# Special Documentation
# **Bluetooth module (BT10)**

Accessory



### Application

Remote operation of HART devices via Bluetooth® wireless technology

*Suitable for the following device versions*

| Device | Communication | Firmware version | Device revision |
|--------|---------------|------------------|-----------------|
| Levelflex FMP5x | HART | 01.03.zz or higher | 4 |
| Micropilot FMR5x | HART | 01.02.zz or higher | 3 |
| Micropilot FMR6x | HART | 01.00.zz or higher | 1 |

> **ℹ** When using the Bluetooth module the minimum supply voltage increases by up to:
> - 3 V for FMR5x
> - 2 V for FMP5x/FMR6x

### Your benefits

- Quick and easy commissioning via SmartBlue (app)
- No additional tools or adapters required
- Signal curve via SmartBlue (app)
- Encrypted single point-to-point data transmission (tested by Fraunhofer institue) and password protected communication via Bluetooth® wireless technology
- Range under reference conditions: >10 m (33 ft)

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

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People for Process Automation

# Declaration of Conformity

**Restrictions in case of retrofitting**

Depending on the approval of the transmitter, application of the Bluetooth module may be restricted. A device may only be retrofitted with a Bluetooth module if the option *NF (Bluetooth)* is listed in the associated Safety Instructions (XA) under *Optional specifications*.

# EU-Konformitätserklärung
# EU-Declaration of Conformity
# Déclaration UE de Conformité

**Endress+Hauser** **People for Process Automation**

CE

| | |
|---|---|
| **Company** | **Endress+Hauser SE+Co. KG, Hauptstraße 1, 79689 Maulburg** |
| | erklärt als Hersteller in alleiniger Verantwortung, dass das Produkt |
| | declares as manufacturer under sole responsibility, that the product |
| | déclare sous sa seule responsabilité en qualité de fabricant que le produit |
| **Product** | **MICROPILOT** |
| | FMR50, FMR51, FMR52, FMR53, FMR54, FMR56, FMR57 |
| **Regulations** | den folgenden Europäischen Richtlinien entspricht: |
| | conforms to following European Directives: |
| | est conforme aux prescriptions des Directives Européennes suivantes : |

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

**Standards**    angewandte harmonisierte Normen oder normative Dokumente:
applied harmonized standards or normative documents:
normes harmonisées ou documents normatifs appliqués:

EN 300328-V2.1.1   (2016)
EN 301489-1V2.1.1 (2017)
EN 302372-V2.1.1   (2016)
EN 302729-V2.1.1   (2016)
EN 50581          (2012)
EN 61010-1        (2010)
EN 61326-1        (2013)
EN 61326-2-3      (2013)
EN 61326-2-5      (2013)
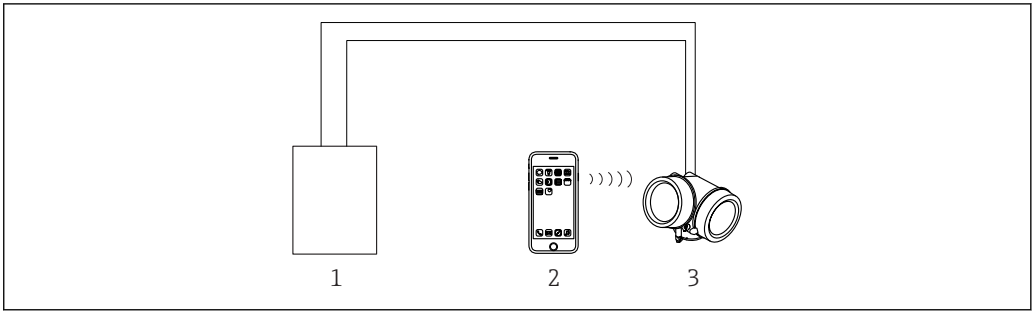
Maulburg,    20.03.2018
Endress + Hauser SE + Co. KG

i.V. Dr. Arno Götz
Abteilungsleiter Produktsicherheit
Department Manager Product Safety
Responsable de certification

EC_00630_01.18

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# EU-Konformitätserklärung
# EU-Declaration of Conformity
# Déclaration UE de Conformité

**Endress+Hauser**
People for Process Automation

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| Company | **Endress+Hauser SE+Co. KG, Hauptstraße 1, 79689 Maulburg** |
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| | erklärt als Hersteller in alleiniger Verantwortung, dass das Produkt |
| | declares as manufacturer under sole responsibility, that the product |
| | déclare sous sa seule responsabilité en qualité de fabricant que le produit |

**Product**
**Micropilot**
FMR60, FMR62, FMR67

**Regulations**
den folgenden Europäischen Richtlinien entspricht:
conforms to following European Directives:
est conforme aux prescriptions des Directives Européennes suivantes :

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

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EN 50581            (2012)
EN 61010-1          (2010)
EN 61326-1          (2013)
EN 61326-2-3        (2013)
EN 61326-2-5        (2013)

Maulburg,    20.03.2018
Endress + Hauser SE + Co. KG

i.V. Dr. Arno Götz
Abteilungsleiter Produktsicherheit
Department Manager Product Safety
Responsable de certification

EC_00632_01.18

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# EU-Konformitätserklärung
# EU-Declaration of Conformity
# Déclaration UE de Conformité

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

erklärt als Hersteller in alleiniger Verantwortung, dass das Produkt
declares as manufacturer under sole responsibility, that the product
déclare sous sa seule responsabilité en qualité de fabricant que le produit

**Product**    **LEVELFLEX**

FMP50, FMP51,FMP52, FMP53, FMP54, FMP55, FMP56, FMP57

**Regulations**    den folgenden Europäischen Richtlinien entspricht:
conforms to following European Directives:
est conforme aux prescriptions des Directives Européennes suivantes :

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

**Standards**    angewandte harmonisierte Normen oder normative Dokumente:
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EN 61010-1      (2010)
EN 61326-1      (2013)
EN 61326-2-3    (2013)
EN 61326-2-5    (2013)

Maulburg,   20.03.2018
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i.V. Dr. Arno Götz
Abteilungsleiter Produktsicherheit
Department Manager Product Safety
Responsable de certification

EC_00633_01.18

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# Radio approvals

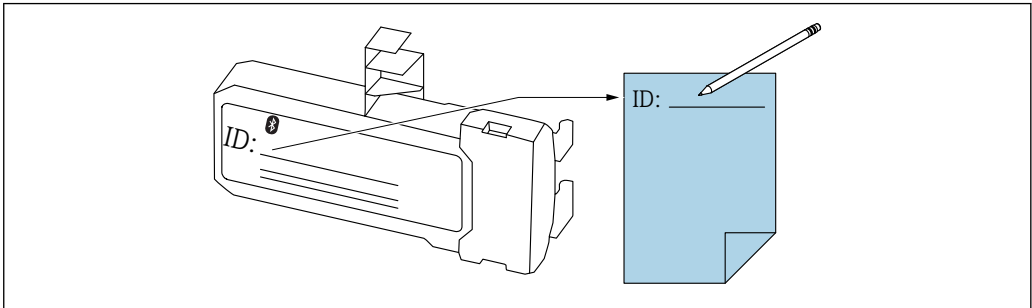| | |
|---|---|
| Europe | This device meets the requirements of the Telecommunications Directive RED 2014/53/EU:<br>• EN 300 328 V2.1.1<br>• EN 301 489-1 V2.1.1<br>• EN 301 489-17 V3.1.1<br>• EN 62311: 2008 |
| Canada and United States | **English**<br><br>This device complies with Part 15 of the FCC Rules and with Industry Canada licence-exempt RSS standard(s).<br><br>Operation is subject to the following two conditions:<br>• This device may not cause harmful interference, and<br>• This device must accept any interference received, including interference that may cause undesired operation.<br><br>🛈 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.<br><br>🛈 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:<br>• Reorient or relocate the receiving antenna.<br>• Increase the separation between the equipment and receiver.<br>• Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.<br>• Consult the dealer or an experienced radio/TV technician for help.<br><br>🛈 **Radiofrequency radiation exposure information**<br><br>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.<br><br>This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.<br><br>**Français**<br><br>Le présent appareil est conforme aux CNR d'industrie Canada applicables aux appareils radio exempts de licence.<br><br>L'exploitation est autorisée aux deux conditions suivantes :<br>• L'appareil ne doit pas produire de brouillage, et<br>• L'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.<br><br>🛈 Les changements ou modifications apportées à cet appareil non expressément approuvée par Endress+Hauser SE+Co. KG peut annuler l'autorisation FCC d'utiliser cet appareil.<br><br>🛈 **Déclaration d'exposition aux radiations**<br><br>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.<br><br>Ce transmetteur ne doit pas être placé au même endroit ou utilisé simultanément avec un autre transmetteur ou antenne. |
| Japan | Japanese Radio Law and Japanese Telecommunications Business Law Compliance.<br><br>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).<br><br>This device should not be modified (otherwise the granted designation number will become invalid). |

# Operation via Bluetooth® wireless technology



*1* *Possibilities for remote operation via Bluetooth® wireless technology*

*1* *Transmitter power supply unit*
*2* *Smartphone / tablet with SmartBlue (app)*
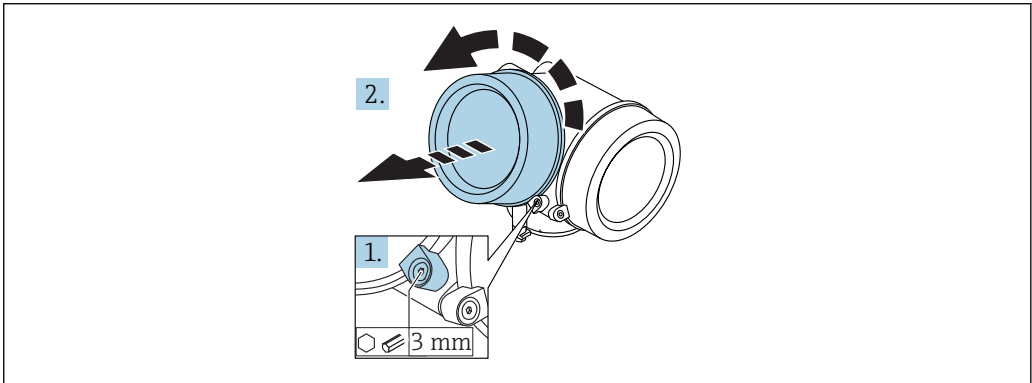*3* *Transmitter with Bluetooth® wireless technology*

# Preparing installation of the Bluetooth module



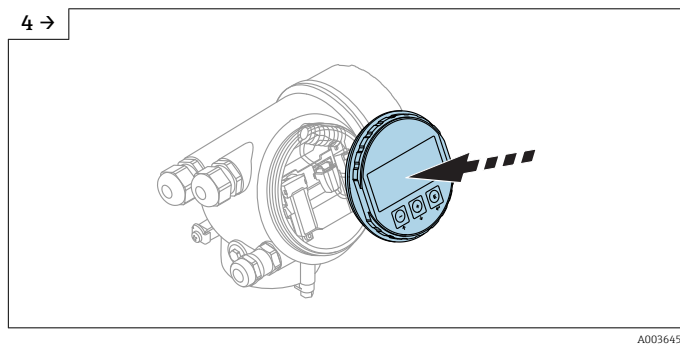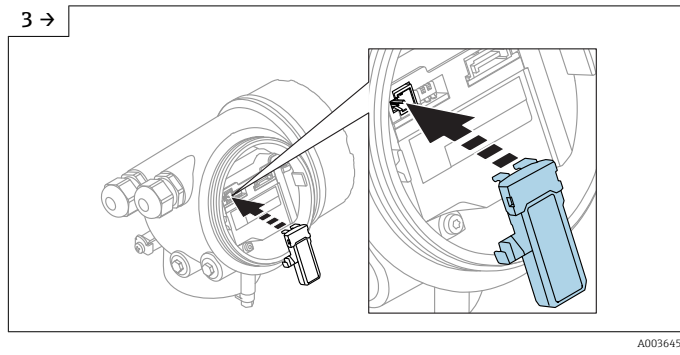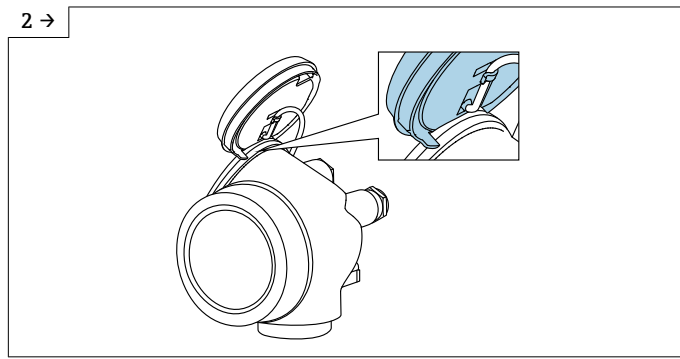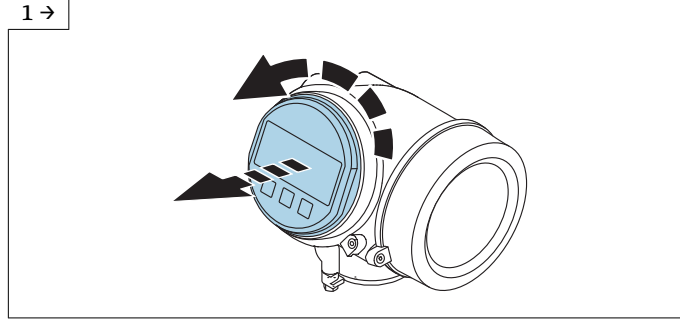Note down the ID of the Bluetooth module. The ID serves as the initial device password in SmartBlue.

# Opening cover
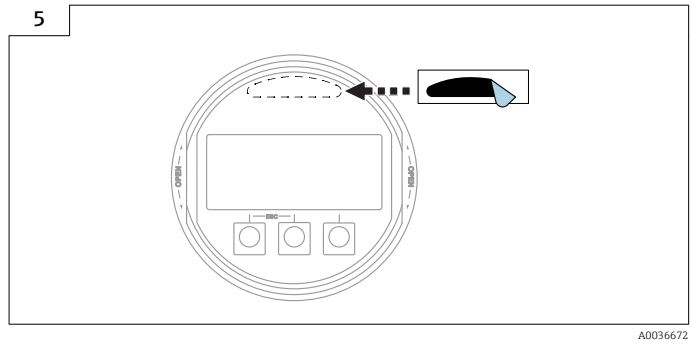


1. Loosen the screw of the securing clamp of the electronics compartment cover using an Allen key (3 mm) and turn the clamp 90 ° counterclockwise.

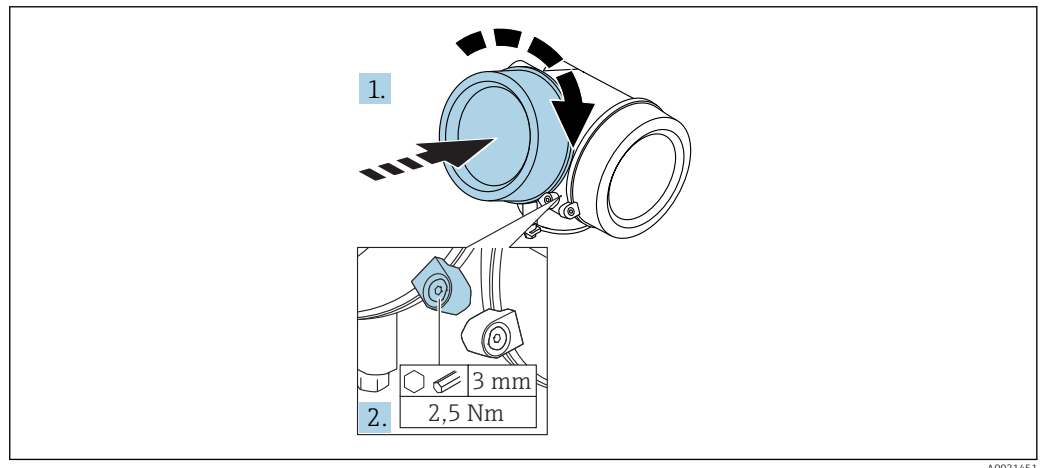2. Unscrew cover and check lid gasket, replace if necessary.

## Mounting the Bluetooth module

1 →



A0021431

2 →



A0036086

3 →



A0036452

4 →



A0036453

A0036672

▸ For FCC / IC applications: If not yet present, affix the "FCC / IC approval" sticker to the display.

# Closing electronics compartment cover



A0021451

1. Screw back firmly electronics compartment cover.

2. Turning securing clamp 90 ° clockwise and tighten the clamp with 2.5 Nm using the Allen key (3 mm).

# Commissioning via SmartBlue (app)

Requirements

**Device requirements**
Commissioning via SmartBlue is only possible if the device has a Bluetooth module.

**System requirements SmartBlue**
SmartBlue is available as download for Android devices from the Google Play Store and for iOS devices from the iTunes Store.
- iOS devices:
  iPhone 4S or higher from iOS9.0; iPad2 or higher from iOS9.0; iPod Touch 5th generation or higher from iOS9.0
- Devices with Android:
  from Android 4.4 KitKat and *Bluetooth*® 4.0

**Initial password**
The ID of the Bluetooth module serves as the initial password used to establish the first connection to the device. It can be found:
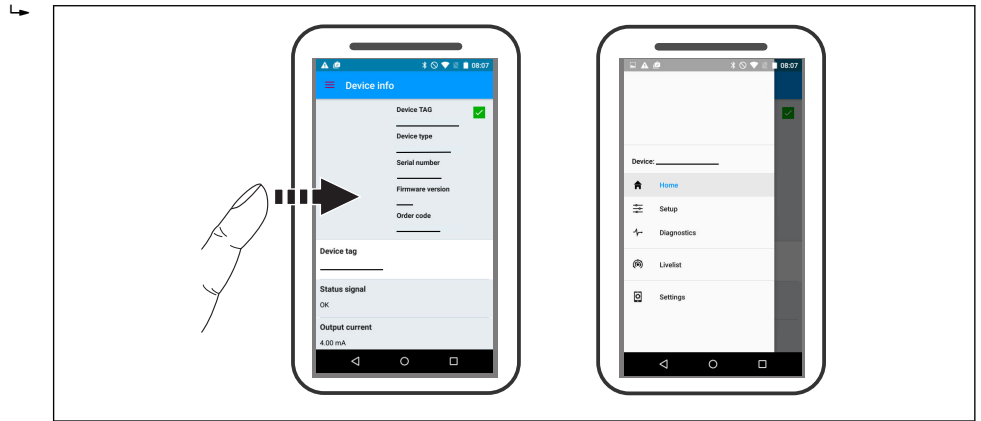- on the information sheet which is supplied with the device. This serial number specific sheet is also stored in W@M.
- on the nameplate of the Bluetooth module.

*2     Device with Bluetooth module*

*1     Electronics housing of the device*
*2     Nameplate of the Bluetooth module; the ID on this nameplate serves as initial password.*

ℹ️ All login data (including the password changed by the user) are not stored in the device but in the Bluetooth module. This must be taken into account when the module is removed from one device and inserted into a different device.

| Commissioning | Download and install SmartBlue |

1.  To download the app, scan the QR code or enter "SmartBlue" in the search field

    

    *3     Download link*

2.  Start SmartBlue

    

    *4     SmartBlue pictogram*

3.  Select device from displayed livelist (available devices only)

    

    *5     Livelist*

ℹ️ Only one point-to-point connection can be established between **one** sensor and **one** smartphone or tablet.

4. Perform login



*▣ 6    Login*

5. Enter user name -> admin

6. Enter initial password -> ID of the Bluetooth module

7. Change the password after logging in for the first time

8. By wiping from the side, additional information (e.g. main menu) can be dragged into the image



*▣ 7    Main menu*

ℹ️ Envelope curves can be displayed and recorded

**Additionally to the envelope curve, the following values are displayed:**
- D = Distance
- L = Level
- A = Absolute amplitude

- In the case of screenshots, the displayed section (zoom function) is saved
- In video sequences, always the whole area without zoom function is saved

It is also possible to send envelope curves (video sequences) using the relevant smartphone or tablet functions.

*🖼 8    Envelope curve display (example) in SmartBlue; Android view*

*1    Record video*
*2    Create screenshot*
*3    Navigation to mapping menu*
*4    Start / stop video recording*
*5    Move time on time axis*



*🖼 9    Envelope curve display (example) in SmartBlue; IoS view*

*1    Record video*
*2    Create screenshot*
*3    Navigation to mapping menu*
*4    Start / stop video recording*
*5    Move time on time axis*

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