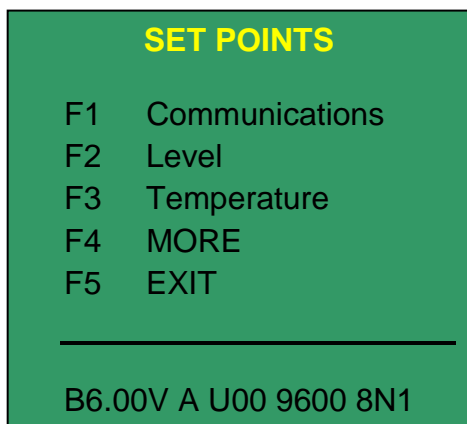


Press "1" to set the HHC-1000 to communicate to a specific Sensor Unit #

Press "F1" to enter "Set Points" Menu

*The last line on the screen is the Status Line. This line shows the Battery Voltage, Alpha Indicator, Current System Unit Number and Baud Rate.

F1 Set Points:



F1 = "Communications" Sub-Menu

F2 = "Level" Sub-Menu

F3 = "Temperature" Sub-Menu

F4 = "More" - to enter "Set Points 2" menu

F5 = Return to previous screen

F1/F1 Communications:

COMMUNICATIONS

F1 Search for Sensor
 F2 Baud Rate
 F3 Rx to Tx Delay (mS)
 F4 Assign Unit Number
 F5 EXIT

B6.00V A U00 9600 8N1

- F1 = Search for Sensor
- F2 = Set Sensor Baud Rate
- F3 = Set Rx to Tx Delay
- F4 = Assign Unit Number
- F5 = Return to previous Screen

F1/F2 Level:

LEVEL

F1 Number of Floats
 F2 Level Offset
 F3
 F4
 F5 EXIT

B6.00V A U00 9600 8N1

- F1 = Set Number of Floats
- F2 = Set the Level Offset
- F3 = (Not Used)
- F4 = (Not Used)
- F5 = Return to previous Screen

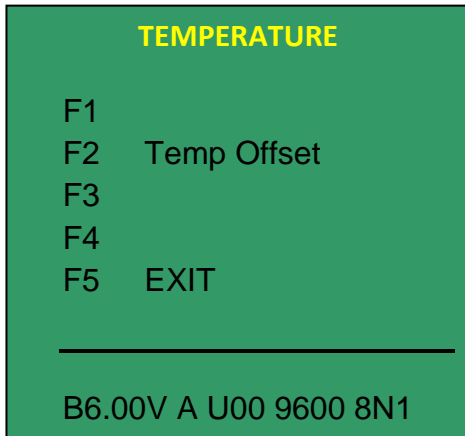
F1/F2/F1 Number of Floats:

Number of Floats

1-> 1 Float
 2-> 2 Float
 3-> 1 Float 1/8 Res.
 4-> 2 Flt T 1/8 B 1/4
 F5 EXIT

B6.00V A U00 9600 8N1

- 1 = 1 Float
- 2 = 2 Float
- 3 = 1 Float 1/8 Res.
- 4 = 2 Flt T 1/8 B 1/4
- F5 = Return to previous Screen

F1/F3 Temperature:

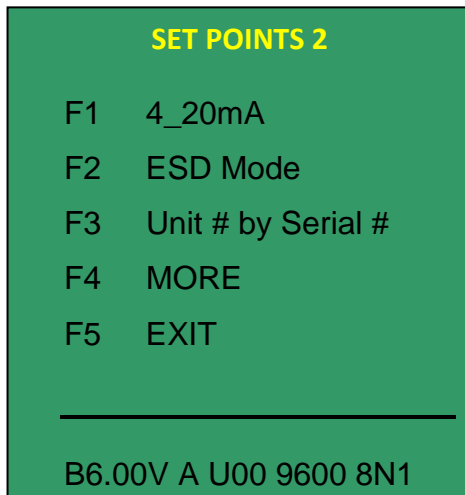
F1 = (Not Used)

F2 = Set Temperature Offset

F3 = (Not Used)

F4 = (Not Used)

F5 = Return to previous Screen

F1/F4 Set Points 2:

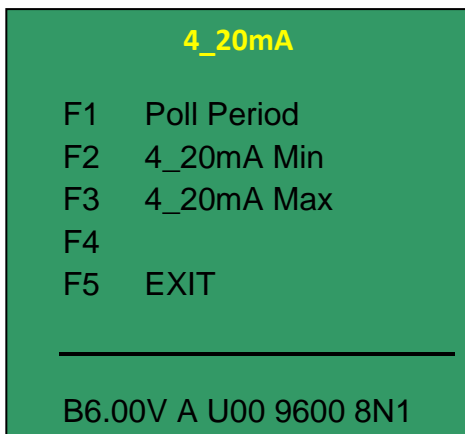
F1 = Configure 4_20ma parameters

F2 = Configure Sensor to report maximum level for
1 – 3 polls.

F3 = Assign Unit Number using Sensor Serial
Number.

F4 = More Options

F5 = Return to previous Screen

F1/F4/F1 4_20mA:

F1= Set Polling Period for 4_20mA board

F2 = Set Minimum Level for 4_20mA

F3 = Set Maximum Level for 4_20mA

F4 = (Not Used)

F5 = Return to previous Screen

F1/F4/F4 Set Points 3:

SET POINTS 3

F1 B Rate Sensor Only
 F2 Modbus Mode
 F3 Set Error Mode
 F4 Enable HIHI Switch
 F5 EXIT

B6.00V A U00 9600 8N1

F1 = Sets Sensor Baud Rate and Parity using "***" Sensor Number without changing HHC-1000 Settings.

F2 = Configure Modbus Mode

F3 = Set Error Output Level report configuration, 0 for 999.99" and 1 for 000.00"

F4 = Enable HIHI Switch

F5 = Return to previous Screen

F2 Data Request Menu:

MAIN MENU

1 Unit Number
 F1 Set Points
F2 Data Request
 F3 System
 F4 Read Set Points

B6.00V A U00 9600 8N1

Press "F2" to enter "Data Request" menu

F2 Data Request 1:

DATA REQUEST 1

F1 Level & Temp
 F2 Level & Temp Cont.
 F3 4_20ma Output
 F4 MORE
 F5 EXIT

B6.00V A U00 9600 8N1

F1 = Display Level and Temperature

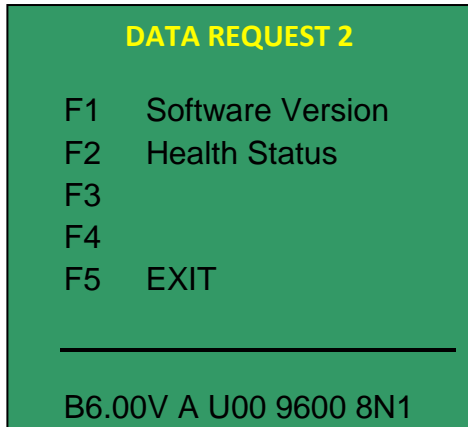
F2 = Continuous Display of Level and Temperature

F3 = 4_20mA Engineering Value (HEX)

F4 = More Options

F5 = Return to Previous Screen

F2/F4 Data Request 2:



F1 = Display Sensor Software Version

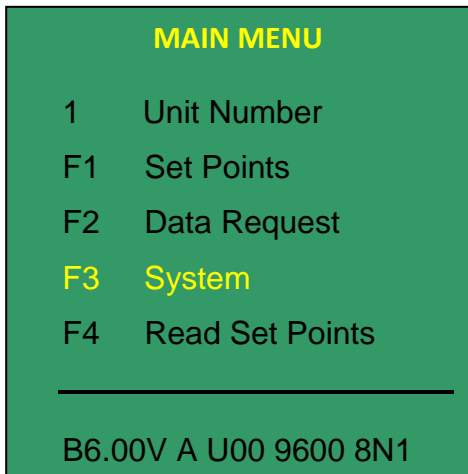
F2 = Display Sensor Health Status

F3 = (Not Used)

F4 = (Not Used)

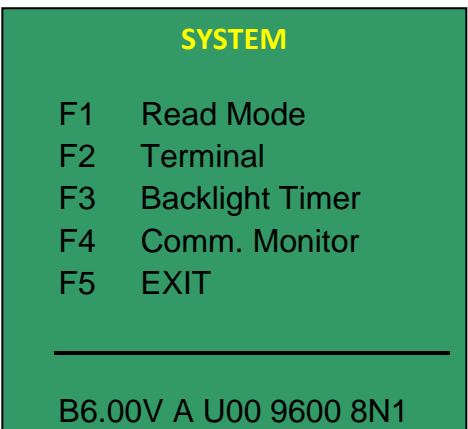
F5 = Return to previous Screen

F3 System Menu:



Press "F3" to enter "System" menu

F3 System:



F1 = Read Mode (0 = Smart, 1 = Raw)

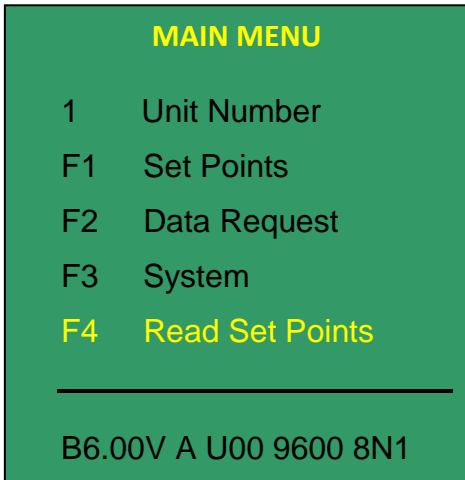
F2 = Terminal for Custom Commands

F3 = Set Display Backlight Timer (max 90 sec)

F4 = Communication Monitor

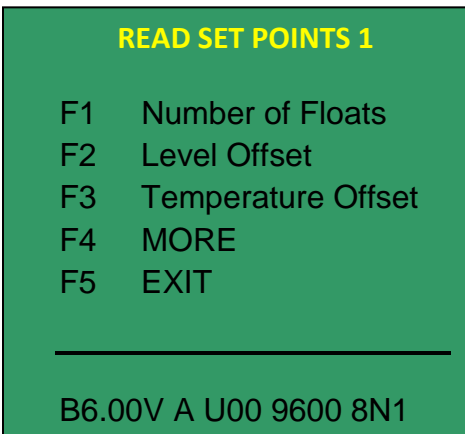
F5 = Return to previous Screen

F4 Read Set Points Menu:



Press "F4" to enter "Read Set Points" menu

F4 Read Set Points 1:



F1 = Read Number of Floats

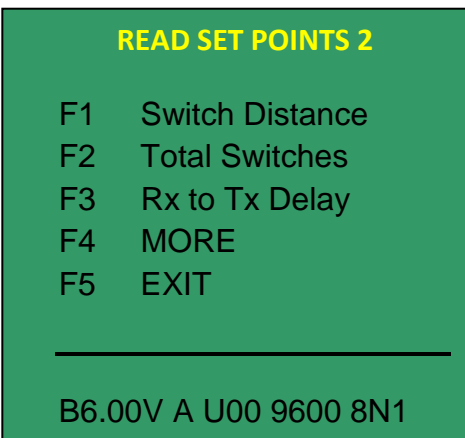
F2 = Read Level Offsets

F3 = Read Temperature Offsets

F4 = More Options

F5 = Return to previous Screen

F4/F4 Read Set Points 2:



F1 = Read Switch Distance

F2 = Read Total Switches

F3 = Read Rx to Tx Delay

F4 = More Options

F5 = Return to previous Screen

F4/F4/F4 Read Set Points 3:

READ SET POINT 3

F1 4_20mA
Configuration
F2 Serial Number
F3 Modbus Mode
F4 MORE
F5 EXIT

B6.00V A U00 9600 8N1

- F1 = Display 4_20mA Configuration
- F2 = Display Sensor Serial Number
- F3 = Display Sensor Modbus Mode Configuration
- F4 = More Options
- F5 = Return to previous Screen

F4/F4/F4/F4 Read Set Points 4:

READ SET POINTS 4

F1 U # from Serial #
F2 Error Mode
F3 HIHI Trigger Level
F4
F5 EXIT

B6.00V A U00 9600 8N1

- F1 = Read Unit Number using Serial Number
- F2 = Read Error Reporting Mode Configuration
- F3 = HIHI Trigger Level
- F4 = (Not Used)
- F5 = Return to previous Screen

Special Commands

- Increase Contrast- Press and hold "ENTER" and tap "+" key.
- Decrease Contrast- Press and hold "ENTER" and tap "-" key.
- Turn backlight ON- Press "ENTER" and "UP ARROW"
- Turn backlight OFF- Press "Enter" AND "DOWN ARROW"

Hidden Keyboard symbols in Numeric Mode

- X= '?'
- U= '*'

HHC-1000 Specifications

Communication	4 or 2 wire RS485 Interface
Power	4 "AA" type batteries or external 12VDC
Display	LCD (128 x 64) with backlight and front panel contrast adjustment
Other	Auto "POWER-OFF" after 3 minutes (10 sec. Warning)

ADDENDUM- HHC Cable Connectors & Adapters

Available cable connectors:

STANDARD HANDHELD CABLE

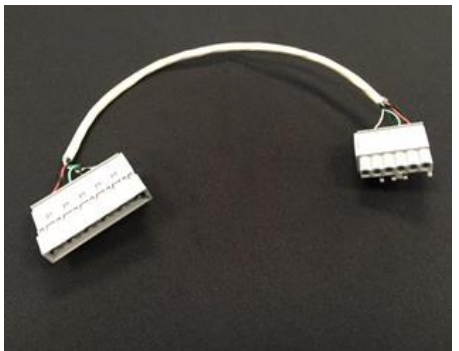


(Standard HHC Cable)

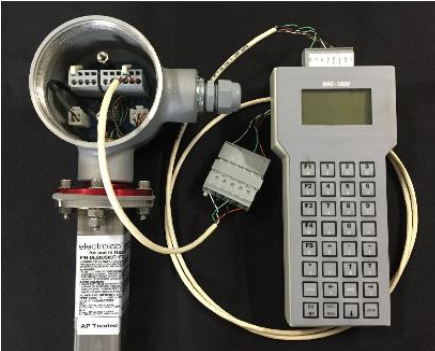


(HHC-1000 > Standard HHC Cable > Standard Sensor)

HLS ADAPTER

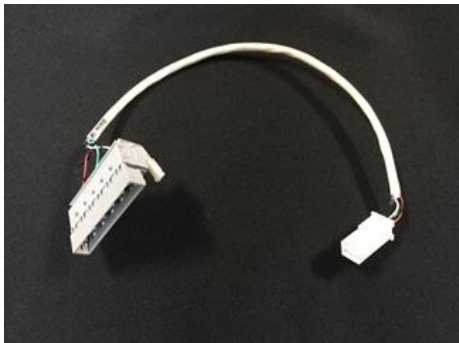


(HLS Adapter)



(HHC-1000 > HLS Adapter > HLS Sensor)

EXPLOSION PROOF ADAPTER



(Explosion Proof [EX] Adapter)



(HHC-1000 > EX Adapter > EX Sensor)

Contact Information

For further information or for assistance, please contact:

Electrolab, Inc.
159 Enterprise Parkway
Boerne, Texas 78006
Phone: (210) 824-5364
TF: (888) 301-2400
Email: InsideSales@electrolabcontrols.com
www.electrolabcontrols.com

