



APPENDIX B

PROGRAMMING WITH THE HST-H
WITH A HART 275 COMMUNICATOR

This Appendix contains information which is required to alter the functional operation of the HST-H HART smart transmitter.

The HST-H has two modes of operation. Only certain functions can be programmed from each. Therefore, a good understanding of each mode is essential in order to achieve the desired operation from the HST-H transmitter.

When first turned on, the HST-H will be active in the "Generic" mode. One of several displays will appear depending upon the state of the system.

If the HST-H is connected to the HART Communicator as shown in Fig. B1 and is operating properly then the display will appear as indicated in para. B1.1.1.

If the HART Communicator is turned on and the HST-H is not powered, the display will appear as indicated in para. B1.1.2. and will require the operator to press OK then 2, when the HST-H is connected properly. The menu in paragraph B1.1.1 should appear.

NOTE

If the HART Communicator should become disconnected from the system (as indicated by the prompt "Device Disconnected") the operator should do the following when the system is re-connected.

Press RETRY
Press NEXT
Press YES

The menu in paragraph B1.1.1 should appear.

Table B1.1 indicates the most common parameters which are likely to need to be altered in the HST-H. The instructions assume the HST-H is operating in the "Generic mode" and the menu in paragraph B1.1.1 is displayed. If other parameter modifications are required consult the factory for additional information.

B1.1.1 Normal startup

Generic: @@@@ @@@@

Online(Generic)

- 1 Device setup
- 2 PV 78.312 degF
- 3 PV AO 10.266 mA
- 4 PV LRV 0.000 degF
- 5 URV 200.000 degF

B1.1.2 HST-H off startup

HART Communicator

Online

Looking for a device

(after approx. 20 sec) the display will change to

No Device Found.

Press OK...

HART Communicator

1 Offline

2 Online

3 Frequency Device

4 Utility

Press 2.

TABLE B1.1

| Parameter | Paragraph |
|---|-----------|
| Process Variable, Low Range Value (PV LRV) | B1.1.3 |
| Process Variable, Upper Range Value (URV) | B1.1.4 |
| Tag | B1.1.5 |
| Process Variable, Sensor Units (PV Snsr unit) | B1.1.6 |
| Change the Snsr Damping (Snsr Damp) | B1.1.7 |
| Output Loop Test (Loop Test) | B1.1.8 |
| D/A trim | B1.1.9 |
| Change the Sensor Type | B1.1.11 |

B1.1.3 Change the Process Variable, Low Range Value (PV LRV)

from the menu in B1.1.1:

press 4 (PV LRV)

press 1 (PV LRV)

enter digits to set the Low Range Value

B1.1.3.1 Sending changes to the HST-H transmitter

press F4 (ENTER)

press F2 (SEND*)

press F4 (OK) or F3 (ABORT)

press F4 (OK)

press F3 (HOME)

B1.1.4 Change the Process Variable, Upper Range Value (URV)

from the menu in B1.1.1:

- press 5 (URV)
- press 2 (URV)
- enter digits to set the Upper Range Value
- follow instructions in para. B1.1.3.1

B1.1.5 Change the Tag Number (Tag)

from the menu in B1.1.1:

- press 1 (Device Setup)
- press 3 (Basic Setup)
- press 1 (Tag)
- enter digits to set the Tag Number
- follow instructions in para. B1.1.3.1

B1.1.6 Change the Process Variable, Upper Range Value (URV)

from the menu in B1.1.1:

- press 1 (Device Setup)
- press 3 (Basic Setup)
- press 2 (PV Unit)
- move up or down arrows to high light the desired units
- follow instructions in para. B1.1.3.1

B1.1.7 Change the Sensor Damping (Snsr Damp)

from the menu in B1.1.1:

- press 1 (Device Setup)
- press 4 (Detail Setup)
- press 2 (Signal condition)
- press 1 (Snsr Damp)
- enter the damping value.
- follow instructions in para. B1.1.3.1

B1.1.8 Output Loop Test (Loop test)

from the menu in B1.1.1:

- press 1 (Device Setup)
- press 4 (Detail Setup)
- press 3 (Output condition)
- press 1 (Analog output)
- press 3 (Test Loop)
- press F4 (OK)
- enter Output level
- press F4 (End)
- press F3 (HOME)

B1.1.9 D/A trim

from the menu in B1.1.1:

- press 1 (Device Setup)
- press 4 (Detail Setup)
- press 3 (Output condition)
- press 1 (Analog output)
- press 4 (D/A trim)
- press F4 (OK)
- connect reference meter
- press F4 (OK)
- press F4 (OK)
- enter output level
- press 1 (Yes)
- press F4 (OK)
- enter output level
- press 1 (Yes)
- press F4 (OK)
- press F3 (HOME)
- follow instructions in para. B1.1.3.1

B1.1.10 Entering the 3044C Emulation Mode

from the menu in B1.1.1:

- press 1 (Device Setup)
- press 4 (Detail Setup)
- press 4 (Device information)
- press 8 (Message)
- press . three times (...SET EMULATION OF)
- press F4 (ENTER)
- press F2 (SEND)
- press F4 (OK)

the system should respond with
L7: UNDEFINED RESPONSE CODE VALUE

NOTE: If the communicator has a different response then turn both the Communicator and the HST-H off then back on and start over.

- press F4 (OK)
- press F4 (OK)
- press F3 (HOME)
- turn the Communicator off
- turn the Communicator on

After the self test is complete, the top line of the display should read as follows:

3044C Tem:(Tag Number)

B1.1.11 Change the Sensor Type

Place HST-H in 3044C emulation mode using the instructions in paragraph B1.1.10.

- press 1 (Device Setup)
- press 3 (Basic Setup)
- press 4 (Connections)
- press F4 (OK)
- select sensor type (see Table B2) using the up/down keys.
- press F4 (ENTER)
- select the connections (see Table B3) using the up/down keys.
- press F4 (ENTER)
- select the meter option (see Table Be) using the up/down keys.

- ___press F4 (OK)
- press 2 (PV Unit)
- select Unit (deg F)
- press F4 (ENTER)
- press F4 (OK)
- press F3 (HOME)
- ___press F2 (SEND)
- press F4 (OK)
- press F4 (OK)
- ___turn the communicator off
- ___turn the HST-H off
- ___turn the HST-H on
- turn the communicator on, the HST-H will be in the Generic mode and the new parameters should be in effect.

TABLE B2

Ohms
PT100 a=385
PT100, a=392
PT200, a=385
PT500, a=385
Ni120
Diff ohms
Diff PT100, a=385
Diff PT100, a=392
Diff PT200, a=385
Diff PT500, a=385
Diff Ni120
Millivolts
T/C typ B
T/C typ E
T/C typ J
T/C typ K
T/C typ N
T/C typ R
T/C typ S
T/C typ T
T/C typ DIN L
T/C typ K
T/C typ S
T/C typ DIN U
Non std

TABLE B3

2 Wire
3 Wire
4 Wire

TABLE B4

Meter Option
Eng unit
% rng
Alt % rng | Eng unit
Milliamp
None
Unknown

Simple loop showing the HST-H with HART 275 Communicator.

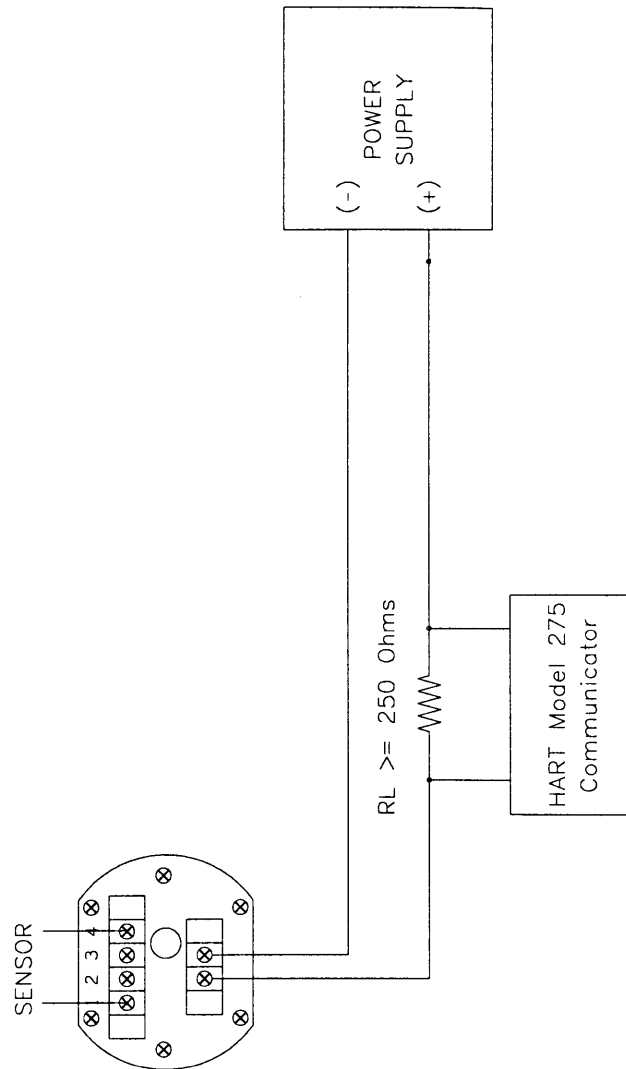


Figure B1

END OF DOCUMENT