electrolab®

HHC-1000 Handheld Communicator

User Manual
October 2019
(Firmware Version 1.22)

EL# 29033_Revision 102019

Table of Contents

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
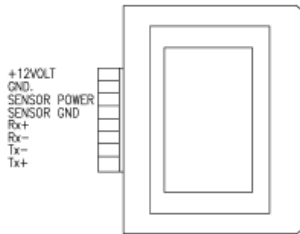
Figure 2 - HHC-1000 – Pin Diagram

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:

```
        MAIN MENU

  1   Unit Number

  F1   Set Points

  F2   Data Request

  F3   System

  F4   Read Set Points
  _____

  B6.00V A U00 9600 8N1
```
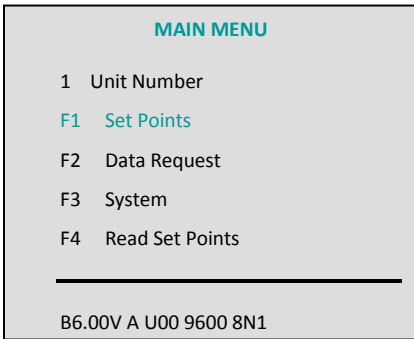
Press "1" to set the HHC-1000 to communicate to a specific Sensor Unit #
(Setting address to 32 will set the HHC-1000 to a Wildcard address)
Press "F1" to enter "Set Points" Menu

*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:

```
      SET POINTS

  F1   Communications
  F2   Level
  F3   Temperature
  F4   MORE
  F5   EXIT
  _____

  B6.00V A U00 9600 8N1
```
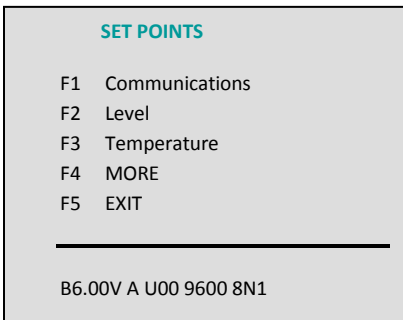
F1 = "Communications" Sub-Menu

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:

```
        TEMPERATURE

    F1
    F2    Temp Offset
    F3
    F4
    F5    EXIT
    _____

    B6.00V A U00 9600 8N1
```

F1 = (Not Used)

F2 = Set Temperature Offset

F3 = (Not Used)

F4 = (Not Used)

F5 = Return to previous Screen

:

F1/F4 Set Points 2

```
        SET POINTS 2

    F1    4_20mA

    F2    ESD Mode

    F3    Unit # by Serial #

    F4    MORE

    F5    EXIT
    _____

    B6.00V A U00 9600 8N1
```

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= Set for 4-20mA

```
        4_20mA

    F1    Poll Period
    F2    4_20mA Min
    F3    4_20mA Max
    F4
    F5    EXIT
    _____

    B6.00V A U00 9600 8N1
```

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:

```
         DATA REQUEST 2

   F1    Software Version
   F2    Health Status
   F3
   F4
   F5    EXIT
   ────────────────────────

   B6.00V A U00 9600 8N1
```

F1 = Display Sensors Software Version

F2 = Display Sensor Health Status

F3 = (Not Used)

F4 = (Not Used)

F5 = Return to previous Screen

F3 System 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 "F3" to enter "System" menu

F3 System:

```
             SYSTEM

   F1    Read Mode
   F2    Terminal
   F3    Backlight Timer
   F4    Comm. Monitor
   F5    EXIT
   ────────────────────────

   B6.00V A U00 9600 8N1
```
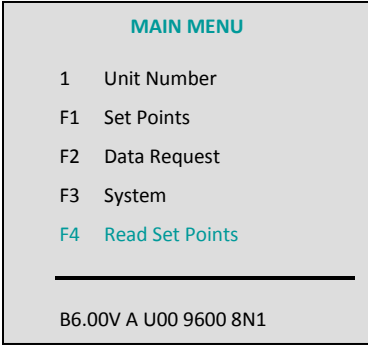
F1 = Read Mode (0 = Smart, 1 = Raw)

F2 = Terminal for Custom Commands

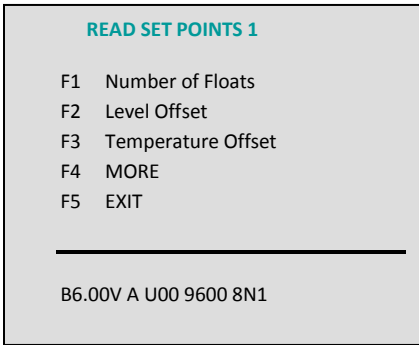F3 = Set Display Backlight Timer
(max 90 sec)

F4 = Communication Monitor

F5 = Return to previous Screen
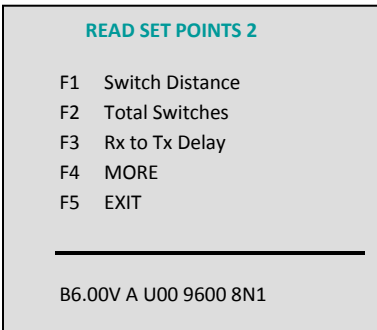
F4 Read Set Points Menu

MAIN MENU

1   Unit Number

F1   Set Points

F2   Data Request

F3   System

F4   Read Set Points

B6.00V A U00 9600 8N1

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

4 Read Set Points 1:

READ SET POINTS 1

F1   Number of Floats
F2   Level Offset
F3   Temperature Offset
F4   MORE
F5   EXIT

B6.00V A U00 9600 8N1

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:

READ SET POINTS 2

F1   Switch Distance
F2   Total Switches
F3   Rx to Tx Delay
F4   MORE
F5   EXIT

B6.00V A U00 9600 8N1

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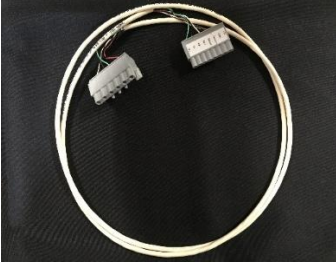
- X= '?'
- U= '*'

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:
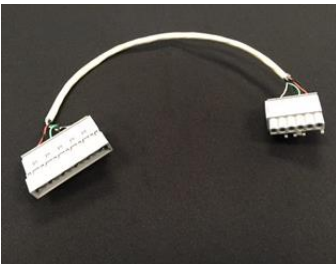
STANDARD HANDHELD CABLE
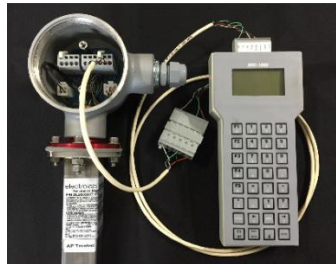

(Standard HHC Cable)

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

HLS ADAPTER
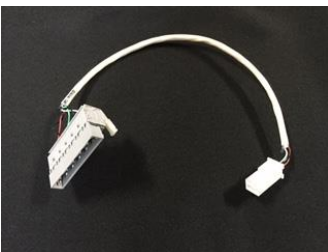

(HLS Adapter)

(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:

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October 2019