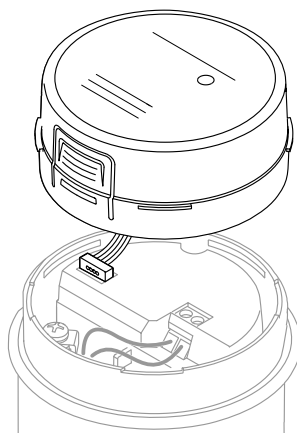


Special Documentation

Bluetooth® module VU121

Remote operation via Bluetooth® wireless technology



1 Declaration of conformity

Bluetooth module VU121 complies with all applicable EU directives.

Declaration number:

EC_00750 (ATEX)

EC_00751 (non-Ex)

The EU declaration of conformity is available in the Downloads area of the Endress+Hauser website:

www.endress.com → Downloads → Declaration → Type: EU Declaration → Product code: ...

2 About this document

2.1 Symbols

 Tip

Indicates additional information

 Reference to another section

 1., 2., 3. Series of steps

2.1.1 Safety symbols

 **DANGER**

This symbol alerts you to a dangerous situation. Failure to avoid this situation will result in serious or fatal injury.

 **WARNING**

This symbol alerts you to a dangerous situation. Failure to avoid this situation can result in serious or fatal injury.

 **CAUTION**

This symbol alerts you to a dangerous situation. Failure to avoid this situation can result in minor or medium injury.

 **NOTICE**

This symbol contains information on procedures and other facts which do not result in personal injury.

2.2 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 Basic safety instructions

3.1 Intended use

Remote operation of devices via Bluetooth® wireless technology

Suitable for the following devices:

Liquiphant FTL51B, FTL62, FTL63, FTL64

- Firmware version: 01.00.zz or higher
- Device version: 1

3.1.1 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.

4 Radio approvals

4.1 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.

4.2 Canada and United States

4.2.1 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.



Radiofrequency radiation exposure information

This equipment complies with FCC and IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

4.2.2 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.



Déclaration d'exposition aux radiations

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

Ce transmetteur ne doit pas être placé au même endroit ou utilisé simultanément avec un autre transmetteur ou antenne.

4.3 Mexico

El funcionamiento de este equipo está sujeto a las dos condiciones siguientes:

- (1) Este equipo o aparato no puede causar interferencias perjudiciales.
- (2) Este equipo o aparato debe aceptar todas las interferencias, incluyendo las que puedan causar un funcionamiento indeseado del equipo o aparato.

Este producto contiene un módulo inalámbrico

Marca: Endress+Hauser

Modelo: VU121



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4.4 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).

4.5 Malaysia



A0044341

4.6 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。

產品名稱 Endress+Hauser

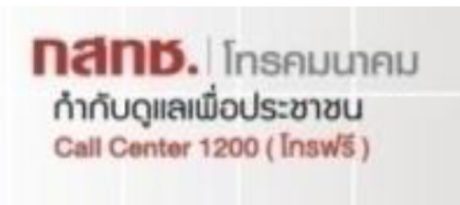
產品型號 VU121

產地 德國

製造商 Endress+Hauser SE+Co.KG

4.7 Thailand

เครื่องวิทยุคมนาคมนี้ ได้รับยกเว้น ไม่ต้องได้รับ ใบอนุญาตให้มี ใช้ซึ่งเครื่องวิทยุคมนาคม หรือตั้งสถานีวิทยุคมนาคมตามประกาศ กสทช. เรื่อง เครื่องวิทยุคมนาคม และสถานีวิทยุคมนาคมที่ได้รับยกเว้นไม่ต้องได้รับใบอนุญาต วิทยุคมนาคม ตามพระราชบัญญัติวิทยุคมนาคม พ.ศ. 2498



4.8 Qatar

ictQATAR

Type approval reg. no.:

CRA/SM/2019/R-8223

Importer no: FT-2887

4.9 United Arab Emirates

TRA REGISTERED No.: ER75163 /19

Dealer No DA83047/19

4.10 Singapore

Complies with IMDA Standards

DA108204

4.11 Indonesien

90165/SDPPI/2023

4962



Dilarang melakukan perubahan spesifikasi yang dapat menimbulkan gangguan fisik dan/atau elektromagnetik terhadap lingkungan sekitarnya

4.12 Brazil



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1 ANATEL Agência Nacional de Telecomunicações 02359-20-07318

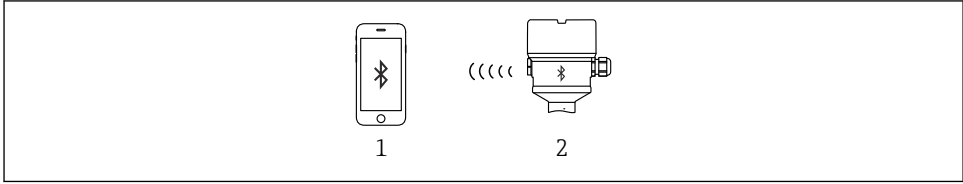
Este equipamento opera em caráter secundário, isto é, não tem direito a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário.

4.13 Other countries

Other national approvals are available on request.

5 Operation options

5.1 Access via Bluetooth® wireless technology



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2 Remote operation via Bluetooth® wireless technology

- 1 Smartphone or tablet with SmartBlue app
- 2 Device with optional Bluetooth module

5.2 Connection and functions

- Connection without battery to electronic inserts FEL61, FEL62, FEL64, FEL64 DC, FEL67: via COM interface
- Connection with battery to electronic insert FEL68 (2-wire NAMUR):
For operation with FEL68, the Bluetooth module must be ordered separately with the required battery.
 - Sensor function is independent of battery status
 - Battery status is visible only via the SmartBlue app

The yellow LED flashes when the Bluetooth module is successfully connected to another Bluetooth-enabled device (e.g. cell phone).

- Straightforward user guidance (wizard) for SIL/WHG proof test
- Visible in the livelist 10seconds after Bluetooth search commences
- Data can be read out of the Bluetooth module 60 seconds after the supply voltage is switched on
- Display of the current vibration frequency and the switching state of the device
- Heartbeat Technology functions available

5.2.1 Heartbeat Technology

Heartbeat Technology module

Heartbeat Diagnostics

Continuously monitors and evaluates the device status and process conditions. Generates diagnostic messages when certain events occur and provides troubleshooting measures in accordance with NAMUR NE 107.

Heartbeat Verification

Performs a verification of the current device status upon request and generates a Heartbeat Technology verification report showing the result of the verification.

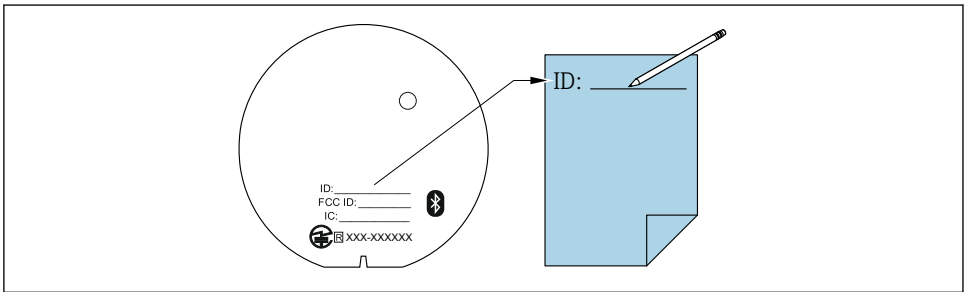
Heartbeat Monitoring

Continuously provides device and/or process data for an external system. Analysis of this data forms the basis for process optimization and predictive maintenance.

5.3 Preparatory steps

Note down the ID number of the Bluetooth module. The ID number on the nameplate of the Bluetooth module is used as the initial password when establishing the connection for the first time.

The high cover with the window must be used for devices that are operated with the Bluetooth module.



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5.4 Batteries - use and handling

For energy-related reasons, Bluetooth module VU121 requires a special battery when operated with electronics insert FEL68 (2-wire NAMUR).



The battery is categorized as dangerous goods when transported by air and must not be installed in the device when shipped.

Replacement batteries can be purchased from a specialist retailer.

5.4.1 Replacement batteries

Only the following types of AA 3.6 V lithium batteries made by the manufacturers listed below are suitable as replacement batteries:

- SAFT LS14500
- TADIRAN SL-360/s
- XENOENERGY XL-060F

5.4.2 Isolation lug in battery compartment

NOTICE

Removal of grounding lug causes battery to discharge prematurely

Removing the grounding lug from the battery compartment of the Bluetooth module causes the battery to discharge prematurely, regardless of the sensor power supply.

- ▶ As long as the sensors are in storage, the grounding lug must remain in the battery compartment of the Bluetooth module.

5.4.3 Operating life

- If the batteries are empty, Bluetooth connection is no longer possible.
- At ambient temperatures from +10 to +40 °C (+50 to +104 °F), the service life of the Bluetooth module without replacing the battery is at least 5 years with a maximum of 60 downloads of complete datasets.
Requirement: The sensor is 99 % in the "good" state (demand requires increased power consumption)
The battery life is based on a scenario where the sensor is connected and powered.

5.4.4 Replacing the battery

- Before replacing the battery, the Bluetooth module must be disconnected from electronic insert FEL68.
↳ Only then will the battery status display be detected correctly.

6 Commissioning

6.1 Requirements

Device requirements

Commissioning via the SmartBlue app is only possible if a Bluetooth module is installed in the device.

System requirements

Please see the "App Store (Apple)" or "Google Play Store" for information regarding the compatibility of the SmartBlue app with mobile terminals.

6.2 Establishing a connection via SmartBlue app

1. Scan the QR code or enter "SmartBlue" in the search field.



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3 Download link

2. Start SmartBlue.
3. Select device from livelist displayed.
4. Log-in:
 - ↳ User name: admin
 - Password: ID number on the Bluetooth module

5. Tap the icons for more information.



Change the password after logging in for the first time!



It is important to note the following if the Bluetooth module is removed from one device and installed in another device: all log-in data are only stored in the Bluetooth module and not in the device. This also applies to the password changed by the user.

6.2.1 Saving PDF reports



The PDF reports generated in the SmartBlue app are not saved automatically and must therefore be actively saved on the smartphone or tablet.

7 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.

8 Battery disposal

- The end user is legally obliged to return used batteries
- The end user can return old batteries or electronic assemblies containing these batteries free of charge to Endress+Hauser



In accordance with German law regulating the use of batteries (BattG §28 Para 1 Number 3), this symbol is used to denote electronic assemblies that must not be disposed of as household waste.

9 Technical data

- Maximum free-field range 50 m (165 ft)
- Operation radius with intervisibility: 10 m (33 ft) around the device
- Supply voltage: 3 V_{DC} with max. 5.5 V_{DC} and min. 2.7 V_{DC}

- Power consumption: max. 5.5 mW
- Current consumption: 1 mA
- Pollution degree: 2
- Temperature range: -40 to +85 °C (-40 to +185 °F)
- Relative humidity: operation up to 100% in measuring devices (☞ Intended use).
Do not open in a condensing environment!
- Suitable for wet environments, integrated in measuring devices (☞ Intended use).
- Operating altitude as per IEC 61010-1 Ed.3:
 - Up to 2 000 m (6 500 ft) above sea level
 - Can be extended to 3 000 m (9 800 ft) above sea level if overvoltage protection (OVP) is used



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