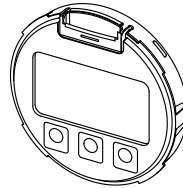Products   Solutions   Services

Special Documentation

VU113 Graphical display with keys and Bluetooth
VU112 Graphical display with keys

Remote operation via Bluetooth® wireless technology

Bluetooth®

Endress+Hauser [EH]

People for Process Automation

1 Declaration of conformity

Endress+Hauser 〔EH〕

People for Process Automation

CE

EU Declaration of Conformity

(de)	EU-Konformitätserklärung	(lv)	ES atbilstības deklarācija
(fr)	Déclaration de conformité UE	(hu)	EU-megfelelőségi nyilatkozat
(bg)	ЕС Декларация за съвместимост	(nl)	EG-conformiteitsverklaring
(es)	Declaración CE de conformidad	(pl)	Deklaracja zgodności UE
(cs)	EU prohlášení o shodě	(pt)	Declaração de conformidade da CE
(da)	EF-overensstemmelseserklæring	(ro)	Declaraţie de conformitate UE
(et)	ELi vastavusdeklaratsioon	(sk)	Vyhlásenie o zhode EÚ
(el)	Δήλωση συμμόρφωσης ΕΕ	(sl)	EU izjava o skladnosti
(hr)	EU Izjava o sukladnosti	(fi)	EU-vaatimustenmukaisuusvakuutus
(it)	Dichiarazione di Conformità UE	(sv)	EU-försäkran om överensstämmelse
(lt)	ES atitikties deklaracija		

Endress+Hauser SE+Co. KG, Hauptstraße 1, 79689 Maulburg

declares as manufacturer under sole responsibility, that the product

(de)	erklärt als Hersteller in alleiniger Verantwortung, dass das Produkt
(fr)	déclare en tant que fabricant, sous sa seule responsabilité, que le produit
(bg)	декларира като производител с изключителна отговорност, че продуктът
(es)	declara, en calidad de fabricante y asumiendo en exclusiva la responsabilidad, que el producto
(cs)	jakožto výrobce, prohlašuje na svou vlastní zodpovědnost, že výrobek
(da)	erklærer som producent under eneansvar, at produktet
(et)	kinnitab tootjana oma ainuvastutusel, et toode
(el)	δηλώνει ως κατασκευαστής με αποκλειστική της ευθύνη, ότι το προϊόν
(hr)	izjavljuje kao proizvođač s isključivom odgovornošću da je proizvod
(it)	dichiara, sotto la propria esclusiva responsabilità in quanto fabbricante, che il prodotto
(lt)	kaip gamintojas prisiimdamas atsakomybę patvirtina, kad gaminys
(lv)	kā ražotājs un uzņemoties visu atbildību paziņo, ka izstrādājums
(hu)	mint gyártó kizárólagos felelősségre mellett kijelenti, hogy a termék
(nl)	verklaart als fabrikant onder volledige verantwoordelijkheid, dat het product
(pl)	jako producent oświadcza, na swoją wyłączną odpowiedzialność, że wyrób
(pt)	declara como fabricante sob responsabilidade exclusiva, que o produto
(ro)	în calitate de producător, declară pe proprie răspundere că produsul
(sk)	vyhlasuje ako výrobca na vlastnú zodpovednosť, že výrobok
(sl)	kot proizvajalec z izključno odgovornostjo izjavlja, da je izdelek
(fi)	ilmoittaa valmistajana yksinomaisella vastuullaan, että tuote
(sv)	förkunnar som tillverkare med ensamansvar, att produkten

Graphic display touch control + Bluetooth VU113

EC_00777_03.21

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Endress+Hauser

People for Process Automation

$\mathsf{C}\,\mathsf{\epsilon}$

conforms to following European Directives:

(de)   den folgenden Europäischen Richtlinien entspricht:
(fr)   est conforme aux directives européennes suivantes :
(bg)   отговаря на следните европейски директиви:
(es)   se ajusta a las siguientes directivas europeas:
(cs)   vyhovuje následujícím evropským směrnicím:
(da)   er i overensstemmelse med følgende direktiver:
(et)   vastab järgmistele Euroopa direktiividele:
(el)   συμμορφώνεται με τις ακόλουθες Ευρωπαϊκές Οδηγίες:
(hr)   u skladu sa sljedećim europskim direktivama:
(it)   è conforme alle seguenti direttive europee:
(lt)   atitinka toliau nurodytas Europos Sąjungos direktyvas:
(lv)   atbilst tālāk norādīto Eiropas direktīvu prasībām:
(hu)   megfelel az alábbi európai irányelveknek:
(nl)   voldoet aan de volgende Europese richtlijnen:
(pl)   jest zgodny z następującymi dyrektywami europejskimi:
(pt)   está em conformidade com as seguintes diretrizes europeias:
(ro)   este în conformitate cu următoarele directive europene:
(sk)   je v súlade s týmito európskymi smernicami:
(sl)   skladen z naslednjimi evropskimi direktivami:
(fi)   täyttää seuraavat eurooppalaiset direktiivit:
(sv)   överensstämmer med följande europeiska direktiv:

RED	2014/53/EU	(L153/62)
RoHS	2011/65/EU	(L174/88)

EC_00777_03.21

A0047193

Endress+Hauser **EH**

People for Process Automation

CE
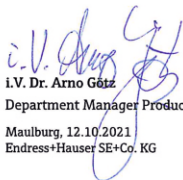
Applied harmonized standards or normative documents:

(de)	Angewandte harmonisierte Normen oder normative Dokumente:
(fr)	Normes harmonisées ou documents normatifs appliqués :
(bg)	Приложени хармонизирани стандарти или нормативни документи:
(es)	Normas armonizadas o documentos normativos aplicados:
(cs)	Aplikované harmonizované normy nebo normativní dokumenty:
(da)	Anvendte harmoniserede standarder eller normative dokumenter:
(et)	Kohaldatud harmoneeritud standardid või normdokumendid:
(el)	Εφαρμοσμένα εναρμονισμένα πρότυπα ή κανονιστικά έγγραφα:
(hr)	Primijenjeni usklađeni standardi ili normativni dokumenti:
(it)	Norme armonizzate o documenti normativi applicati:
(lt)	Taikytini suderintieji standartai ar norminiai dokumentai:
(lv)	Piemērotie saskaņotie standarti vai normatīvie dokumenti:
(hu)	Alkalmazott harmonizált szabványok vagy normatív dokumentumok:
(nl)	Toegepaste geharmoniseerde normen of normatieve documenten:
(pl)	Zastosowane normy zharmonizowane lub dokumenty normatywne:
(pt)	Normas harmonizadas aplicadas ou documentos normativos:
(ro)	Standarde armonizate sau documente normative în vigoare:
(sk)	Použité harmonizované normy alebo normatívne dokumenty:
(sl)	Uporabljeni harmonizirani standardi ali normativni dokumenti:
(fi)	Sovelletut yhdenmukaistetut standardit tai ohjeelliset asiakirjat:
(sv)	Tillämpade harmoniserade standarder eller normativa dokument:

EN 61010-1	(2017)	EN 300328 V2.2.2	(2019)
EN 61326-1	(2013)	EN 301489-1 V2.2.3	(2019)
EN 61326-2-3	(2013)	EN 301489-17 V3.3.4	(2020)
EN 61326-2-5	(2013)		
EN 63311	(2008)		
EN IEC 63000	(2018)		

i.V. Dr. Arno Götz

Department Manager Product Safety

Maulburg, 12.10.2021
Endress+Hauser SE+Co. KG

EC_00777_03.21

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2   About this document

2.1   Symbols

ℹ️
Tip
Indicates additional information.

2.2   Documentation

2.2.1   Intended use

Remote operation of devices via Bluetooth® wireless technology

Products:
- Gammapilot FMG50
- Cerabar PMC71B, PMP71B
- Deltabar PMD75B, PMD78B
- Liquiphant FTL51B, FTL62, FTL63, FTL64
- Micropilot FMR60B, FMR62B, FMR63B, FMR66B, FMR67B
- Prowirl L 7L2D

Firmware version: 01.00.zz or higher

Device version: 1

Incorrect use

The manufacturer is not liable for damage caused by improper or non-designated use.

Under different operating conditions than those described here, protection may be compromised and the correct functioning of the device cannot be guaranteed.

2.3   Registered trademarks

Bluetooth®
The *Bluetooth*® word mark and logos are registered trademarks owned by the Bluetooth SIG, Inc. and any use of such marks by Endress+Hauser is under license. Other trademarks and trade names are those of their respective owners.

Apple®
Apple, the Apple logo, iPhone, and iPod touch are trademarks of Apple Inc., registered in the U.S. and other countries. App Store is a service mark of Apple Inc.

Android®
Android, Google Play and the Google Play logo are trademarks of Google Inc.

3   Radio approvals

ℹ️ Valid for VU113 graphical display with keys and Bluetooth

3.1   Europe

This device meets the requirements of the Radio Equipment Directive RED 2014/53/EU. The standards specified in the declaration of conformity were used for this purpose.

3.2   Canada and United States

3.2.1   English

This device complies with Part 15 of the FCC Rules and with Industry Canada licence-exempt RSS standard(s).

Operation is subject to the following two conditions:
- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

> Changes or modifications made to this equipment not expressly approved by Endress+Hauser SE+Co. KG may void the FCC authorization to operate this equipment.

> This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
> - Reorient or relocate the receiving antenna.
> - Increase the separation between the equipment and receiver.
> - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
> - Consult the dealer or an experienced radio/TV technician for help.

3.2.2   Français

Le présent appareil est conforme aux CNR d'industrie Canada applicables aux appareils radio exempts de licence.

L'exploitation est autorisée aux deux conditions suivantes :
- L'appareil ne doit pas produire de brouillage, et
- L'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

> Les changements ou modifications apportés à cet appareil non expressément approuvés par Endress+Hauser SE+Co. KG peuvent annuler l'autorisation FCC d'utiliser cet appareil.

3.3   Mexico

IFETEL notice

La operación de este equipo está sujeta a las siguientes dos condiciones:
- (1) es posible que este equipo o dispositivo no cause interferencia perjudicial
- (2) este equipo o dispositivo debe aceptar cualquier interferencia, incluyendo la que pueda causar su operación no deseada

A0042674
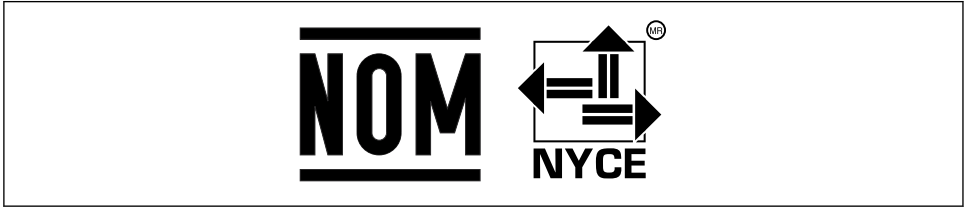
3.4   Japan

Japanese Radio Law and Japanese Telecommunications Business Law Compliance.

This device is granted pursuant to the Japanese Radio Law (電波法) and the Japanese Telecommunications Business Law (電気通信事業法).

This device should not be modified (otherwise the granted designation number will become invalid).

3.5   Taiwan

根據 NCC 低功率電波輻射性電機管理辦法規定：

第十二條經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

第十四條低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

廠牌 Endress+Hauser

產品型號 VU113

產地德國

製造商 Endress+Hauser SE+Co.KG

3.6   Thailand

A0042673

3.7   Singapore

Complies with
IDMA Standards
DA108204

A0042672

3.8   Malaysia

A0042675

3.9   Indonesia

Cert. ID: 90241/SDPPI/2023

PLG ID: 4962

A0044414

3.10   Brazil

A0039064

00732-21-07318

Este equipamento não tem direito à proteção contra interferência prejudicial e não pode causar interferência em sistemas devidamente autorizados
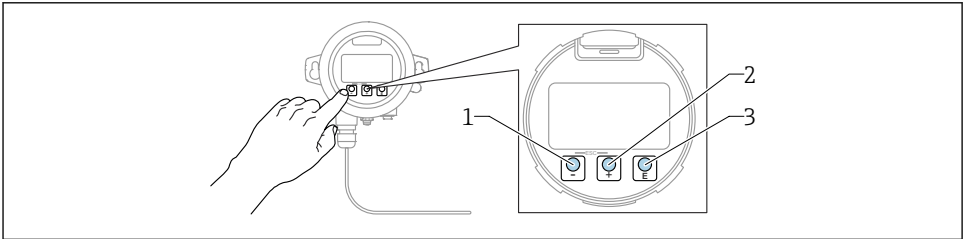
3.11   Other countries

Other national approvals are available on request.

4   Operation options

4.1   Local operation

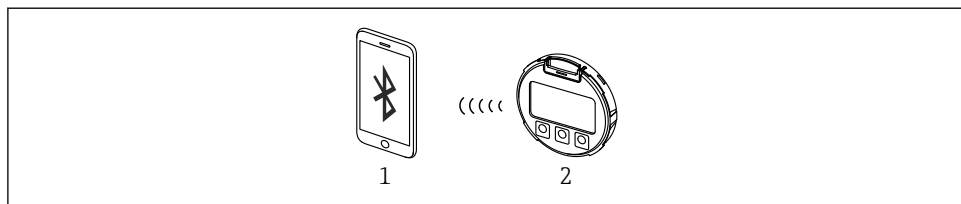The device can be operated onsite with three optical keys. Operation is possible through the cover glass.

A0044639

1   Minus key
2   Plus key
3   Enter key

4.2   Access via Bluetooth® wireless technology

ℹ️ Bluetooth is optional, and is not an integral feature of the display (see the product structure for the specific device).
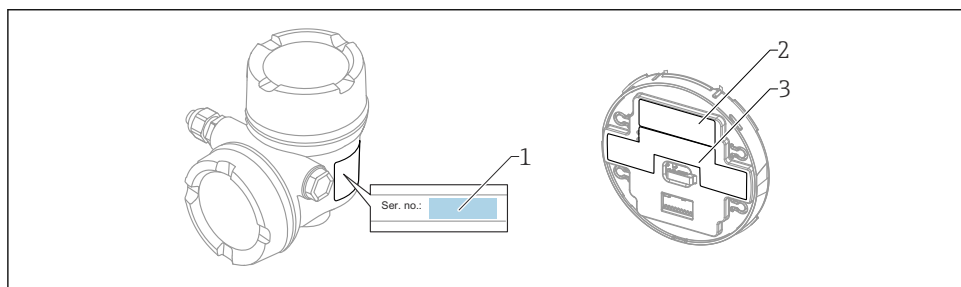

A0041912

⊡ *1   Remote operation via Bluetooth® wireless technology*

1   Smartphone or tablet with SmartBlue (app)
2   Display with optional Bluetooth function

4.2.1   Preparation

The serial number of the device serves as the initial password when the connection is established for the first time. The serial number can be found on the nameplate of the device.

A0039215

1   Serial number on the nameplate of the device (sample illustration)
2   Serial number on the nameplate of the display (on rear) with information on Bluetooth certificates
3   Information on Bluetooth for VU113

4.3   Technical data

- Maximum free-field range 50 m (165 ft) for Bluetooth option
- Operation radius with intervisibility 10 m (33 ft) around the device for Bluetooth option
- Supply voltage: 3.2 V_{DC} with max. 3.4 V_{DC} and min. 3.1 V_{DC}
- Power consumption: max. 17 mW
- Current consumption: 5 mA
- Pollution degree: 2

- Temperature range: −40 to +85 ℃ (−40 to +185 ℉)
- Suitable for wet environments, integrated in measuring devices
- Relative humidity: operation up to 100 % in the measuring devices
  Do not open in a condensing environment!

⚠ WARNING

Pay attention to restrictions for operation in explosive atmospheres.
▶ Observe the Safety Datasheet for the device.

4.3.1   Operating altitude

As per IEC 61010-1 Ed.3:
- Up to 3 000 m (9 800 ft) above sea level
- Can be extended to 5 000 m (16 400 ft) above sea level if overvoltage protection (OVP) is used, for details see the TI of the device

5   Commissioning with Bluetooth

5.1   Requirements

Device requirements
Commissioning via SmartBlue is only possible if the VU113 (graphical display with Bluetooth®) is installed.

System requirements
SmartBlue is available as a download from the Google Play Store for Android devices and from the iTunes Store for iOS devices
- iOS devices: iPhone 5S or higher from iOS11; iPad 5th Generation or higher from iOS11; iPod Touch 6th Generation or higher from iOS11
- Devices with Android: from Android 6.0 and *Bluetooth*® 4.0

Initial password
- The serial number of the device (on the nameplate) serves as the initial password when the connection is established for the first time.
- If the main electronics module of the device is a spare part, the initial password is the ID number of the Bluetooth display.
  The ID number is located on the rear of the display beside the Bluetooth logo.

ℹ Please note the following:
  If the Bluetooth display is removed from one device and installed in another device.
  - All the log-in data are only saved in the Bluetooth display and not in the device
  - The password changed by the user is also saved in the Bluetooth display
  - The Bluetooth and/or background lighting function can depend on the supply voltage to the device. For details on the supply voltage range, **see the Operating Instructions for the entire device.**

5.2   SmartBlue app

1. Scan the QR code or enter "SmartBlue" in the search field of the App Store.
   ↳

   A0039186

   ⊞ *2   Download link*

2. Start SmartBlue.

3. Select device from livelist displayed.

4. Enter the login data:
   ↳ User name: admin
   Password: Serial number of the device or ID number of the Bluetooth display
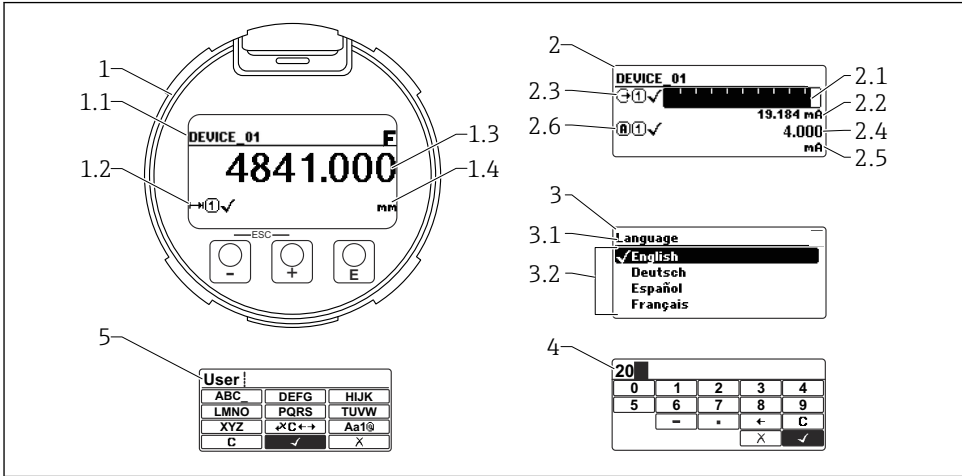
5. Tap the icons for more information.

ℹ️ After logging in for the first time, change the password!

6   Onsite commissioning

The optical keys can be used through the glass or directly on the graphical display for onsite commissioning. For details on the operating menu, please refer to the Operating Instructions of the specific device.

6.1   Display layout
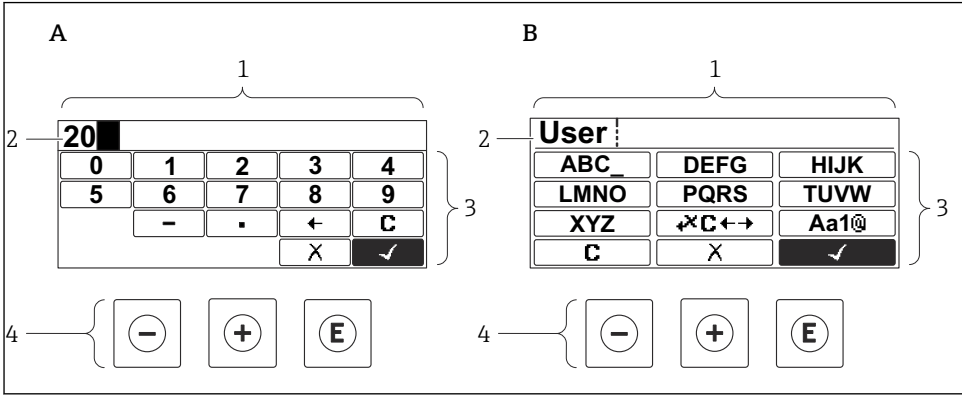

A0044661

1   Measured value display (1 value max. size)
1.1   Header containing tag and error symbol (if an error is active)
1.2   Measured value symbols
1.3   Measured value
1.4   Unit
2   Measured value display (bar graph + 1 value)
2.1   Bargraph for measured value 1
2.2   Measured value 1 (including unit)
2.3   Measured value symbol for measured value 1
2.4   Measured value 2
2.5   Unit for measured value 2
2.6   Measured value symbol for measured value 2
3   Parameter display (here: parameter with picklist)
3.1   Header containing parameter name and error symbol (if an error is active)
3.2   Picklist; ☑ indicates the current parameter value
4   Input matrix for numbers
5   Input matrix for alphanumeric and special characters

6.2　　　Operating elements

- $\boxed{-}$ **Minus key**
  - *In menu, submenu*
    Moves the bar up in a picklist
  - *In text and numeric editor*
    In the input mask, moves the bar to the left (backwards)
- $\boxed{+}$ **Plus key**
  - *In menu, submenu*
    Moves the bar down in a picklist
  - *In text and numeric editor*
    In the input mask, moves the selection bar to the right (forwards)
- $\boxed{E}$ **Enter key**
  - *Unlocking the display*
    Holding down the key (>2 s)
    Unlock by selecting "Keylock Off" with + and pressing Enter to confirm.
  - *For measured value display*
    Pressing the key briefly opens the operating menu
    Pressing the key for 2 s opens the context menu (guide and keylock).
  - *In menu, submenu*
    Pressing the key briefly opens the selected menu, submenu or parameter
    Pressing the key for 2 s on a parameter opens the help text for the parameter function, if available.
  - *In text and numeric editor*
    Pressing the key briefly opens the selected group, performs the selected action
    Pressing the key for 2 s on a parameter confirms the editable parameter value.
- $\boxed{-}$+$\boxed{+}$ **Escape key combination (press keys simultaneously)**
  - *In menu, submenu*
    Pressing the key briefly exits the current menu level and takes you to the next higher level; if help text is open, closes the help text for the parameter
    Pressing the key for 2 s returns you to the measured value display ("home position").
  - *In text and numeric editor*
    Closes the text or numeric editor without applying changes

6.3 Entering numbers and text

A044636

A Numeric editor
B Text editor
1 Editing view
2 Display area of the entered values
3 Input screen
4 Operating elements

6.3.1 Input mask of numeric editor

- **0** ... **9**
  Selection of numbers from 0 to 9.
- **.**
  Inserts decimal separator at the input position
- **–**
  Inserts minus sign at the input position
- **✓**
  Confirms the selection
- **←**
  Moves the input position one position to the left
- **✗**
  Exits the input without applying the changes
- **C**
  Clears all entered characters

6.3.2 Input mask of text editor

ABC_ ... **XYZ**
Selection of letters from A to Z

7   Troubleshooting

7.1   Errors in local operation

Error	Possible cause	Remedy
Key not responding	Cover glass dirty	Remove dirt. If necessary, then wait 3 min until the keys respond to operation again.
	Condensate on cover glass	Wipe dry with a clean cloth. If necessary, then wait 3 min until the keys respond to operation again.
	Sunlight on the display	Sunlight can affect the function of the optical sensors. Provide shade and try again
	Bluetooth operation active	Simultaneous operation onsite and via Bluetooth is not possible. You can determine whether or not Bluetooth is active by the flashing Bluetooth symbol or the crossed-out key symbols.
Key not responding when operating with gloves	Glove reflection may be too low to detect operation (black gloves).	Remove gloves or replace with other glove material
Key not responding after replacement of housing cover	The keys are adapted to the viewing window materials. A change of material will cause malfunctions.	Contact Endress+Hauser Service.
Key not responding or is too sensitive after opening the housing cover	Display crooked in housing	Open again and ensure the display is mounted correctly and properly engaged in the catches
Key not responding after housing cover cleaning	The cleaning changes the reflection properties of the device cover	The function readjusts, operation should be possible again after approximately 3 min.
Wrong key response during rain	Raindrops can be incorrectly interpreted as user input.	Locking the display prevents incorrect response. Locking is activated automatically if the device is not operated for longer, or can be activated manually (see "Operation" section)

7.2   Error - SmartBlue operation

Error	Possible cause	Remedy
Login via SmartBlue not possible	No Bluetooth connection	Enable Bluetooth function on smartphone or tablet
		Bluetooth function of sensor disabled, perform recovery sequence
	HistoROM missing	Attach HistoROM

Error	Possible cause	Remedy
	The device is already connected with another smartphone/tablet	Only **one** point-to-point connection is established between a sensor and a smartphone or tablet
	Device is being put into operation for the first time	Enter initial password (device serial number) and change. Pay attention to lower/upper case when entering the serial number.
Device is visible in the live list but cannot be accessed via SmartBlue	Android end device	Is the location function permitted for the app, was it approved the first time?
		GPS or positioning function must be activated for certain Android versions in conjunction with Bluetooth
		Activate GPS - close the app fully and restart - enable the positioning function for the app
Device is visible in the live list but cannot be accessed via SmartBlue	Apple end device	Log in as standard Enter user name "admin" Enter initial password (device serial number), paying attention to lower/upper case
Device cannot be operated via SmartBlue	Incorrect password entered	Enter correct password
	Password forgotten	Contact Endress+Hauser Service.
	The sensor temperature is too high	If the ambient temperature results in an elevated sensor temperature of >60 ℃ (140 ℉), Bluetooth communication may be disabled. Shield the device, isolate it and cool it down if necessary.
TAG in SmartBlue and HART do not match	System-related	The device ID (TAG) is transferred to the live list via Bluetooth® to facilitate device identification. The tag is abbreviated in the middle since the HART tag can be up to 32 characters long but Bluetooth® can only use 29 characters as the device name.

8   History

Firmware history
- **01.00.00**
  - Initial software for VU without optical keys
  - Valid from: 31 August 2019
- 01.02.30
  - Initial software for VU with optical keys
  - Valid from: 1 November 2020

9   Disposal

If required by the Directive 2012/19/EU on waste electrical and electronic equipment (WEEE), the product is marked with the depicted symbol in order to minimize the disposal of WEEE as unsorted municipal waste. Do not dispose of products bearing this marking as unsorted municipal waste. Instead, return them to the manufacturer for disposal under the applicable conditions.

71697122

www.addresses.endress.com

Endress+Hauser

People for Process Automation