

# Special Documentation

## Tagging for E+H LP products

Liquiphant FTL51B, FTL62, FTL64 (HART)  
Gammapilot FMG50  
Cerabar PMP51B, PMP71B, PMC51B, PMC71B  
Deltabar PMD55B, PMD75B, PMD78B  
Micropilot FMR60B, FMR62B, FMR63B, FMR66B,  
FMR67B



These Instructions are Brief Operating Instructions; they are not a substitute for the Operating Instructions pertaining to the device.

Detailed information about the device can be found in the Operating Instructions and the other documentation:

Available for all device versions via:

- Internet: [www.endress.com/deviceviewer](http://www.endress.com/deviceviewer)
- Smart phone/tablet: *Endress+Hauser Operations App*

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# 1 Manufacturer

Endress+Hauser SE+Co. KG

Hauptstraße 1

79689 Maulburg, Germany

Place of manufacture: See nameplate.

# 2 About this document

These instructions describe how the "Device Tag" is automatically created from the Marking info and how the tag name is visualized in the display of HART 7 devices.

This is shown using the following tagging example:

Feature 895 "Marking", option: Z1 "Tagging (TAG)"

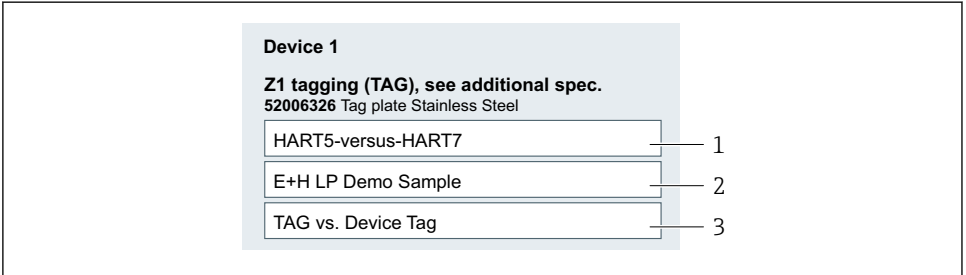
In addition, the conversion of the Marking info into a HART Tag is described, and the special aspects of the tagging for devices with Profibus PA and Profinet are explained as well.

### 3 Example 3

This example applies in the case of communication with a HART 5 control system



This does not take into account that only characters from the "Compressed ASCII table" may be used for the HART short tag. As a result, the name "HART5-versus-HART7" is automatically converted to the HART5-VE "HART short tag" when queried via the bus.

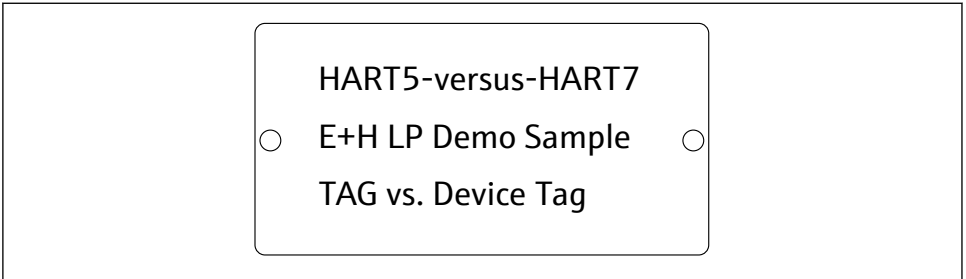


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1 Input screen in the Product Configurator

- 1 18 characters used
- 2 18 characters used
- 3 18 characters used

#### TAG:

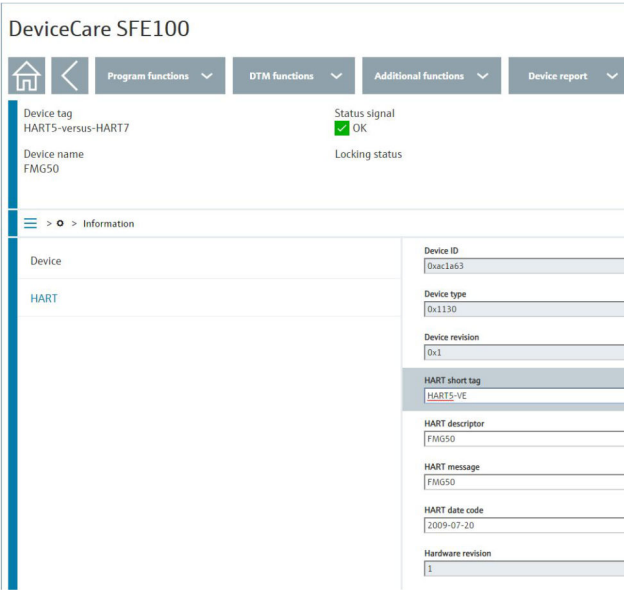


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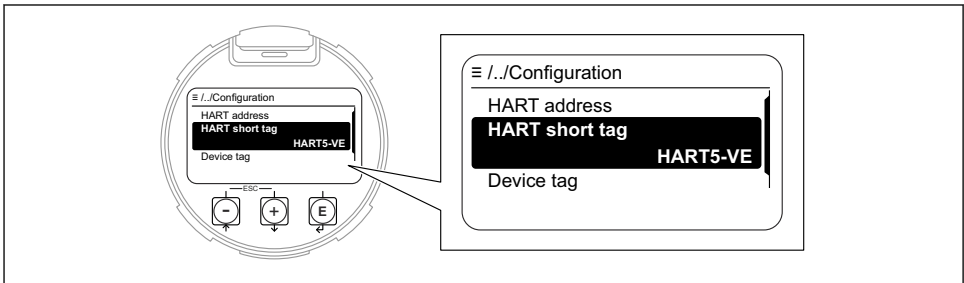
2 Tag plate [TAG]

- 1 18 characters displayed
- 2 18 characters displayed
- 3 18 characters displayed

#### Device Tag:

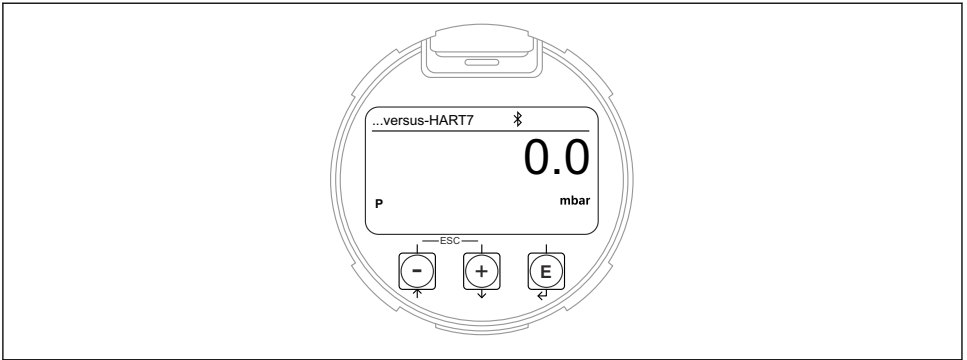


3 Device Tag and HART short tag displayed in DeviceCare



A0052201

4 HART short tag in the operating menu of the display with product feature "Display; Operation", Option E "Graphic display with keys", Option F "Graphic display with keys + Bluetooth"



A0052412

- 5 Device Tag shown on the display with product feature "Display; Operation", Option E "Graphic display with keys", Option F "Graphic display with keys + Bluetooth"

The length of the Device Tag shown on the display is 12 characters maximum. Only the last 12 characters are shown on the display.

Therefore "HART5-versus-HART7" is shown as "...versus-HART7" on the display.

## 4 Examples

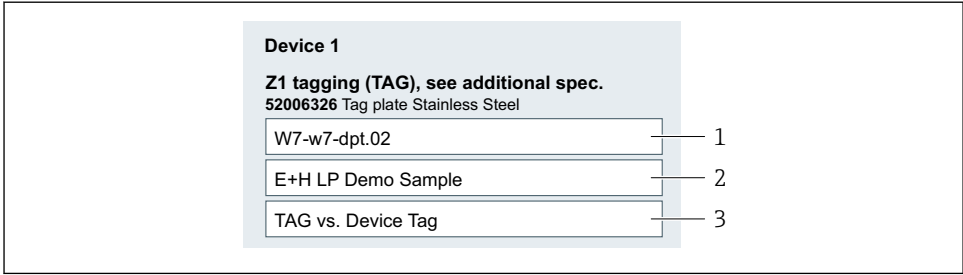
The examples illustrate how incorrect entries for the Marking affect the TAG, Device Tag and HART short tag.

All of the examples apply to the following configuration: **Code 895 "Marking", option: Z1 "Tagging (TAG)"**

The physically attached tag plate [TAG] uses all three input lines from the Endress+Hauser Product Configurator. All characters are printed identically in size and shape in three lines and lasered on, or programmed into an RFID TAG attached to the device.

### 4.1 Example 1

**i** The following is an example of where the TAG, Device Tag and the way they are shown on the display are not restricted in any way.

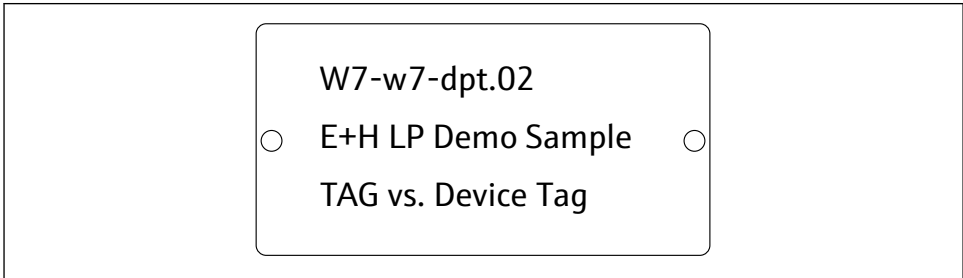


A0052210

**6** Input screen in the Product Configurator

- 1 12 characters used
- 2 18 characters used
- 3 18 characters used

#### TAG:



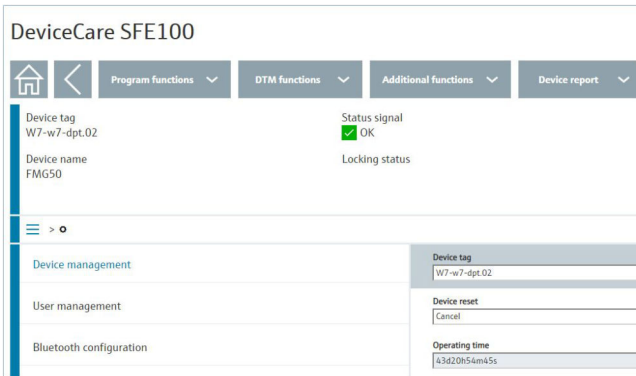
A0052196

**7** Tag plate [TAG]

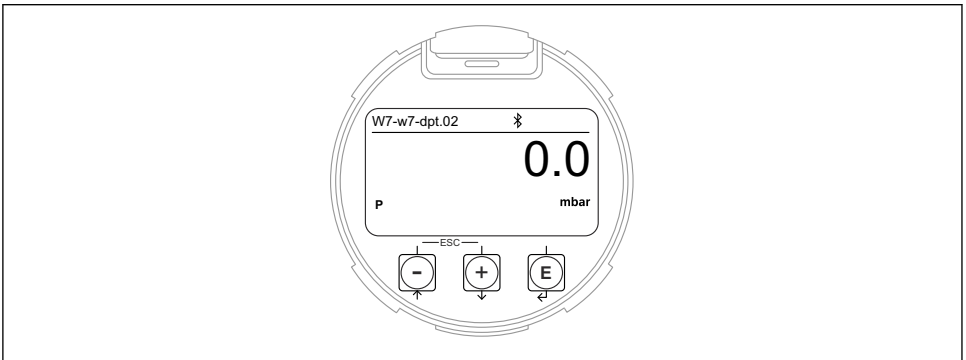


**Device Tag:**

Result: Device Tag = "W7-w7-dpt.02"



8 Device Tag displayed in DeviceCare



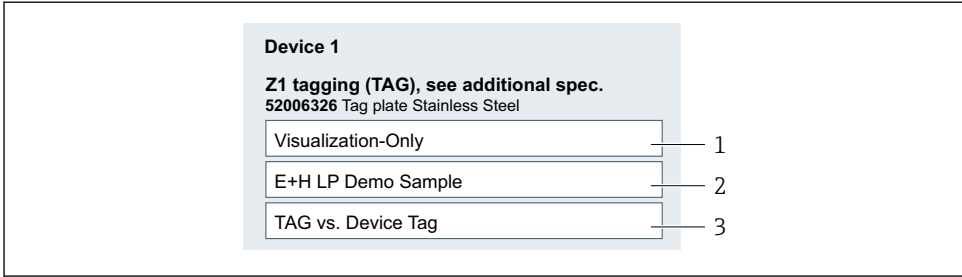
A0052199

9 Device Tag shown on the display with product feature "Display; Operation", Option E "Graphic display with keys", Option F "Graphic display with keys + Bluetooth"

## 4.2 Example 2



In the following example, the Device Tag information > 12 characters will affect the way it is shown on the display.

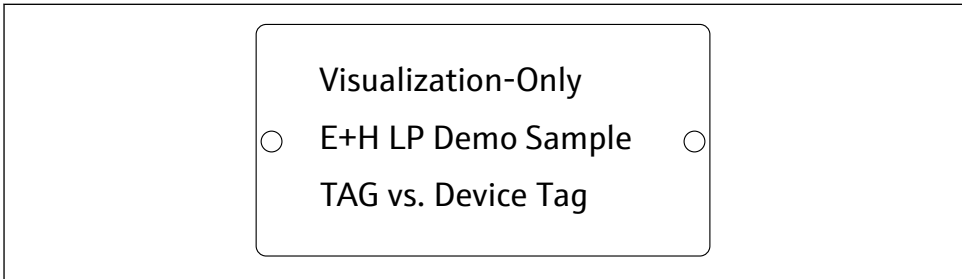


A0052211

10 Input screen in the Product Configurator

- 1 18 characters used
- 2 18 characters used
- 3 18 characters used

**TAG:**

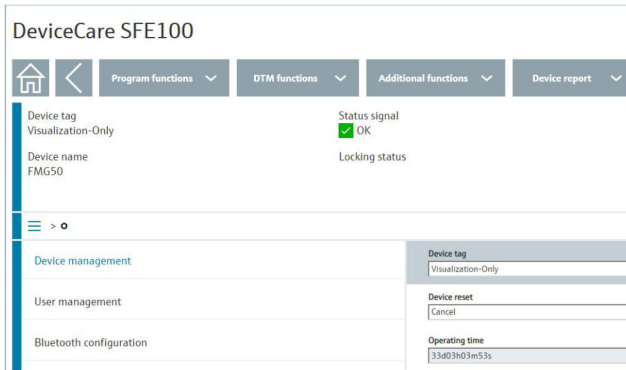


A0052197

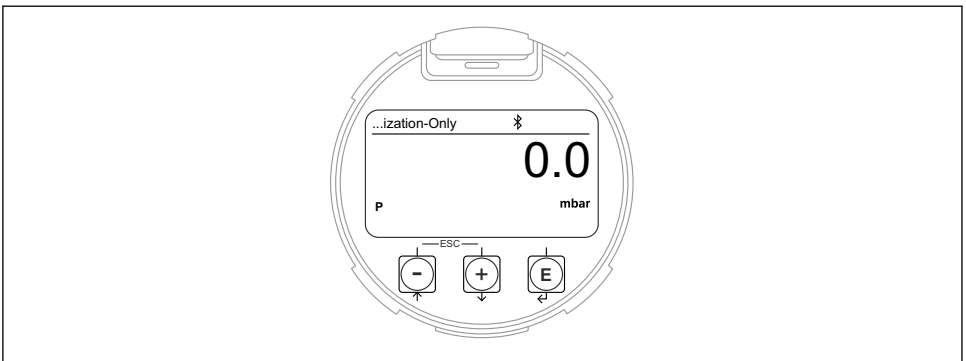
11 Tag plate [TAG]

- 1 18 characters displayed
- 2 18 characters displayed
- 3 18 characters displayed

### Device Tag:



12 Device Tag displayed in DeviceCare



A0052200


13 Device Tag shown on the display with product feature "Display; Operation", Option E "Graphic display with keys", Option F "Graphic display with keys + Bluetooth"

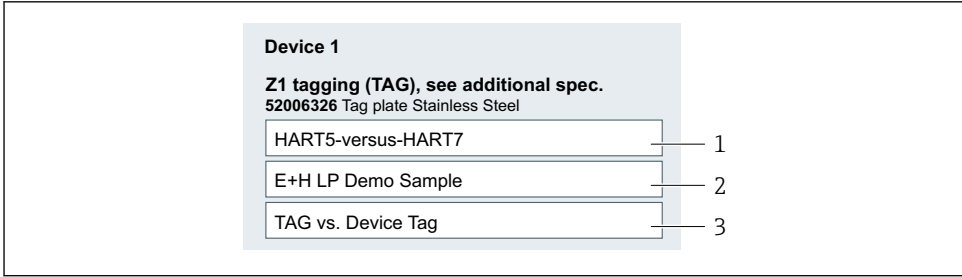
The length of the Device Tag shown on the display is 12 characters maximum. Only the last 12 characters are shown on the display.

"Visualization-Only" is therefore shown as "...ization-Only" on the display.


### 4.3 Example 3

This example applies in the case of communication with a HART 5 control system

 This does not take into account that only characters from the "Compressed ASCII table" may be used for the HART short tag. As a result, the name "HART5-versus-HART7" is automatically converted to the HART5-VE "HART short tag" when queried via the bus.

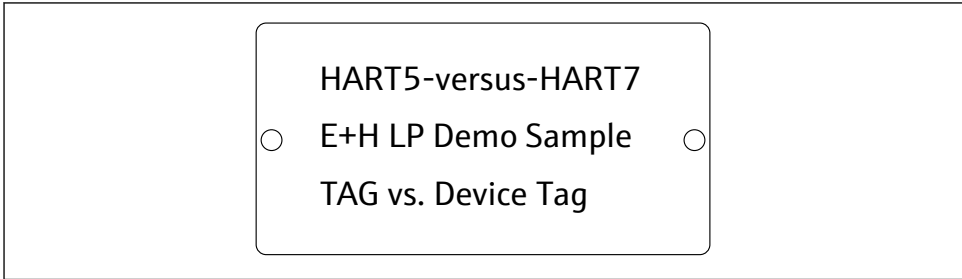


A0052212


 14 Input screen in the Product Configurator

- 1 18 characters used
- 2 18 characters used
- 3 18 characters used

**TAG:**

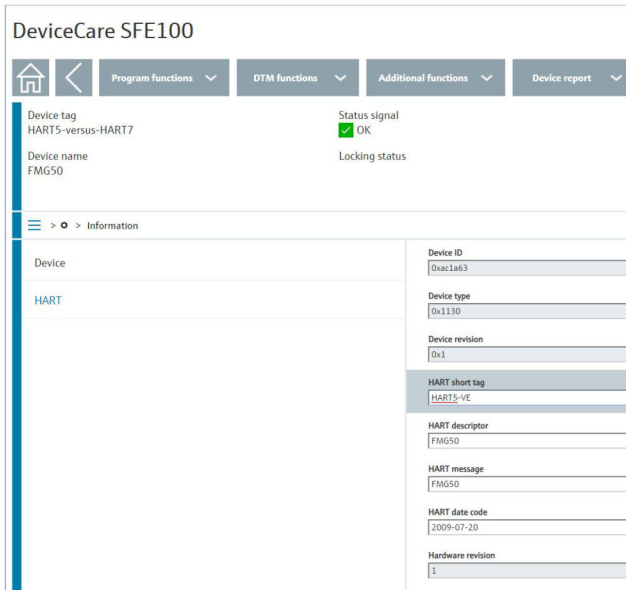


A0052198

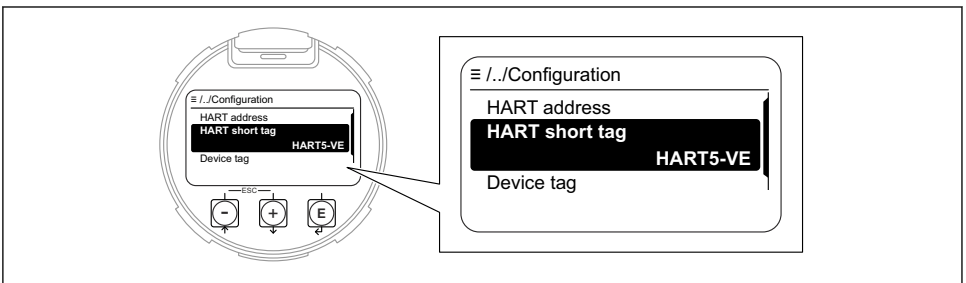
 15 Tag plate [TAG]

- 1 18 characters displayed
- 2 18 characters displayed
- 3 18 characters displayed

**Device Tag:**

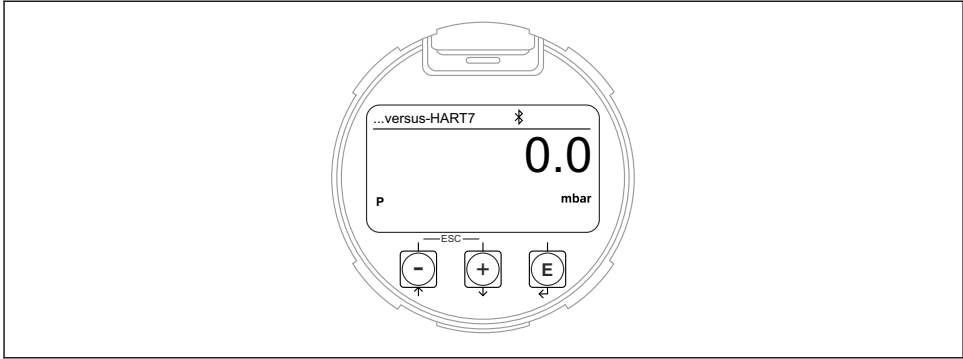


16 Device Tag and HART short tag displayed in DeviceCare



A0052201

17 HART short tag in the operating menu of the display with product feature "Display; Operation", Option E "Graphic display with keys", Option F "Graphic display with keys + Bluetooth"



A0052412

18 Device Tag shown on the display

The length of the Device Tag shown on the display is 12 characters maximum. Only the last 12 characters are shown on the display.

Therefore "HART5-versus-HART7" is shown as "...versus-HART7" on the display.

## 5 Tagging definitions

### 5.1 TAG

**Device 1**

**Z1 tagging (TAG), see additional spec.**  
**52006326** Tag plate Stainless Steel

|                    |   |
|--------------------|---|
| DeviceTagInfoHere  | 1 |
| E+H LP Demo Sample | 2 |
| TAG vs. Device Tag | 3 |

- 3 lines
- Every line is up to 18 characters long
- ISO Latin 1 character table

Please contact Endress+Hauser Service for other character tables (e.g. traditional Chinese). Arabic and Thai character tables are not currently supported.

## 5.2 Device Tag



Not all ordering options are available for every device.

The Device Tag can be visualized in DeviceCare/FieldCare via the service interface (CDI) or the optional SmartBlue app (only with Bluetooth display).

### 5.2.1 Product feature 020, "Output"

#### Option AA "2-wire, 4-20 mA"

- One line, up to 18 characters long
- ISO Latin 1 character table, see the section on permitted characters.
- Generated from the first input line of the TAG

#### Option BA "2-wire, 4-20 mA HART"

#### Option BB "2-wire, 4-20 mA HART, switch output"

#### Option BC "2-wire, 4-20 mA HART + 4-20 mA analog"

- **The HART long tag corresponding to the HART specification**
  - One line, up to 18 characters long
  - ISO Latin 1 character table, see the section on permitted characters.
  - Generated from the first input line of the TAG
- **HART short tag corresponding to the HART specification**
  - One line, up to 8 characters long
  - "Compressed ASCII table" character table, see the section on HART control system.
    - Lower case letters are converted to upper case letters
    - Characters that cannot be displayed are converted to "?"
  - Generated from the first 8 characters of the first input line of the TAG

#### "Output", option DA "2-wire, PROFIBUS PA"

#### "Output", option DA "2-wire, PROFIBUS PA, 10 Mbit/s (APL)"

The Device Tag is part of the electronic nameplate (ENP). It is used as TAG\_DESC in accordance with the PA profile and can be searched via the fieldbus.

- One line, up to 18 characters long
- ISO Latin 1 character table, see the section on permitted characters.
- Generated from the first input line of the TAG

### 5.2.2 Product feature 030, "Display; Operation"


#### Option E "Graphic display with keys"

#### Option F "Graphic display with keys + Bluetooth"

The Device Tag is shown on the display.

- Up to 12 characters displayed, see the section with examples.
- ISO Latin 1 character table, see the section on permitted characters.
- Generated from the first input line of the TAG
  - The (last) 12 characters of the first input line are displayed.

## 5.3 Allowed characters

 A plausibility check for "allowed" ASCII characters does not take place during input. Characters that are not allowed are replaced by a "?" or a "space".


Only characters from the following ASCII/ISO 8859-1 (Latin 1) table are considered "allowed" characters and should be selected for entries. The ASCII table shown also contains what are known as "non-visible characters". "Non-visible characters" such as "white space", "space" or "tab" are allowed and retained within the text, but eliminated outside the text. It is therefore recommended not to use "non-visible characters".



|     |                             |       |   |     |
|-----|-----------------------------|-------|---|-----|
| NUL | (Null)                      | SPACE | @ | `   |
| SOH | (Start of Heading)          | !     | A | a   |
| STX | (Start of Text)             | "     | B | b   |
| ETX | (End of Text)               | #     | C | c   |
| EOT | (End of Transmission)       | \$    | D | d   |
| ENQ | (Enquiry)                   | %     | E | e   |
| ACK | (Acknowledge)               | &     | F | f   |
| BEL | (Bell)                      | '     | G | g   |
| BS  | (Backspace)                 | (     | H | h   |
| TAB | (Horizontal Tab)            | )     | I | i   |
| LF  | (NL Line Feed, New Line)    | *     | J | j   |
| VT  | (Vertical Tab)              | +     | K | k   |
| FF  | (NP Form Feed, New Page)    | ,     | L | l   |
| CR  | (Carriage Return)           | -     | M | m   |
| SO  | (Shift Out)                 | .     | N | n   |
| SI  | (Shift In)                  | /     | O | o   |
| DLE | (Data Link Escape)          | 0     | P | p   |
| Dc1 | (Device Control 1)          | 1     | Q | q   |
| Dc2 | (Device Control 2)          | 2     | R | r   |
| Dc3 | (Device Control 3)          | 3     | S | s   |
| Dc4 | (Device Control 4)          | 4     | T | t   |
| NAK | (Negative Acknowledge)      | 5     | U | u   |
| SYN | (Synchronous Idle)          | 6     | V | v   |
| ETB | (End of Transmission Block) | 7     | W | w   |
| CAN | (Cancel)                    | 8     | X | x   |
| EM  | (End of Medium)             | 9     | Y | y   |
| SUB | (Substitute)                | :     | Z | z   |
| Esc | (Escape)                    | ;     | [ | {   |
| FS  | (File Separator)            | <     | \ |     |
| GS  | (Group Separator)           | =     | ] | }   |
| RS  | (Record Separator)          | >     | ^ | ~   |
| US  | (Unit Separator)            | ?     | _ | DEL |

19 ASCII/ISO 8859-1 (Latin 1) table

### 5.3.1 HART control system


 The automated programming of the Device Tag and HART Tag by the production equipment of E+H LP allows a maximum length of 18 characters. Although some HART control systems allow a longer maximum length, the maximum length of 18 characters only applies here.

The Device Tag and the HART Tag are automatically generated from the first input line when creating a TAG.

The following limitation applies when a **HART 5 control system** is used:

Only characters from the following "Compressed ASCII table" may be used for the HART short tag.

|    |   |   |   |
|----|---|---|---|
| SP | 0 | @ | P |
| !  | 1 | A | Q |
| "  | 2 | B | R |
| #  | 3 | C | S |
| \$ | 4 | D | T |
| %  | 5 | E | U |
| &  | 6 | F | V |
| '  | 7 | G | W |
| (  | 8 | H | X |
| )  | 9 | I | Y |
| *  | : | J | Z |
| +  | ; | K | [ |
| ,  | < | L | \ |
| -  | = | M | ] |
| .  | > | N | ^ |
| /  | ? | O | _ |

 20 *Compressed ASCII table*





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