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User Guide

mobiLink

data FLOW®

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OpenSource

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Scan the QR code for more product information.

Table of Contents

1 About this guide

This guide explains how to connect and start mobiLink and how to use the device to configure and maintain field devices over USB or Bluetooth with software applications supported on PCs, tablets or smartphones.

1.1 Read me first

This guide must be read carefully and fully understood by any person working with the mobiLink to ensure safe and proper use of the device. Softing does not assume any liability for damages due to improper installation or operation of this product.

This document is not warranted to be error-free. The information contained in this document is subject to change without prior notice. If you have any problems understanding the information and instructions in the guide, please report them to us in writing. To obtain the most current version of the hardware guide, visit the product website.

1.2 Target audience

This user guide has been written for experienced operation personnel and network specialists responsible for configuring and maintaining field devices including HART, FOUNDATION fieldbus and PROFIBUS PA devices. Any person using a mobiLink must have read and fully understood the safety requirements and working instructions in this guide.

1.3 Typographic conventions

The following conventions are used throughout our product documentation:

Keys, buttons, menu items, commands and other elements involving user interaction are set in bold font and menu sequences are separated by an arrow	Open **Start → Control Panel → Programs**
Buttons from the user interface are enclosed in brackets and set to bold typeface	Press **[Start]** to start the application
Coding samples, file extracts and screen output is set in Courier font type	`MaxDlsapAddressSupported=23`
Filenames and directories are written in italic	Device description files are located in *C:\<Application name>\delivery\software\Device Description files*

⚠️ **CAUTION**
This symbol is used to indicate a potentially hazardous situation which, if not avoided, may result in minor to moderate damage or injury.

Note

This symbol is used to call attention to notable information that should be followed during installation, use, or servicing of this device.

Hint

This symbol is used when providing you with helpful user hints.

1.4 Document history

Document version	Modifications compared to previous version
1.00	Initial version
1.01	No changes to hardware version 1.00. Bluetooth certification added for Japan.
1.02	No changes to hardware version 1.00. Descriptions for software-based PROFIBUS PA functionality added.
1.30	New licensing, increased battery lifetime and Bluetooth Low Energy features added.
1.31	Hardware version changed from 1.00 to 1.10 for approval of explosion group IIC. See section Technical Data [30] .
1.32	Document version correction. Rollback to version number 1.3x and published as V1.32 for editorial reasons. FM approval [36] and certificate [40] added.
1.33	CAUTION notice added in Chapter 3.1 Explosion protection [12] .
1.40	Sections Declaration of conformity [33] and certification marks [36] updated. Nameplate examples in Chapter Technical data [30] updated.
1.41	Section Bluetooth certification [37] updated. External references updated. Section Battery compartment covers [10] added.
1.60	Section DirectHARTMode [19] added, section licensing [26] updated

1.5 Related documentation

The following documentation describes the initial startup of your mobiLink and how to operate the device with the supported application software. See the product website for more info and downloads:

- *Getting Started Guide* V1.41 (shipped with boxed product)
- *Communication Configuration Tool* - User Guide V2.23
- *MOBILINKdtm* - User Guide V1.30

1.6 Document feedback

We would like to encourage you to provide feedback to help us improve the documentation. You can add your comments to the PDF file using the editing tool in Adobe Reader and email your feedback to support.automation@softing.com.

If you prefer to send us your feedback only by email, please include the following information:

- name of document
- document version (as shown on cover page)
- page number

2   About mobiLink

mobiLink is a mobile field device communication designed to configure, manage or troubleshoot HART, FOUNDATION Fieldbus or PROFIBUS PA field devices on an externally-powered HART loop or fieldbus segment. It is suited for hazardous areas (explosive atmospheres) and can be connected by wired or wireless connection to PCs, tablets or smartphones. It can be operated with a mobiLink FDI Communication Server, any common FDT frame application or a configuration tool like Softing's own communication configuration tool *ComConf*. Instead of using an FDT frame application mobiLink can be used with a specific driver to connect to the Yokogawa Field device management tool *FieldMate*. In addition, mobiLink supports HART configuration and communication using the Smart Communicator from ProComSol for android and iOS devices.

2.1   Intended use

mobiLink is used to interface with network segments to configure, commission and maintain connected field devices (HART, FOUNDATION Fieldbus or PROFIBUS PA). mobiLink may be used both in full-scale field installations and offsite on the workbench. As mobiLink does not supply power to the connected devices, a powered HART loop or powered fieldbus segment is required. The device is certified for explosive atmospheres (see ATEX certificate[39]) and can be connected to intrinsically safe field devices.

CAUTION

Do not connect your mobiLink directly to a mains power supply.

Note

Avoid interference with a running system. Exercise utmost care when using mobiLink in operational plants. Ensure that working with mobiLink does not cause process disruption leading to damage, injury, or death. Follow all safety precautions and work procedures in this document!

2.2   Delivery and downloads

The following components are shipped in the product box:

- mobiLink unit
- USB cable (2m)
- set of testing cables red/black with clamp (1m)
- 3 AA batteries[10]
- 2 battery compartment covers[10]
- printed Getting Started Guide

The following components are available for download from the product page:

- mobiLink manager
- Communication Configuration Tool
- MOBILINKdtm
- PACTware

2.3   Functional description

Connector	Foundation Fieldbus	PROFIBUS PA	HART
(1) FIELDBUS red	DATA +	PA +	
(2) Common black	DATA -	PA -	HART N
(3) HART red			HART P

Connector / Button	Function
(4) USB	USB-C Type connector
(5) Bluetooth Button	Activate Visibility for Pairing
(6) Power On/Off Button	On/Off

LED	Function
(7) FIELDBUS	Indicates that the FF/PA Stack has started
(8) HART	Indicates that the HART Stack has started
(9) Bluetooth	On for 2 min = pairing mode; flashing every 2 secs = paired with device; flashing every second = communicating with device
(10) Low battery	Flashing every 2 seconds = battery is low; flashing every 10 seconds = mobiLink is running in increased battery lifetime mode
(11) Power	Steady light = device is turned ON

2.4 Power supply

The device requires batteries for operation. Before using mobiLink for the first time, open the battery compartment on the back of the device and insert the AA non-rechargeable batteries included in the delivery. See also Section [Replacing batteries][11] .

The battery power is monitored by the device. The yellow battery LED lights up when the battery power is low. Check the batteries before using the device. See [Preparing for startup][16] for details.

> **Note**
>
> The battery lifetime is determined by the operation mode (USB or Bluetooth) and the ambient temperature (see [Technical Data][30]).

2.4.1 Battery safety and disposal instructions

Read the following instructions to avoid damage to your device in hazardous areas including injury or fire caused by leaking, overheating, explosion or erosion.

- Operate mobiLink only with the type of batteries specified in chapter [Technical Data][30] . If mobiLink is operated with batteries other than the type specified, the Ex certification becomes invalid.

- Replace the batteries as soon as battery LED starts flashing (every 2 seconds). Discharged batteries must be removed immediately from the device to prevent potential damage.

- Do not remove or install batteries and do not open the battery compartment within hazardous areas.

- Always replace all batteries at the same time using new and equal types. In different states of discharge there is a risk of voltage reversal with progressive risk of leakage or rupture.

- Store batteries in a dry place at normal room temperature. Do not store batteries near or on heat sources such as stoves or ovens.

- For longer times of storage it is recommended to remove batteries from the device to prevent possible damage through leaking batteries.

- Avoid mechanical or electrical abuse. Do not short circuit or install incorrectly. Batteries may explode, pyrolyse or vent if disassembled, crushed, recharged or exposed to high temperatures.

- Do not remove the battery label.

- Do not mix batteries form different manufactures.

- Do not mix new with used batteries.

- Discharged batteries must be removed immediately from mobiLink to prevent possible damage.

2.4.2 Battery compartment covers

A separate battery compartment cover is enclosed with this product. It shows the approvals for the Chinese market. Please replace the fitted cover with the enclosed Chinese version if you intend to operate the device in China or a Chinese-speaking environment.

See Section Replacing batteries[11] for details.

2.4.3 Battery lifetime

The battery lifetime is dependent on the mode of operation and estimated as follows:

Operation	Expected Battery Lifetime
HART over Bluetooth	> 45 hours
Fieldbus over Bluetooth	> 45 hours
HART over USB	> 6 days
Fieldbus over USB	> 1 year

If not connected, mobiLink switches to energy saving mode (power LED is flashing very 2 seconds) after 5 minutes. It will remain in energy saving mode for 25 minutes and will turn itself off automatically if no connected is detected.

2.4.4   Replacing batteries

Follow these steps to replace your mobiLink batteries:

1. Switch off mobiLink.

2. Disconnect the device from FIELDBUS or HART and USB.

3. Unscrew the battery cover on the back.

4. Lift off the cover.

5. Remove the batteries.

6. Insert the replacement batteries as shown on the bottom of the battery compartment.

> ⚠️ **CAUTION**
> Only use the type of batteries specified in chapter [Technical Data](#)^{30} . If mobiLink is operated with batteries other than the type specified, the Ex certification becomes invalid.

7. Ensure the batteries are correctly seated.

8. Replace the battery cover and make sure it is securely in place.

9. Screw the battery compartment cover hand-tight. Do not over-tighten!

3 Safety

mobiLink must be operated by qualified personnel only. The operator is responsible for the transportation, operation and maintenance of the product. Personal safety and protection of the equipment is ensure only if mobiLink is used as intended.

To ensure the safety of personnel and equipment, mobiLink must be used as intended by the manufacturer and in accordance with this manual. Local laws and regulations applicable to the use of this device must be observed.

3.1 Explosion protection

With mobiLink you can establish an intrinsically safe connection to HART, FOUNDATION Fieldbus or PROFIBUS PA devices. The device has been developed for use in hazardous areas, classified as Zone 1/Zone 2 (Gas-Ex Category 2G). It is approved for explosion group IIC and temperature Class T4. mobiLink may be connected to intrinsically safe fieldbus circuits of category "ia".

Make sure that you use the device only in compliance with local safety requirements for installation of electrical equipment for use in hazardous areas associated with explosive atmosphere. In addition, please observe the following:

- Do not open mobiLink except the battery compartment.

- Do not open the battery compartment in explosive atmospheres.

- All information and notices in this document must be fully understood before using the product.

- Make sure that the electrical parameters of mobiLink match the fieldbus installation.

- Do not use a USB connection to your host device inside hazardous areas. (The USB connection is galvanically isolated from mobiLink and may only be connected outside the hazardous area and to USB interfaces if it is ensured that a safety-related maximum voltage of Um = 253V cannot be exceeded even in the event of a fault).

- If mobiLink is or has been connected to non-intrinsically safe electrical circuits or outside the specified electrical parameters the, Ex approval for the mobiLink is void. mobiLink must not be used on intrinsically safe circuits afterwards. Any mobiLink that is or has been connected to non-intrinsically safe electrical circuits must be marked permanently in a clear way to prevent erroneous future use.

- Never use mobiLink with an open housing. Opening the housing invalidates the Ex approval.

- Make sure that the battery compartment is closed before you use mobiLink.

- Do not remove or insert batteries within Ex hazardous areas.

- Use only approved batteries. The use of any other battery type will invalidate the Ex approval and present a safety risk.

- If the notes stated in this excerpt are not observed or in case of inappropriate handling of the device, Softing reserves the right to waive any liability. In addition, the warranty on devices and spare parts will no longer apply.

- The details of this hardware guide have to be observed as have to be the conditions for use and the applicable details stated on the marking and product label.

- Any selection and operation of the device has to be done under consideration of the local requirements for electrical equipment intended for use within hazardous area/location. In the European Union the requirements of the EN 60079-14 must be strictly observed.

- Suitable precautions have to be taken to prevent unintended actuation or impairment of the device.

- The equipment is only approved for the intended use. In case of non-compliance, the warranty and Softing's liability does not longer apply!

- All connected electrical components have to be suitable for the respective intended use.

- The operator must ensure protection against lightning in compliance with local regulations.

Note

If mobiLinkis connected to non-intrinsically safe electrical circuits or if the device is operated outside the specified electrical parameters, the Ex approval is no longer valid. In this case, the device may no longer be used on intrinsically safe circuits and must be clearly marked accordingly for the user to prevent erroneous use.

CAUTION

If mobiLink is used within hazardous (Ex) areas, the device may only be connected to certified circuits. Outside hazardous areas, mobiLink may also be connected to non-intrinsically safe HART and fieldbus systems. It is the sole responsibility of the user to ensure that the maximum permissible voltage Um = 30 V is never exceeded.

3.2   Warning of use

During startup mobiLink tries to verify the operation mode against the connected fieldbus. If fieldbus terminals are connected to an operating 4-20 mA link this will compromise the analog process value. Make sure to use the correct connections and mode.

3.3   Transport, cleaning, maintenance

Transport:

For transportation make sure that mobiLink is mechanically protected against inadvertent switching on. Otherwise remove batteries during transport.

Cleaning:

Periodically wipe the case with a damp cloth. Do not use abrasives or solvents. Do not clean mobiLink inside hazardous areas!

Maintenance:

mobiLink does not contain any serviceable parts. The device may only be modified and repaired by Softing. Opening the housing invalidates the Ex approval and renders the warranty null and void.

4   Installing mobiLink applications

Before you can work with your mobiLink install either a mobiLink FDI Communication Server (for FDI host systems), the MOBILINKdtm (for FDT frame applications) or the Communication Configuration Tool (ComConf). To update the mobiLink firmware, manage optional licenses and enable the DirectHART mode, you will also need to install the mobiLinkManager. You can download all software applications from the mobiLink product site.

1.   Download the latest software.

2.   Double-click the setup file to start the installation.

> **Note**
> You will need administration access rights to install the software. Start the setup as described above and authorize the installation with your access data in a UAC dialog. Make sure that "Softing AG" is mentioned in the UAC dialog as verified publisher. If you are logged on as administrator you will only need to confirm your choice.

3.   Select the installation language.

4.   Follow the install wizard instructions.
      Contact Softing Support if an error occurs during installation

5.   Repeat the download and installation steps for the mobiLink Manager.

5 Working with mobiLink

5.1 Unpacking and inspecting mobiLink

mobiLink is shipped with the components listed in Chapter [Delivery and downloads](#)[7] .

Prior to use:

Before you install mobiLink check the integrity of the device as any of the following poses a safety risk:

- external damage to the housing
- damage to insulation of the test leads
- exposure to voltages exceeding the specified parameters
- incorrect storage of the unit
- damage sustained in transit
- incomplete or illegible certificates or labels

> **Note**
> If the device is damaged, contact Softing Support immediately.

5.2 Connection types

mobiLink can be connected via USB interface or via Bluetooth. The choice of connection is dependent on whether the device is used inside of hazardous areas or outside of hazardous areas.

Inside hazardous areas, the Bluetooth connection must be used. The use of the USB interface in hazardous areas is strictly prohibited. Always plug in the plastic cover over the USB for protection.

Outside hazardous areas, a USB connection may be used. It is permitted to connect intrinsically safe circuits to the Fieldbus and HART interface as long as intrinsically safe parameters are observed, see Chapter [Technical data](#)[30] .

5.3 Preparing for startup

Before using mobiLink in combination with the FOUNDATION Fieldbus or PROFIBUS PA protocol for the first time, make sure that your mobiLink is running the latest firmware version for the supported protocols. See the [mobiLink product site](#) for the latest firmware version and Chapter [Updating the firmware](#)[29] on how to install the firmware.

1. Set up a USB or Bluetooth connection before your start your mobiLink.

2. Ensure that the mobiLink device has batteries inserted. If not, insert batteries as described in chapter [Replacing batteries](#)[11] .

3. Press the power button for about 2 seconds to switch on mobiLink and wait 5 seconds until the battery check is performed. Check if the battery power is sufficient. Low battery power is indicated by a yellow flashing battery LED.

5.3.1 USB connection

If you connect mobiLink to a host device over the USB port, mobiLink automatically starts USB communication. Conversely, if you switch on mobiLink without a wired USB connection, the device automatically activates wireless Bluetooth communication. It is not possible to use Bluetooth while the USB cable is connected. When disconnecting the USB cable during operation, mobiLink is powered off. Connecting the USB cable during Bluetooth operation will cause mobiLink to reboot.

> **CAUTION**
> The USB connection is not certified for use in explosive atmospheres.

5.3.2 Bluetooth pairing

mobiLink supports the Bluetooth Low Energy (BLE) protocol known as Bluetooth Smart. In Bluetooth communication, mobiLink acts as peripheral device to your PC, smartphone or tablet and is visible at all times as *mL<SerialNumber>_BLE* without having to press the Bluetooth button. Currently, only Bluetooth devices running on iOS (Apple) support BLE. Most Android devices typically still work with Bluetooth classic only. Pairing with Bluetooth classic is required only for the first time you are connecting to your PC, smartphone or tablet.

1. Press the power button for 2 seconds to switch on mobiLink.
   mobiLinkis visible to BLE masters at all times. This means that an application on a platform supporting BLE will automatically scan for mobiLink and connect to it.

2. Press the Bluetooth button for more than two seconds to pair with Bluetooth classic peripheral devices.
   The blue Bluetooth LED lights up. mobiLink is now visible to Bluetooth classic devices for 2 minutes and can be paired.

3. Start the Bluetooth scan function on your Bluetooth device. When a new device with the name mobiLink appears, followed by the serial number select mobiLink for pairing. It is not necessary to enter a PIN or passphrase.

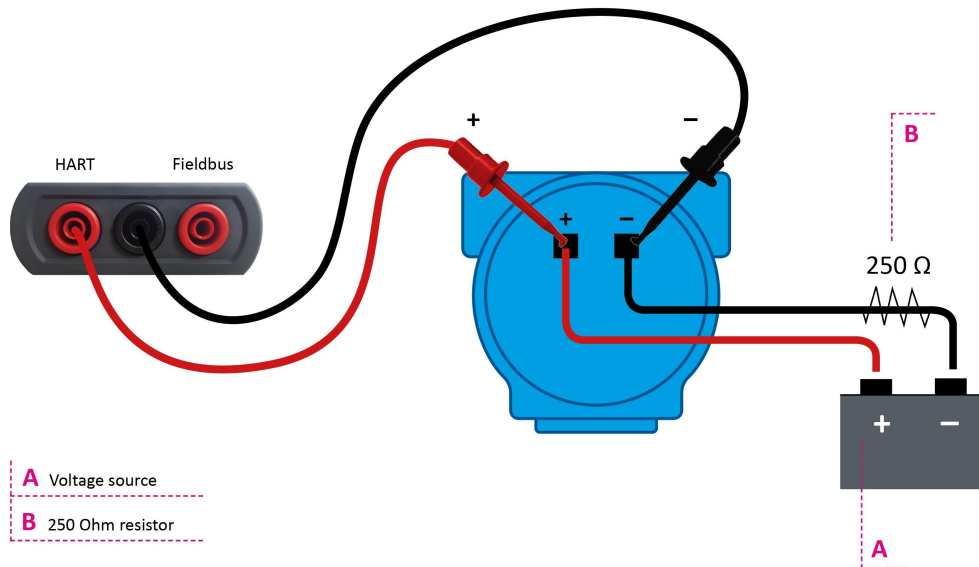4. Press the power button for about 2 seconds to switch off mobiLink.

> **Note**
> When mobiLink is switched on and the device is not connected to a USB cable, the Bluetooth communication mode is activated by default. You do not need to press the Bluetooth button to establish communication with a paired host device.

5.4   Using mobiLink in a HART environment

HART communicates on a 4-20 mA current loop that powers the connected HART devices and indicates the primary process value. Ensure that you are connected to a powered HART loop as mobiLink does not power devices on the HART loop.

Before connecting mobiLink to intrinsically safe circuits, make sure that the electrical intrinsic safety parameters are observed (see Section Technical Data $\square^{30}$ for more details).

A Voltage source

B 250 Ohm resistor

Setting up a HART connection

1.   Connect mobiLink to a HART environment as shown above.

2.   Connect mobiLink to your PC (or smartphone or tablet) using Bluetooth or USB.

3.   Press the power button for about 2 seconds to switch on mobiLink.

4.   Start an application of your choice on your PC (or smartphone or tablet).

5.   Select mobiLink as HART interface.

> **Note**
> The mode of operation is selected by the application used (MOBILINKdtm). mobiLink checks if the electrical conditions on the interface match the selected mode. mobiLink must therefore be connected to a HART device or fieldbus segment before the application is started.

6.   Verify that the HART LED is indicating HART mode.
      The LED is flashing every 2 seconds.

5.4.1 Prerequisites

- mobiLink must be connected with your PC.

- The mobiLink Manager must have been downloaded from the [product website](#) to your PC.

5.4.2 DirectHARTMode

mobiLink typically runs a HART stack when HART operation is enabled. The stack checks the timing and timeout, calculates the HART frame checksum and performs automatic retries when a slave does not respond in time or responds with an incorrect checksum. Dedicated applications like the MOBILINKdtm or DevCom are using the mobiLink HART stack accordingly.

Unlike mobiLink, other HART master implementations on your PC may use a HART modem only as physical interface to the HART network. Timing, checksum calculations and retries due to lost or incorrect responses from HART slaves are handled by these applications. The HART modem has a virtual com port (serial interface) that is used by the application.

While the AMS device manager supports HART device integration in this way, other applications such as PACTware or DevCom support both the optimized HART stack or a generic approach via a USB serial HART modem. As of version 1.60, mobiLink supports DirectHART Mode. The mobiLink driver supports a virtual com port in addition to a mobiLink interface board. When you connect your mobiLink on the USB port, the Windows device manager now displays two HART entries.

Note

If you are using an older mobiLink version you will need to re-install the mobiLink driver V1.60 in addition to updating the firmware to the latest version!

Note

DirectHART is currently not supported for connections via Bluetooth. The DirectHARTMode has to be enabled explicitly after your mobiLink is powered on.

The DirectHARTMode must be enabled explicitly after a mobiLink is powered on. This is done in the mobiLink Manager or a console application as described in the following chapters. Enabling the DirectHART Mode requires a connection to the mobiLink. Therefore, make sure that no application has opened the virtual com port assigned to the mobiLink. For instance, when using the AMS device manager, it is not sufficient to stop the AMS device manager but it is also necessary to use the Terminate All Server application from AMS because the virtual com port is still used in the background even if the AMS device manager GUI is stopped.

There are two ways to terminate the DirectHARTMode:

1. If you have selected the option **use inactivity timeout** and you have entered a timeout value in seconds in the mobiLink Manager, the DirectHART Mode is automatically turned off when no host activity is detected on the related virtual com port. It is also possible to disable the timeout supervision by specifying a timeout value 0. The timeout is given in seconds with a minimum value of 30 seconds.

2. If you have not set a timeout value in the mobiLink Manager, simply terminate the DirectHARTMode by power cycling your mobiLink device.

5.4.3 Using mobiLink manager to enable DirectHARTMode

1. Start the mobiLink Manager on your PC.

2. Select the DirectHARTMode tab.
    The window will display all mobiLink / mobiLink Power devices you are connected to.

3. Select a mobiLink device. The application selects by default always the first entry in the device list.

4. Check the **use inactivity timeout** option and enter the required timeout value in seconds in the **DirectHARTMode inactivity timeout in s** field. Acceptable timeout values range 30 to 4294967 seconds. If no timeout supervision is required, uncheck the **use inactivity timeout** option.
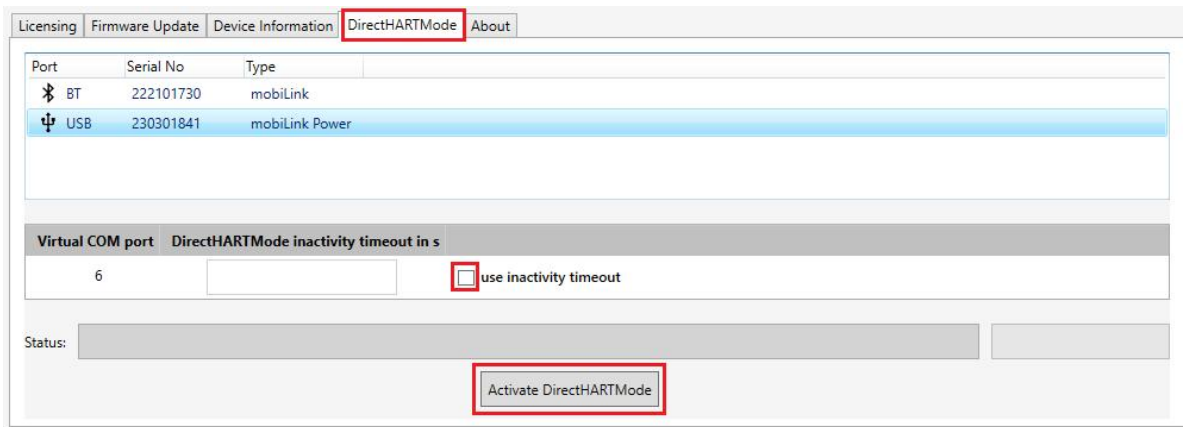
5. Click **[Activate DirectHARTMode]**.
    mobiLink will now run in DirectHART Mode. It will remain visible in the mobiLink Manager when it is not opened by an application. If the *Activate DirectHARTMode* request fails an error message is displayed in the Status field in the DirectHARTMode tab.

> **Note**
> When a mobiLink is operating in DirectHARTMode access from the mobiLink Manager to the mobiLink is not possible. Retrieving firmware versions or license status is not possible in this mode.

5.4.4 Using console application to enable DirectHARTMode

The installation of the console application is contained in the mobiLink Manager setup. You will find the console application executable under *c:\Program Files (x86) \Softing\directHARTMode\DirectHARTMode.exe*. The installation also creates a shortcut in the start menu under folder Softing named DirectHARTMode.

When the short cut is used or when the *DirectHARTMode.exe* file is launched by double click, the console application is executed. However, no argument can be passed nor are the outputs visible. It is therefore recommended to proceed as follows:

1. Open a CMD prompt.

2. Enter command *cd c:\Program Files (x86)\Softing\directHARTMode* and start the console application by typing DirectHARTMode.exe or DirectHARTMode

5.4.4.1 Parameters

The setup also installs a HART.ini file in the folder *[ALLUSERSPROFILE]\ Softing\mobiLink* which usually applies to *c:\ProgramData\Softing\mobiLink\HART.ini*. The content of this file or command line arguments can be given for specifying the serial number of the mobiLink that should be accessed or the timeout value for the supervision of host accesses using the DirectHART mode.

The following table shows the attributes that can be used in the HART.ini and their meaning. The key attributes have to be in a section [HART cut-through settings] within the HART.ini file. The entries have to be in the form:

<KeyAttribute>=<Value>

Key attributes	Values	Description
SerialNumber	0 9 digit serial number	0 can be used to address any mobiLink connected via USB. If an explicit serial number is specified, the specified mobiLink will be accessed.
Timeout	0 30 - 4294967	Specifies the supervision timeout for the DirectHARTmode. If no application is accessing the mobiLink in DirectHARTMode the supervision timer would expire. Value 0: Disable timeout supervision 30 – 4294967: Supervision timeout in seconds 1—30: Use supervision timeout 30 s

Example 1:
```
[HART cut-through settings]

SerialNumber    =   0

Timeout         =   1200
```

Note

This is the same setting that would be used when no HART.ini file is present or the key attributes are not contained in the file. The timeout is set to 1200 seconds or 20 minutes. Any mobiLink will be accessed.

Example 2:
```
[HART cut-through settings]

SerialNumber    =   233600502

Timeout         =   1200
```

Note

Timeout is set to 1200 seconds or 20 minutes. mobiLink with serial number 233600502 will be accessed.

Example 3:
```
[HART cut-through settings]

SerialNumber    =   233600502

Timeout         =   0
```

Note

The timeout supervision is disabled, mobiLink with serial number 233600502 will be accessed. You can also specify command line arguments to determine the supervision timeout or the serial number of the mobiLink that should be accessed. The value given as a command line has a higher precedence than the value specified via the HART.ini entry. The following list shows the supported command line parameters.

Argument	Values	Description
-s<serialNumber>	0 9 digit serial number	Same as SerialNumber attribute in HART.ini file
-t<timeoutValue>	0 30 - 4294967	Same as Timeout attribute in HART.ini file

Example 1:

```
DirectHARTMode
```

Note

The attribute values from HART.ini file or default values are used.

Example 2:

```
DirectHARTMode -s233600502
```

Note

If you access the mobiLink with serial number 233600502, timeout is set to the value specified via the HART.ini file or is set to the default value.

Example 3:

```
DirectHARTMode -t120
```

Note

Use supervision timeout of 120 seconds (2 minutes), the serial number will be used either from the HART.ini file or the default value would be used.

Example 4:

```
DirectHARTMode -s233600502 -t1200
```

Note

Use supervision timeout of 1200 seconds (20 minutes), access mobiLink with serial number 233600502.

If a value is not defined via the *HART.ini* file or a command line argument a default value is used. The following table shows the used default values:

Attribute	Default value	Description
Serial Number	0	Access any connected mobiLink
Timeout Value	1200	Supervision timeout 20 minutes (1200 seconds)

5.4.4.2   Virtual Com Port

You can determine the virtual com port assigned to your mobiLink in the COM & LPT section of the device manager. You can find the same information in the DirectHARTMode application. The information is printed to the console as shown in the following example:

```
Using device with S/N:0 (using program argument value), timeout for HART
direct mode: 0 (using program argument value)

Number of virtual com port assigned for this mobilink is 13

HART direct mode is enabled now, no further FBAPI service will work before
mobiLink power cycle is done
```

In addition, a text file is created in the same directory where the *HART.ini file* resides *([ALLUSERSPROFILE]\Softing\mobiLink -> c:\ProgramData\Softing\mobiLink)*. The name of the file is *mobiLink<SerialNumber>_ComPort.txtl,* where *SerialNumber* is the serial number of the mobiLink that has been accessed. So when using serial number 0 for the console application this shows which mobiLink is accessed.

Content of the file *mobiLink<SerialNumber>_ComPort.txt*:

com port ss for used mobiLink with S/N: nnnnnnnnn

Example:
com port 13 for used mobiLink with S/N: 200200906

5.5   Using mobiLink in a fieldbus environment

FOUNDATION Fieldbus and PROFIBUS PA use the same physical layer on your mobiLink. The device checks the fieldbus voltage and the polarity during start-up. If a problem is detected, mobiLink will not set up a connection. Before connecting mobiLink to intrinsically safe circuits make sure that the electrical intrinsic safety parameters are observed (see Section <u>Technical Data</u> [30] for more details). As mobiLink does not power devices on a fieldbus segment, ensure that you are connected to a powered fieldbus segment.

⚠️ **CAUTION**

mobiLink draws approximately 10 mA from the fieldbus segment when   connected to your PC, smartphone or tablet. Ensure that the fieldbus power supply covers the additional amperage. If the power supply is running near its capacity, connecting the mobiLink may result in loss of communication.

ℹ️ **Note**

If you intend to access field devices over FOUNDATION Fieldbus or PROFIBUS PA you will need to acquire a separate license. See Chapter <u>Licencing mobiLink for FF and PA</u> [26] for details.

A External terminator   **B** Terminator (included inside power supply)   **C** Fieldbus power supply
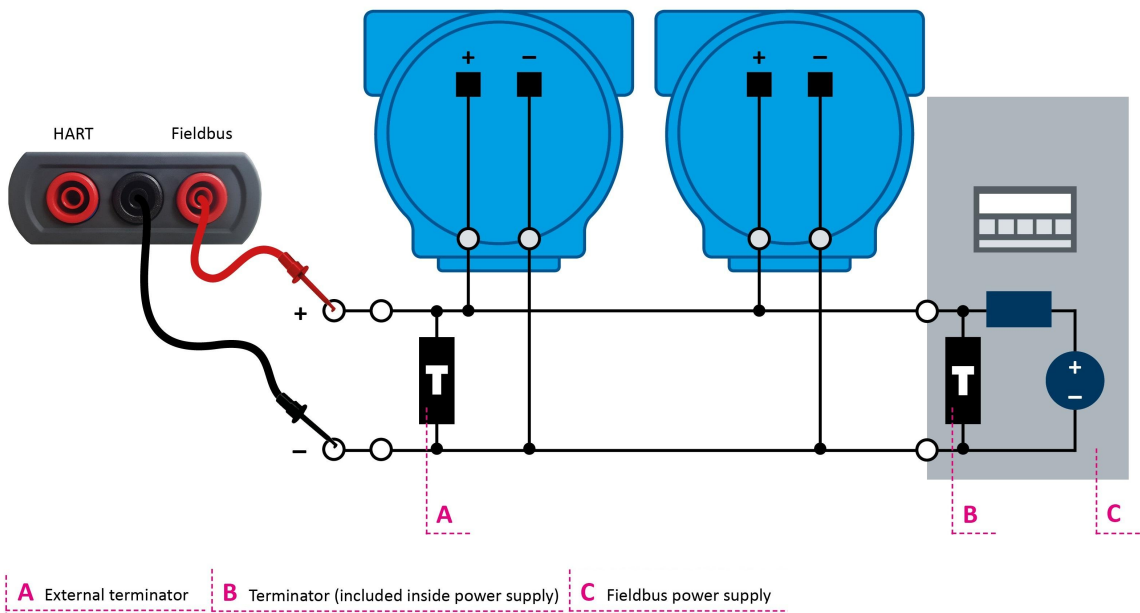
Setting up a fieldbus connection

1. Connect mobiLink to a fieldbus environment as shown above.

2. Connect mobiLink to your PC (or smartphone or tablet) using Bluetooth or USB.

3. Press the power button for about 2 seconds to switch on mobiLink.

4. Start an application of your choice on your PC (or smartphone or tablet).

5. Select mobiLink as fieldbus interface.

> **Note**
>
> The mode of operation is selected by the application used (MOBILINKdtm or ComConf). mobiLink checks if the electrical conditions on the interface match the selected mode. mobiLink must therefore be connected to a HART device or fieldbus segment before the application is started.

6. Verify that the FIELDBUS LED is indicating fieldbus mode.
    The LED is flashing every 2 seconds.

5.5.1   Special notes for PROFIBUS PA

All PROFIBUS PA masters must use the same bus parameters per PA segment. mobiLink has been tested and approved in conjunction with the following PA Masters:

- Softing Gateways (pnGate PA/PB, mbGate PA)

- Siemens PA Link (IM-153)

- Pepperl + Fuchs SK3

- Pepperl + Fuchs Basic Segment Coupler

Restrictions:

The following PA masters are not able to communicate with mobiLink:

- Pepperl + Fuchs SK1 & SK2

For details on how to set the bus parameters see the corresponding *MOBILINKdtm* User Guide.

5.5.2 Licensing mobiLink for FF and PA

To use mobiLink for FOUNDATION Fieldbus and PROFIBUS PA you will need to activate a corresponding license. The license is optional and is not included in the standard delivery.

1. Open the mobiLink Manager you downloaded previously to read out the Host ID.

2. Select the **Licensing** tab.

3. Click **[Read]** for the mobiLink you wish to license. The Host ID is displayed.

4. Click **[Copy]**.

5. Go to the Softing Industrial website and click the 👤 icon in the upper right corner to register yourself or select this My Softing Portal link. When you are registered and logged in you are directed to the **My Softing Dashboard**.

6. Select **Licenses → Activate License** in the side menu.
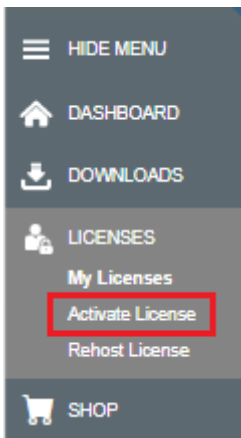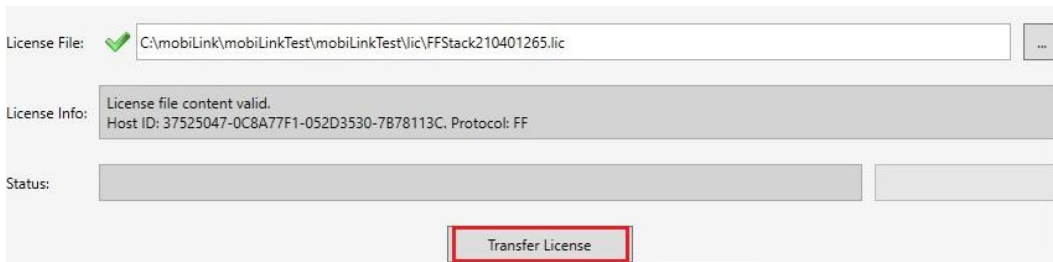
7. Enter the **license key** from your License Certificate in the license key input field.
You will have received the License Certificate when you purchased the FOUNDATION Fieldbus or PROFIBUS PA license.

8. Paste the host ID you copied in Step 4 into the **Host ID** field of the My Softing page.

9. Click **[Activate License]**.
A license file is generated and downloaded to your PC.

10. Switch to the mobiLink Manager application.

11. Select the mobiLink with the corresponding Host ID.

12. Click the icon [...] to search for the license file on your PC and click **[Open]**.

13. Click **[Transfer License]**.
The progress bar shows the installation status.
You will be notified when the installation is completed.

5.6   Using mobiLink in explosive atmospheres

In explosive atmospheres, mobiLink must connect to PCs, smartphones or tablets over Bluetooth. Outside of explosive atmospheres, mobiLink can be connected via USB interface.

mobiLink meets the intrinsic safety requirements for hazardous areas classified as Zone 1/Zone 2 (Gas-Ex Category 2G). It can be connected to HART loops or fieldbus segments that are attached to equipment located in Zone 0/1/2 Group IIC locations.

For guidance on U.S. installations, see ANSI/ISA-RP12.06.01, Installation of Intrinsically Safe Systems for Hazardous (Classified) Locations. All installations must comply with the instructions in this user guide. Tampering and replacement with non-factory components may adversely affect the safe use of the system. Installations in the US must comply with the relevant requirements of the National Electrical Code® (ANSI/NFPA-70 (NEC®). Installations in Canada must comply with the relevant requirements of the Canadian Electrical Code, Part 1 (CSA C22.1) and CSA C22.2 No 213:2017 (or UL121201:2017), Section 9.2.1 (Hazardous location related marking) and Sections 18.2 to 18.5.

Note

For installations in accordance with Canadian and US regulations see the safety-relevant FM control drawing[32] (also available for download from the mobiLink product site).

CAUTION

Always close the USB cover flap to protect the USB connector.

CAUTION

Use only approved batteries. See Technical Data[30] for details.

Note

You may connect intrinsically safe circuits to the Fieldbus and HART interface as long as mobiLink itself is used outside hazardous areas and within intrinsically safe parameters. For more details see section Technical Data[30] .

WARNING

Connecting mobiLink to non-intrinsically safe electrical circuits or operating the product outside the specified electrical parameters will invalidate the Ex approval. In this case, mobiLink may no longer be used on intrinsically safe circuits and must be clearly marked accordingly for the user to prevent erroneous use.

5.7 Increasing the battery lifetime

You can increase the lifetime of your mobiLink battery by drawing 18 mA from the fieldbus instead of the standard 10 mA. Simply press the Bluetooth button for at least 3 seconds. The low battery LED will flash 2 or 3 times to indicate a change of power consumption from the fieldbus. When this mode is activated, the low battery LED will flash every 5 seconds.

Note
Remember that a higher power consumption of 18 mA may adversely affect the performance of the fieldbus segment to which your mobiLink is connected.

The battery lifetime can only be increased for fieldbus applications. As no power is drawn from a HART loop, mobiLink is fully dependent on the batteries for power.

5.8 Updating the firmware

For updating the mobiLink firmware you can choose among three different firmware files each addressing one of the supported protocols: HART, FOUNDATION Fieldbus and PROFIBUS PA.

1. Download the latest firmware version from the [mobiLink product site](#) to your PC.
    Each supported protocol has its own firmware version. So you will have to choose one or all three files (HART, FF, PA) for download.

2. Start the mobiLink Manager on your PC.

3. Select the **Firmware Update** tab.

4. Select a mobiLink device.
    The window will display all devices to which you are connected.

5. Click the icon [...] to select the firmware file you just downloaded.
    The version of the firmware is shown in the **Firmware Tag** field.
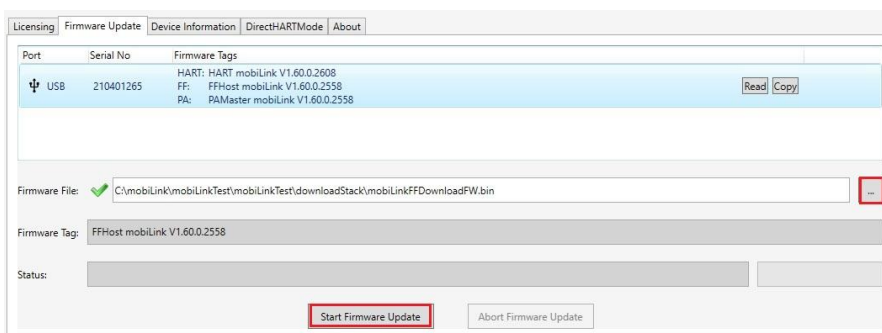
6. Click **[Start Firmware Update]**.
    The progress bar in the bottom right corner indicates the update status. When the update is completed you will see the status message **Firmware update succeeded**.

6   Technical data

Fieldbus Interface (Foundation Fieldbus / PROFIBUS-PA)	
Connection	Polarized 4 mm banana type jacks (red /black)
Physical Layer	according to IEC 61158-2, Type 1: 31.25 Kbit/s, voltage mode
Nominal input current (Fieldbus)	10 mA (with $U_{fieldbus}$ > 9.0 V) 18 mA for increased battery lifetime (with $U_{fieldbus}$ > 9.5 V)
Fieldbus Terminator	No Fieldbus Terminator included
Input Voltage for use in non hazardous area and non-intrinsically safe circuits	+9 ... +32 V
HART Interface	
Connection	4mm banana type jacks (red / black)
Physical Layer	HART FSK compliant modem
Intrinsic safety Fieldbus / HART	
Intrinsic safety parameters	According to IBExU 18 ATEX 1001 or IECEx IBE 18.0001 Li negligible low, Ci 5nF EX ia IIC, Ui = 30V FISCO
Isolation	1500 VDC between USB and fieldbus 1500 VDC between USB and HART
Bluetooth	
Bluetooth RF module	Laird BT900
BT mode	Dual Mode (Classic Bluetooth and Bluetooth Low Energy)
Output Power	+8 dBm (maximum)
Range	14 m
USB	
Speed	USB 2.0 Full Speed
Connector	USB Type C
Electrical	Non-intrinsically safe Do not use inside hazardous areas 5 V, 100 mA Um = 253 V port sensible to ESD
Batteries	
Battery Type	Alkaline, IEC-LR6, nominal voltage 1.5 V. For use in hazardous areas. Energizer E91 or Duracell Procell MN1500. Batteries of other types or manufacturers will invalidate certification.

Environmental Conditions	
Ingress protection	IP54 (with USB covered with cap)
Operating temperature	-20 °C .. +50 °C
Storage	Store batteries in a dry place at normal room temperature.
Drop	1 m
Approvals, Markings	
ATEX	IBExU 18 ATEX 1001 II 2G Ex ib [ia Ga] IIC T4 Gb II 2G Ex ib [ia Da] IIIC T100 °C Db
IECEx	IECEx IBE 18.0001 Ex ib [ia Ga] IIC T4 Gb Ex ib [ia Da] IIIC T100 °C Db
FM	US: FM19US0136X IS for Class I, II, III, Division 1, Groups A, B, C, D, E, F, G T4 Class I, II, III, Division 2, Groups A, B, C, D, E, F, G T4 Class I, Zone 0, AEx/Ex ia IIC T4 Ga Class I, Zone 20, AEx/Ex ia IIIC T100°C Canada: FM19CA0073X

Nameplate examples

6.1   FM control drawing

HAZARDOUS (CLASSIFIED) LOCATION

US: IS for Class I, II, III, Division 1, Groups A, B, C, D, E, F, G T4
         Class I, II, III, Division 2, Groups A, B, C, D, E, F, G T4
         Class I, Zone 0, AEx/Ex ia IIC T4 Ga
         Class I, Zone 20, AEx/Ex ia IIIC T100°C

Canada: IS for Class I, II, III, Division 1, Groups A, B, C, D, E, F, G T4
        Class I, II, III, Division 2, Groups A, B, C, D, E, F, G T4
        Class I, Zone 0, AEx/Ex ia IIC T4 Ga
        Class I, Zone 20, AEx/Ex ia IIIC T100°C
        -20°C <= T_{amb} <= +50°C

HART communication
Connect to certified Intrinsically safe circuit only

HART + COM Terminal
U_i = 30V
C_i = 5nF
L_i = negligible

Fieldbus Foundation
Connect to certified Intrinsically safe circuit only

Fieldbus + COM Terminal
U_i = 30V
C_i = 5nF
L_i = negligible

COM   Fieldbus

HART   COM

USB terminal must not be used
inside hazardous area

NONHAZARDOUS LOCATION
or
Hazardous (Classified) Location
as identified on the product label

Notes:

1. Installation must be in accordance with ANSI/ISA RP12.06.01 "Installation of Intrinsically Safe Systems for Hazardous (Classified) Locations" and the National Electrical Code® (ANSI-NFPA 70).
2. Installation in Canada should be in accordance with the Canadian Electrical Code, CSA C22.1, Part 1, Appendix F.
3. Installation and commissioning of the device must be performed by trained personnel only.
4. This drawing describes the use of the mobiLink. It is not intended as reference for installing a fieldbus
5. USB must not be used inside hazardous areas.
6. Do not remove or install batteries within Ex hazardous areas
7. Use only approved batteries. The use of other batteries will invalidate the Ex approval and present a safety risk.
8. Do not mix battery from different manufactures and Do not mix new with used batteries.
9. Never use mobiLink with an open housing.
10. See also the safety information in the user manual.
11. No revision to this drawing is permitted without FM approval.

This document contains safety -relevant information. It must not be altered without the authorization of the norm expert.

WARNING:
DO NOT OPEN INSIDE HAZARDOUS AREAS.
RISK OF EXPLOSION IF BATTERY IS
REPLACED. ALWAYS USE BATTERIES OF
SAME TYPE AND CAPACITY. PROPERLY
DISPOSE OF USED BATTERIES. SEE
INSTRUCTIONS FOR DETAILS

AVERTISSEMENT:
AFIN DE PRÉVENIR L' INFLAMMATION D'
ATMOSPHÈRES DANGEREUSES, NE
CHANGER LES BATTERIES QUE DANS DES
EMPLACEMENTS DÉSIGNÉS NON
DANGEREUX

softing
Softing Industrial
Automation GmbH
D-85540 Haar, Germany

FM CONTROL DRAWING FOR mobiLink
FOR ENTITY AND FISCO IS INSTALLATIONS

A	11/08/2019	Drawing Number	Rev: 0
		mobilink_CDWG20191108	
		SHEET	1 of 1

7   Declaration of conformity

This product is in conformity with the provisions of the following European Directives.

- 2014/30/EU "EMC"   The EMC Directive 2014/30/EU "Electromagnetic Compatibility" ensures that electrical and electronic equipment does not generate, or is not affected by, electromagnetic disturbance.

- 2014/34/EU "ATEX"   The ATEX Directive 2014/34/EU "Atmosphères Explosibles" covers equipment and protective systems intended for use in potentially explosive atmospheres. The Directive defines the essential health and safety requirements and conformity assessment procedures to be applied before products are placed on the EU market.

- 2014/53/EU "RED"   The RED 2014/53/EU "Radio Equipment Directive" ensures a Single Market for radio equipment by setting essential requirements for safety and health, electromagnetic compatibility, and the efficient use of the radio spectrum. It applies to all products using the radio frequency spectrum.

- 2011/65/EU "RoHS"   The RoHS Directive 2011/65/EU "Restriction of Hazardous Substances" covers the use and the amount of certain hazardous substances that can be used in electrical and electronic equipment to prevent these substances from entering the production process and thereby keep them out of the waste stream.

- 2012/19/EU "WEEE"   The WEEE Directive 2012/19/EU "Waste of electrical and electronic equipment" is closely linked to the Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS Directive). It ensures that customers can return there WEEE free of charge.

EU-Konformitätserklärung
EU Declaration of Conformity

Wir
We

Softing Industrial Automation GmbH
Richard-Reitzner-Allee 6
D-85540 Haar

erklären hiermit in alleiniger Verantwortung, dass das Produkt
declare under our sole responsibility that the product

Modell / Typ
Model / Type

mobiLink V1.00, mobiLink V1.01, mobiLink V1.10, mobiLink V1.15, mobiLink V1.16

mit den Anforderungen der folgenden Richtlinien übereinstimmt
complies with the requirements of the following directives

ATEX-Richtlinie 2014/34/EU
ATEX directive 2014/34/EU
EMV Richtlinie 2014/30/EU
EMC directive 2014/30/EU
RED-Richtlinie 2014/53/EU
Radio Equipment Directive 2014/53/EU
ROHS-Richtlinie 2011/65/EU
ROHS directive 2011/165/EU

Baumusterprüfbescheinigung   **IBExU 18 ATEX 1001**
Type Examination Certificate

Kennzeichnung   **II 2G Ex ib [ia Ga] IIC T4 Gb**
marking   **II 2D Ex ib [ia Da] IIIC T100°C Db**

Angewandte harmonisierte Normen
Applied harmonised standards

EN 55032:2015, Class B
EN 61326-1:2013
EN 61000-6-2:2005/AC :2005
EN IEC 60079-0:2018
EN 60079-11:2012
EN 300328 V2.2.2
EN 301489-1 V2.2.3
EN 301489-17 V3.2.4
EN 62311:2008
EN 62368-1:2014+AC:2015
EN IEC 63000:2018

Ort, Datum
Place, Date

Geschäftsführer
Managing Director

Template: V1.09

Version: 1.17

SUPPLIER'S DECLARATION OF CONFORMITY

Per FCC Part 2 Section 2.1077(a)

Responsible Party Name:	**Softing Inc.**
Address:	**7209 Chapman Highway** **Knoxville, TN 37920** **USA**
Phone/Fax No:	**+1.865.251-5252 / +1.865-579-4740**
Product Name:	**mobiLink**

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
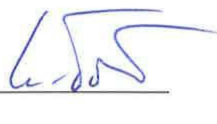
NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate 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.

WARNING: Changes or modifications without the approval of manufacturer could void the user's authority to operate the equipment

Representative Person's Name	Dr. Wolfgang Trier, CEO
Date, Signature:	June 21st, 2019

7.1 Certification marks

mobiLink is an internationally certified product conforming with the required standards and regulations indicated by the following certification marks:

CE

The CE marking indicates that the product conforms to EU health, safety and environmental requirements and that compliance with the above EU Directives has been made and can be requested from Softing Industrial Automation GmbH.

FCC

The FCC mark (Federal Communications Commission) certifies radio frequency devices in the United States. It sets limits on intentional and unintentional electromagnetic radiation to protect the electromagnetic spectrum. mobiLink has been tested and found to comply with the limits for a Class B digital device, under part 15 of the FCC Rules.

FM

The FM mark is authorized by FM (Factory Mutal) Approvals. In combination with the letters "C" and "US" it certifies that the product it marked has been evaluated in accordance with Canadian and U.S. standards and requirements.

EAC

The EAC mark (Eurasian Conformity) certifies that the product complies with the applicable safety requirements of the Eurasian Economic Union, which are defined in the Technical Regulations of the Eurasian Economic Union. It is similar in content to the European CE mark.

KC

The KC mark (Korea Certification) certifies compliance with Korean product safety requirements for electrical and electronic equipment.

WEEE

The WEEE mark (Waste of Electrical and Electronic Equipment) indicates that the product including batteries must be disposed of separately from normal waste at the end of its operational lifetime. Packaging material and worn components shall be disposed of in compliance with national law and local waste-disposal regulations.

ATEX

The ATEX/EX mark (Atmosphères Explosibles) indicates that the product is tested and certified for end-users in the European Union and meets the explosive atmosphere standards under ATEX Directive 2014/34/EU.

HART

The HART mark indicates that this product support the HART communication protocol (Highway Addressable Remote Transducer) on 4-20mA loops.

Fieldbus Foundation

The Fieldbus Foundation mark indicates that this product supports the Fieldbus specification for host devices.

Bluetooth

This mark indicates that the product is certified for Bluetooth wireless communication.

7.2   Bluetooth certification

Devices operating with Bluetooth wireless technology must have an identification number assigned by the Federal Communications Commission (FCC), authorizing wireless devices for sale in the USA and an identification number assigned by Industry Canada (IC), authorizing wireless devices for sale in Canada.

mobiLink is certified for Bluetooth wireless communication in the following regions and countries:

- EU
- USA
- Canada
- Japan
- Russia
- India
- South Korea
- United Arab Emirates (UAE)

7.2.1   Use in the United States of America

mobiLink contains a transmitter with FCC ID grantee code SQGBT900.

The device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- The device may not cause harmful interference.

- The device must accept any interference received, including interference that may cause undesired operation.

mobiLink complies 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 device 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 to 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.

7.2.2   Use in Canada

mobiLink contains a transmitter with the IC identification 3147A-BT900.

Industry Canada (IC) Warning statement

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

IC Radiation Exposure Statement

This EUT is compliance with SAR for general population/uncontrolled exposure limits in IC RSS-102 and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528.

7.2.3   Use in Japan

The Bluetooth module type BT900-SA which is operated by mobiLink is approved for use in the Japanese market. The module has the certificate number 142-150156/AA/00.

7.3 ATEX EC certificate

IBExU Institut für Sicherheitstechnik GmbH
An-Institut der TU Bergakademie Freiberg

[1] **EU-TYPE EXAMINATION CERTIFICATE - Translation**

[2] Equipment or protective systems
intended for use in potentially explosive atmospheres, Directive 2014/34/EU

[3] EU-type examination certificate number **IBExU18ATEX1001** | Issue 1

[4] Product: **mobiLink**

[5] Manufacturer: Softing Industrial Automation GmbH

[6] Address: Richard-Reitzner-Allee 6
85540 Haar
GERMANY

[7] This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8] IBExU Institut für Sicherheitstechnik GmbH, notified body number 0637 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the essential health and safety requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential test report IB-19-3-0055.

[9] Compliance with the essential health and safety requirements has been assured by compliance with:
EN IEC 60079-0:2018 and EN 60079-11:2012
except in respect of those requirements listed at item [18] of the schedule.

[10] If the sign "X" is placed after the certificate number, it indicates that the product is subject to the specific conditions of use specified in the schedule to this certificate.

[11] This EU-type examination certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

[12] The marking of the product shall include the following:

〈Ex〉 II 2G Ex ib [ia Ga] IIC T4 Gb
〈Ex〉 II 2D Ex ib [ia Da] IIIC T100 °C Db
-20 °C ≤ T_{amb} ≤ +50 °C

IBExU Institut für Sicherheitstechnik GmbH
Fuchsmühlenweg 7
09599 Freiberg, GERMANY

Tel: + 49 (0) 37 31 / 38 05 0
Fax: + 49 (0) 37 31 / 38 05 10

By order

signature

Dipl.-Ing. [FH] Henker

Certificates without signature and seal are not valid. Certificates may only be duplicated completely and unchanged. In case of dispute, the German text shall prevail.

- Seal -
(notified body number 0637)

Freiberg, 2019-05-09

IBExU Institut für Sicherheitstechnik GmbH
An-Institut der TU Bergakademie Freiberg

[13] **Schedule**

[14] **Certificate number IBExU18ATEX1001** | Issue 1

[15] **Description of product**
mobiLink is a handheld battery-powered interface providing access to HART devices, Foundation Fieldbus devices or PROFIBUS PA devices from personal computers, tablet computers or smartphones via USB or Bluetooth connections.
mobiLink may be used in hazardous areas to configure and manage field devices. It may be connected to certified intrinsically safe fieldbus circuits during operation.
According to FISCO, IEC 60079-11 annex G, it is a field device.
The user has to make sure that the electrical parameters of the mobilink match the fieldbus installation.

Safety relevant hint:
USB must not be used inside hazardous areas.

Technical data

Ambient temperature:	-20 °C to +50 °C
Ex-area:	zones 1, 21
Gas-classification:	IIC
Dust-classification:	IIIC
FISCO field device	
Intrinsically safety ratings:	FISCO
	or
	Ex ia IIC, U_i = 30 V, L_i negligible, C_i 5 nF
non intrinsic safe interface	USB 2.0
U_{nom}	5 V
I_{nom}	100 mA
U_m	253 V
Bluetooth:	
RF power:	8 dbm / 7 mW

Variations compared to issue 0 of this certificate:

Variation 1
A dissipative foil is used thus the device may be used in gas group IIC and the marking has been changed.

Variation 2
The device fulfils the requirements of EN IEC 60079-0:2018.

[16] **Test report**
The test results are recorded in the confidential test report IB-19-3-0055 of 2019-05-08.
The test documents are part of the test report and they are listed there.

Summary of the test results
The device mentioned under [4] still complies with the requirements of explosion protection for Ex equipment of group II and category 2G or 2D in type of protection Intrinsic Safety "i".

[17] **Specific conditions of use**
None

[18] **Essential health and safety requirements**
In addition to the essential health and safety requirements (EHSRs) covered by the standards listed at item [9], the following are considered relevant to this product, and conformity is demonstrated in the test report:
None

IBExU Institut für Sicherheitstechnik GmbH
An-Institut der TU Bergakademie Freiberg

[19] **Drawings and Documents**
The documents are listed in the test report.

IBExU Institut für Sicherheitstechnik GmbH
Fuchsmühlenweg 7
09599 Freiberg, GERMANY

By order

signature

Dipl.-Ing. [FH] Henker

Freiberg, 2019-05-09

7.4 FM certificates

For a full size PDF file of the certificates FM19CA0073X and FM19US0136X proving FM (Factory Mutual) conformity go to Downloads on the mobiLink product page.

FM10CA0073X per Canadian Requirements

CERTIFICATE OF CONFORMITY — FM Approvals (Member of the FM Global Group)

1. HAZARDOUS LOCATION ELECTRICAL EQUIPMENT PER CANADIAN REQUIREMENTS
2. **Certificate No:** FM19CA0073X
3. **Equipment:** mobiLink handheld interface
   (Type Reference and Name)
4. **Name of Listing Company:** Softing Industrial Automation GmbH
5. **Address of Listing Company:** Richard-Reitzner-Allee 6
   Haar 85540
   Germany
6. The examination and test results are recorded in confidential report number:
   PR453990 dated 11th December 2019
7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:
   CAN/CSA-C22.2 No. 60079-0:2019, CAN/CSA-C22.2 No. 60079-11:2014, CAN/CSA C22.2 No. 213:2018, CAN/CSA C22.2 No. 60529:2014 and CAN/CSA-C22.2 No. 61010-1:2012
8. If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.
9. This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.
10. Equipment Ratings:
    Intrinsically Safe for Class I, II, III, Division 1, Groups A, B, C, D, E, F, and G; Intrinsically Safe for Zone 0, Ex ia IIC T4, Intrinsically safe for Zone 20 Ex ia IIIC T100°C; Nonincendive for Class I, II, III Division 2, Groups A, B, C, D, E, F, and G; Temperature classification T4; hazardous (classified) locations in accordance with drawing CDWG20191108 with an ambient temperature rating of -20°C to +50°C.

Certificate issued by:

J. E. Marquedant
VP, Manager - Electrical Systems

11 December 2019
Date

To verify the availability of the Approved product, please refer to www.approvalguide.com

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA
T: +1 (1) 781 762 4300   F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com   www.fmapprovals.com

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SCHEDULE — FM Approvals (Member of the FM Global Group)

Canadian Certificate Of Conformity No: FM19CA0073X

11. The marking of the equipment shall include:
    Class I, II, III Division 1, Groups A, B, C, D, E, F, G, T4 Ta = -20°C to +50°C
    Class I, Division 2, Groups A, B, C, D, E, F, G, T4 Ta = -20°C to +50°C
    Class I, Zone 0, Ex ia IIC T4 Ga Ta = -20°C to +50°C
    Zone 20, Ex ia IIIC T100°C Da Ta = -20°C to +50°C
    FISCO
    CDWG20191108

12. **Description of Equipment:**
    General - The mobiLink is a handheld battery-powered interface providing access to HART devices, Foundation Fieldbus devices (FISCO) or PROFIBUS PA devices from personal Computers, tablet computers or smartphones via USB or Bluetooth connections. The interface is rated for use in an ambient temperature range of Ta = -20°C to +50°C.

    mobiLink HART, Foundation Fieldbus or PROFIBUS PA interface
    HART
    $U_i < 30Vdc$, L_i = Negligible, $C_i < 5$ nF
    FISCO
    $U_i < 17.5$ Vdc, $L_i < 10$ uH, $C_i < 5$ nF

13. **Specific Conditions of Use:**
    1. Do not use the USB interface in hazardous (classified) locations.
    2. Use only Duracell MN1500 or Energizer E91 cells.

14. **Test and Assessment Procedure and Conditions:**
    This Certificate has been issued in accordance with FM Approvals Canadian Certification Scheme.

15. **Schedule Drawings**
    A copy of the technical documentation has been kept by FM Approvals.

16. **Certificate History**

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SCHEDULE — FM Approvals (Member of the FM Global Group)

Canadian Certificate Of Conformity No: FM19CA0073X

Details of the supplements to this certificate are described below:

Date	Description
11 December 2019	Original Issue.

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FM10US0136X per US Requirements

CERTIFICATE OF CONFORMITY

FM Approvals
Member of the FM Global Group

1. HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS

2. **Certificate No:** FM19US0136X

3. **Equipment:** mobiLink Handheld Interface
   (Type Reference and Name)

4. **Name of Listing Company:** Softing Industrial Automation GmbH

5. **Address of Listing Company:** Richard-Reitzner-Allee 6
   Haar 85540
   Germany

6. The examination and test results are recorded in confidential report number:

   PR453990 dated 11th December 2019

7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:

   FM Class 3600:2018, FM Class 3610:2018, FM Class 3616:2018, FM Class 3810:2018,
   ANSI/ISA 60079-0:2019, ANSI/UL 60079-11:2014 and ANSI/IEC 60529:2004

8. If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.

9. This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.

10. Equipment Ratings:

    Intrinsically Safe for Class I, II, III, Division 1, Groups A, B, C, D, E, F, and G; Intrinsically Safe for Class I, Zone 0, AEx ia IIC T4, Intrinsically safe for Zone 20 AEx ia IIIC T100°C; Nonincendive for Class I, II, III Division 2, Groups A, B, C, D, E, F, and G; Temperature classification T4; hazardous (classified) locations in accordance with drawing CDWG20191108 with an ambient temperature rating of -20°C to +50°C.

Certificate issued by:

J.E. Marquedant

J. E. Marquedant
VP, Manager - Electrical Systems

11 December 2019
Date

To verify the availability of the Approved product, please refer to www.approvalguide.com

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

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FM Approvals
Member of the FM Global Group

SCHEDULE

US Certificate Of Conformity No: FM19US0136X

11. The marking of the equipment shall include:

    Class I, II, III Division 1, Groups A, B, C, D, E, F, G; T4 Ta = -20°C to +50°C
    Class I, Division 2, Groups A, B, C, D, E, F, G, T4 Ta = -20°C to +50°C
    Class I, Zone 0, AEx ia IIC T4 Ga Ta = -20°C to +50°C
    Zone 20, AEx ia IIIC T100°C Da Ta = -20°C to +50°C
    FISCO
    CDWG20191108

12. **Description of Equipment:**

    General - The mobiLink is a handheld battery-powered interface providing access to HART devices, Foundation Fieldbus devices (FISCO) or PROFIBUS PA devices from personal Computers, tablet computers or smartphones via USB or Bluetooth connections. The interface is rated for use in an ambient temperature range of Ta = -20°C to +50°C.

    mobiLink HART, Foundation Fieldbus or PROFIBUS PA interface
    HART
    $U_i < 30Vdc$, L_i = Negligible, $C_i < 5$ nF
    FISCO
    $U_i < 17.5Vdc$, $L_i < 10$ uH, $C_i < 5$ nF

13. **Specific Conditions of Use:**

    1. Do not use the USB interface in hazardous (classified) locations.
    2. Use only Duracell MN1500 or Energizer E91 cells.

14. **Test and Assessment Procedure and Conditions:**

    This Certificate has been issued in accordance with FM Approvals US Certification Requirements.

15. **Schedule Drawings**

    A copy of the technical documentation has been kept by FM Approvals.

16. **Certificate History**

F 347 (Mar 16)

Page 2 of 3

FM Approvals
Member of the FM Global Group

SCHEDULE

US Certificate Of Conformity No: FM19US0136X

Details of the supplements to this certificate are described below:

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7.4.1   IECEx certificate

For a full size PDF file of the IECEx Certificate of conformity go to Downloads on the mobiLink product page or to http://iecex.iec.ch and enter "Softing" in the Name field of the search window.

7.5   Certificates by country and region

For a complete list of all country and region-specific certificates see the [product website](#).

- Certificates
  - [Canada | Certificate of Conformity](#)
  - China | PCEC Conformity Certificate of Explosion-proof
  - China | RTE Type Approval Certificate
  - EU | ATEX Certification
  - EU | Declaration of Conformity (mobiLink)
  - EU | IECEx Certificate of Conformity
  - India | Petroleum & Explosives Safety Organisation (PESO)
  - Japan | MIC - Certificate of Radio Equipment
  - Russia | EAC regulations certificate
  - Russia | EAEU - EMC Document
  - South Korea | KC Certificate
  - South Korea | Registration of Broadcasting and Communication Equipments
  - United Arab Emirates | Dealer Certificate UAE - SOFTING
  - United Arab Emirates | ECAS-Ex
  - United Arab Emirates | ROHS
  - USA | Certificate of Conformity
  - USA | FCC-Declaration of Conformity