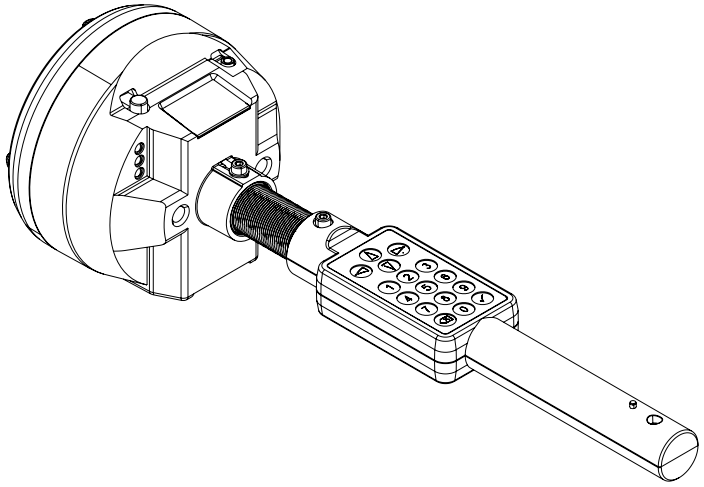
SIEMENS



FDUD293

Intelligent detector tester

Technical Manual

009718_e_en_--
2014-04-11

Building Technologies
Control Products and Systems

Legal notice

Technical specifications and availability subject to change without notice.

Issued by:
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Edition: 2014-04-11
Document ID: 009718_e_en_--

Table of contents

1 About this document

Goal and purpose

This document contains all necessary information on the intelligent detector tester FDUD293. Following the instructions consistently will ensure that the product can be used safely and without any problems.

Target groups

The information in this document is intended for the following target groups:

Target group	Activity	Qualification
Product Manager	● Is responsible for information passing between the manufacturer and regional company. ● Coordinates the flow of information between the individual groups of people involved in a project.	● Has obtained suitable specialist training for the function and for the products. ● Has attended the training courses for Product Managers.
Project Manager	● Coordinates the deployment of all persons and resources involved in the project according to schedule. ● Provides the information required to run the project.	● Has obtained suitable specialist training for the function and for the products. ● Has attended the training courses for Project Managers.
Project engineer	● Sets parameters for product depending on specific national and/or customer requirements. ● Checks operability and approves the product for commissioning at the place of installation. ● Is responsible for trouble-shooting.	● Has obtained suitable specialist training for the function and for the products. ● Has attended the training courses for Product Engineer.
Installation personnel	● Assembles and installs the product components at the place of installation. ● Carries out a performance check following installation.	● Has received specialist training in the area of building installation technology or electrical installations.
Maintenance personnel	● Carries out all maintenance work. ● Checks that the products are in perfect working order. ● Searches for and corrects malfunctions.	● Has obtained suitable specialist training for the function and for the products.

Reference document and source language

- The source language of this document is German (de).
- The reference version of this document is the international version in English. The international version is not localized.

The reference document has the following designation:

ID_x_en_--

x = version, en = English, -- = international

Document identification

The document ID is structured as follows:

ID code	Examples
ID_ModificationIndex_Language_COUNTRY -- = multilingual or international	A6V10215123_a_de_DE A6V10215123_a_en_-- A6V10315123_a_--_--

Date format

The date format in the document corresponds to the recommendation of international standard ISO 8601 (format YYYY-MM-DD).

Conventions for text marking

Markups

Special markups are shown in this document as follows:

▷	Requirement for a behavior instruction
1. 2.	Behavior instruction with at least two operation sequences
–	Version, option, or detailed information for a behavior instruction
⇨	Intermediate result of a behavior instruction
⇨	End result of a behavior instruction
●	Numbered lists and behavior instructions with an operation sequence
[➙ X]	Reference to a page number
'Text'	Quotation, reproduced identically
<Key>	Identification of keys

Supplementary information and tips

The 'i' symbol identifies supplementary information and tips for an easier way of working.

Open-source software (OSS) licenses

You will find the license texts for the open-source software embedded in the product in document A6V10423858. See the chapter 'Applicable documents [➙ 7]'.

1.1 Applicable documents

Document ID	Title
008331	List of compatibility (for 'Sinteso™' product line)
009052	FS20 Fire detection system - Commissioning, Maintenance, Troubleshooting
009854	Installation MCL-USB Adapter FDUZ221
010107	FX2040 periphery update tool, operation
A6V10347735	Installation MCL-USB adapter (radio) FDUZ227
A6V10423858	Open-Source Software (OSS) Licenses FDUD29x

1.2 Download center

You can download various types of documents, such as data sheets, installation instructions, and license texts via the following Internet address:

http://siemens.com/bt/download

- Enter the document ID in the 'Find by keywords' input box.

You will also find information about search variants and links to mobile applications (apps) for various systems on the home page.

1.3 Technical terms

Term	Explanation
AnalogPLUS detector line	Addressed detector line for AlgoRex AnalogPLUS detectors
FDnet	Addressed detector line for Sinteso detectors
Interactive detector line	Addressed detector line for AlgoRex interactive detectors
Collective detector line	Unaddressed detector line
LED	Light-emitting diode
MC link	Maintenance and commissioning link; interface to the service devices
MS8	Pulse detection technology (addressed); also known as PMT
SIGMALOOP	Addressed detector line for SIGMASYS detectors

1.4 History of changes

The reference document's version applies to all languages into which the reference document is translated.

The first edition of a language version or a country variant may, for example, be version 'd' instead of 'a' if the reference document is already this version.

The table below shows this document's history of changes:

Version	Edition date	Brief description
e	2014-04-11	● Chapter removed: 'Entering user names' ● New chapters added: 'Legal notice', 'Applicable documents', 'Download center', 'Technical terms', 'History of changes', 'Executing commands with the repetition function', 'Error list', 'Triggering danger level 2', 'Updating firmware', and 'Updating firmware with the 'FDUD29x Firmware Updater" ● Revised chapters: 'Compatibility', 'Accessories', 'Switching on and off', 'Menu overview', 'Executing commands – general procedure', 'Testing device and activating test alarm', 'Testing device and activating alarm', 'Remedying faults', and 'Setting the time limit' ● Operating temperature and power consumption adapted in the 'Technical data' chapter ● Firmware update described ● '10 WARNING DL2' added as a new function ● Safety: – Safety notice on wearing gloves in sub-zero temperatures deleted – Safety notice on wearing a protective helmet changed from a caution to a warning and also listed in the Safety chapter ● Figures adapted to suit the new hardware and software ● Legal notice added ● FDS229 designation for 'alarm sounder with supplementary optical indication' changed throughout the document ● New structure in Chapter 1 and changes made to Chapter 2 ● Change to date format in line with ISO 8601 specifications (yyyy-mm-dd format) ● Editing
d	2009-11	Revision of content and layout
c	2007-10	Descriptive texts for error numbers 3-14 changed in list of deviations 'Download' information removed Language-dependent images replaced with language-neutral images
b	2007-03	FS20 added in Chapter 6.6 CE symbol and EMC directive 2004/108/EC
a	2006-05	First edition

The language and/or country variants produced by a local company have the same version number as the corresponding reference document. They are not however included in the table below.

The table below shows the published language versions and country variants with the corresponding version:

Version	en_--	de_--	fr_--	it_--	es_--
e	X	X	X	X	X
d	X	X	X	X	X
c	X	X	X	X	X
b	X	X	–	–	–
a	X	X	–	–	–

X = published

– = no publication with this version number

2 Safety

2.1 Safety instructions

The safety notices must be observed in order to protect people and property.

The safety notices in this document contain the following elements:

- Symbol for danger
- Signal word
- Nature and origin of the danger
- Consequences if the danger occurs
- Measures or prohibitions for danger avoidance

Symbol for danger

	This is the symbol for danger. It warns of **risks of injury**. Follow all measures identified by this symbol to avoid injury or death.

Additional danger symbols

These symbols indicate general dangers, the type of danger or possible consequences, measures and prohibitions, examples of which are shown in the following table:

 General danger

 Explosive atmosphere

 Voltage/electric shock

 Laser light

 Battery

 Heat

Signal word

The signal word classifies the danger as defined in the following table:

Signal word	Danger level
DANGER	DANGER identifies a dangerous situation, which **will result directly in death or serious injury** if you do not avoid this situation.
WARNING	WARNING identifies a dangerous situation, which **may result in death or serious injury** if you do not avoid this situation.
CAUTION	CAUTION identifies a dangerous situation, which **could result in slight to moderately serious injury** if you do not avoid this situation.
NOTICE	*NOTICE* identifies possible damage to property that may result from non-observance.

How risk of injury is presented

Information about the risk of injury is shown as follows:

	⚠ WARNING
	Nature and origin of the danger Consequences if the danger occurs • Measures / prohibitions for danger avoidance

How possible damage to property is presented

Information about possible damage to property is shown as follows:

!	*NOTICE*
	Nature and origin of the danger Consequences if the danger occurs • Measures / prohibitions for danger avoidance

2.2 Safety regulations for the method of operation

National standards, regulations and legislation

Siemens products are developed and produced in compliance with the relevant European and international safety standards. Should additional national or local safety standards or legislation concerning the planning, assembly, installation, operation or disposal of the product apply at the place of operation, then these must also be taken into account together with the safety regulations in the product documentation.

Electrical installations

⚠ WARNING

Electrical voltage

Electric shock

- Work on electrical installations may only be carried out by qualified electricians or by instructed persons working under the guidance and supervision of a qualified electrician, in accordance with the electrotechnical regulations.

- Wherever possible disconnect products from the power supply when carrying out commissioning, maintenance or repair work on them.
- Lock volt-free areas to prevent them being switched back on again by mistake.
- Label the connection terminals with external external voltage using a 'DANGER External voltage' sign.
- Route mains connections to products separately and fuse them with their own, clearly marked fuse.
- Fit an easily accessible disconnecting device in accordance with IEC 60950-1 outside the installation.
- Produce earthing as stated in local safety regulations.

Assembly, installation, commissioning and maintenance

- If you require tools such as a ladder, these must be safe and must be intended for the work in hand.
- Wear a hardhat when working with telescope rods.
- When starting the fire control panel ensure that unstable conditions cannot arise.
- Ensure that all points listed in the 'Testing the product operability' section below are observed.
- You may only set controls to normal function when the product operability has been completely tested and the system has been handed over to the customer.

Testing the product operability

- Prevent the remote transmission from triggering erroneously.
- If testing building installations or activating devices from third-party companies, you must collaborate with the people appointed.
- The activation of fire control installations for test purposes must not cause injury to anyone or damage to the building installations. The following instructions must be observed:
  - Use the correct potential for activation; this is generally the potential of the building installation.
  - Only check controls up to the interface (relay with blocking option).
  - Make sure that only the controls to be tested are activated.
- Inform people before testing the alarm devices and allow for possible panic responses.
- Inform people about any noise or mist which may be produced.
- Before testing the remote transmission, inform the corresponding alarm and fault signal receiving stations.

Modifications to the system design and the products

Modifications to the system and to individual products may lead to faults, malfunctioning and safety risks. Written confirmation must be obtained from Siemens and the corresponding safety bodies for modifications or additions.

Modules and spare parts

- Components and spare parts must comply with the technical specifications defined by Siemens. Only use products specified or recommended by Siemens.
- Only use fuses with the specified fuse characteristics.
- Wrong battery types and improper battery changing lead to a risk of explosion. Only use the same battery type or an equivalent battery type recommended by Siemens.
- Batteries must be disposed of in an environmentally friendly manner. Observe national guidelines and regulations.

Disregard of the safety regulations

Before they are delivered, Siemens products are tested to ensure they function correctly when used properly. Siemens disclaims all liability for damage or injuries caused by the incorrect application of the instructions or the disregard of danger warnings contained in the documentation. This applies in particular to the following damage:

- Personal injuries or damage to property caused by improper use and incorrect application
- Personal injuries or damage to property caused by disregarding safety instructions in the documentation or on the product
- Personal injury or damage to property caused by poor maintenance or lack of maintenance

2.3 Standards and directives complied with

A list of the standards and directives complied with is available from your Siemens contact.

2.4 Release Notes

Limitations to the configuration or use of devices in a fire detection installation with a particular firmware version are possible.

⚠ WARNING

Limited or non-existent fire detection

Personal injury and damage to property in the event of a fire.

- Read the 'Release Notes' before you plan and/or configure a fire detection installation.
- Read the 'Release Notes' before you carry out a firmware update to a fire detection installation.

NOTICE

Incorrect planning and/or configuration

Important standards and specifications are not satisfied.

Fire detection installation is not accepted for commissioning.

Additional expense resulting from necessary new planning and/or configuration.

- Read the 'Release Notes' before you plan and/or configure a fire detection installation.
- Read the 'Release Notes' before you carry out a firmware update to a fire detection installation.

3 Structure and function

3.1 Overview

The intelligent detector tester can perform the following functions:

- Inserting and removing point detectors
- Testing devices and troubleshooting
- Activating alarms and test alarms

This document will refer to the intelligent detector tester as 'service device' in the text that follows.

⚠ WARNING

Using the intelligent detector tester in an environment where there is a risk of explosion

Risk of explosion

- Never use the intelligent detector tester in an environment where there is a risk of explosion.

3.1.1 Compatibility

The service device is compatible with FDnet devices and multiple protocol devices. You will find details in document 008331 'List of compatibility (for 'Sinteso™' product line)'.

The service device is not compatible with AlgoRex devices and purely collective devices.

3.1.2 Communication

Communication between the service device and a compatible device takes place via the MC link interface and can be effected wirelessly or via the adapter cable FDUD292-A supplied. The following table shows the communication type of the various devices.

Compatible device	Communication	
	Wireless	Adapter cable
Point detector	X	
Manual call point [1]	X	
Alarm sounder and alarm sounder with supplementary optical indication	X	
Input modules and input/output modules [1]		X
Linear smoke detector		X
Radio gateway		X
Line adapter (Ex)		X

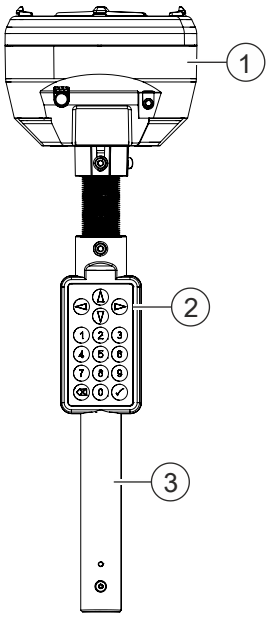
[1] As long as the device is compatible with the service device.

3.1.3 Details for ordering

Type	Order no.	Designation
FDUD293	A5Q00018261	Intelligent detector tester incl. adapter cable FDUD292-A

3.2 Setup

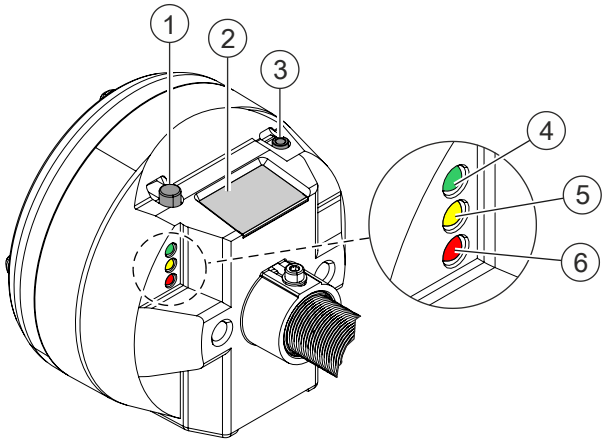
The service device consists of the test head with display, keypad, and handle.



Service device with test head, keypad and handle

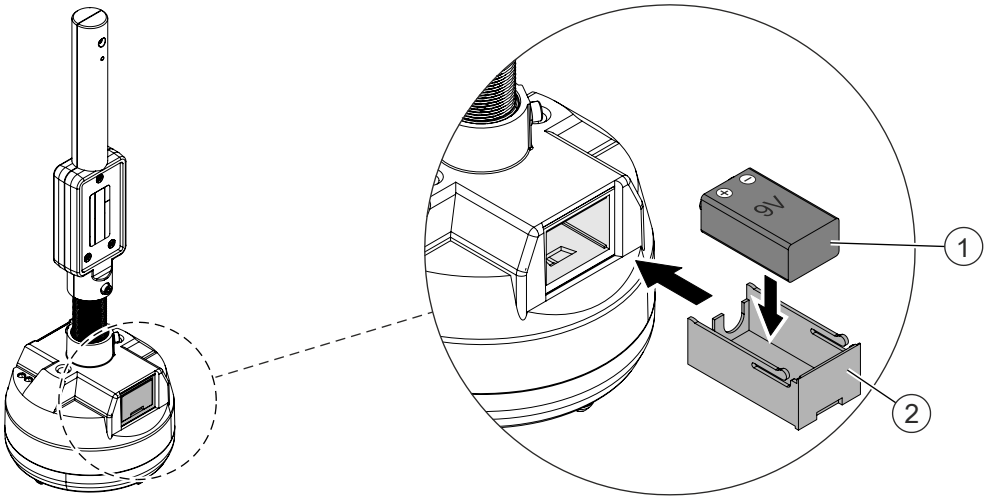
1 Test head with display
2 Keypad
3 Handle

Test head



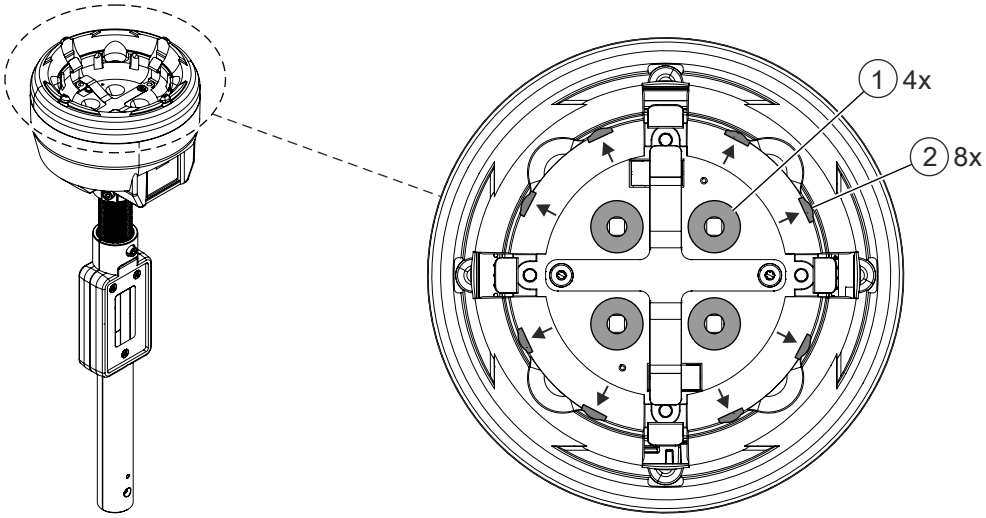
Front of test head

1 On/Off button
2 Display
3 Connection for adapter cable
4 Green LED
5 Yellow LED
6 Red LED



Back of test head

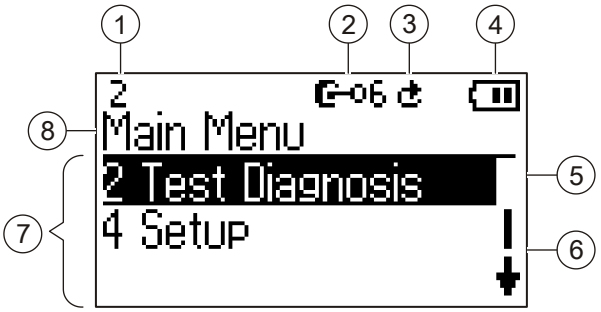
1 Battery
2 Battery compartment



Inside of test head

1 Alarm indicator sensor
2 Infrared sensor

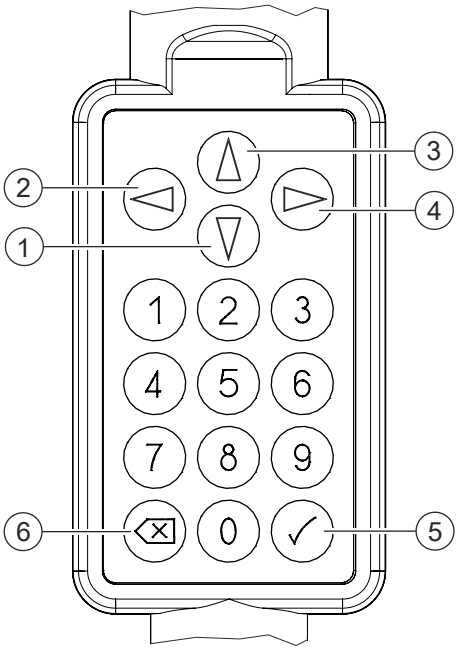
Display



Example of indication on the display

1 Menu level currently selected
2 Access level 6
3 Repetition function switched on
4 Battery's charge state
5 Menu item currently selected
6 Possible directions of navigation
7 Menu items
8 Menu title

Keypad



Keypad with numerical keys and navigation keys

1 Down

2
- Left
- Select next menu level up

3 Up

4
- Right
- Select menu item
- Select next menu level down

5
- Select menu item
- Select next menu level down

6
- Select next menu level up
- Cancel command

3.3 Function

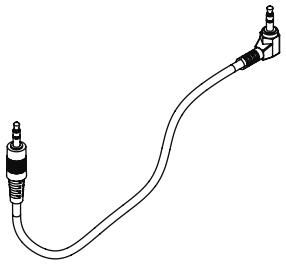
With the aid of the battery-driven microprocessor, the service device performs a large part of the task autonomously. During testing, the status and error registers of the compatible devices are queried and tested. In the case of optical point detectors, the signal intensity of the infrared LEDs in the measuring chamber is also tested.

Wireless communication between the service device and the compatible device is based on electromagnetic induction. The devices reply with optical signals. The communication synchronization is controlled with the control impulse of the internal alarm indicator of the compatible device.

3.4 Accessories

3.4.1 Enclosed accessories

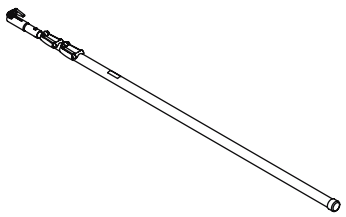
3.4.1.1 Adapter cable FDUD292-A



- For connecting service devices to input/output modules, linear smoke detector and radio gateway
- 3.5 mm jack
- Length: 1.5 m
- Compatible with:
  - Detector exchanger and tester FDUD292
  - Intelligent detector tester FDUD293
  - Linear smoke detector FDL2419
  - Various input/output modules
  - Radio gateway FDCW221 and FDCW241
  - FDCL221-Ex line adapter (Ex)
- Order no.: A5Q00004990

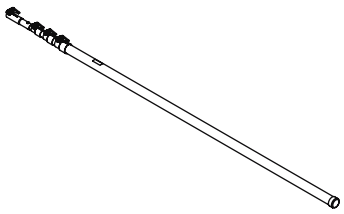
3.4.2 Optional accessories

3.4.2.1 Telescope rod FDUM291



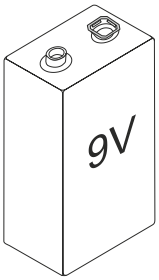
- For extending service devices up to 5 m
- Three-part, tri-oval telescope pipe
- Length: 1.6…4.2 m
- Compatible with:
  - Detector exchanger FDUD291
  - Detector exchanger and tester FDUD292
  - Intelligent detector tester FDUD293
  - RE7T Solo461 heat detector tester kit
  - RE8ST testing kit
  - RE8STCO testing kit
- Order no.: A5Q00004996

3.4.2.2 Telescope rod FDUM292



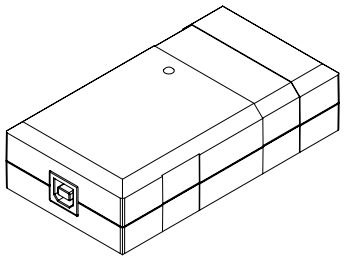
- For extending service devices up to 8 m
- Four-part, round telescope pipe
- Length: 2.1...7.3 m
- Compatible with:
  - Detector exchanger FDUD291
  - Detector exchanger and tester FDUD292
  - Intelligent detector tester FDUD293
  - RE7T Solo461 heat detector tester kit
  - RE8ST testing kit
  - RE8STCO testing kit
- Order no.: A5Q00004997

3.4.2.3 9 V lithium manganese dioxide battery



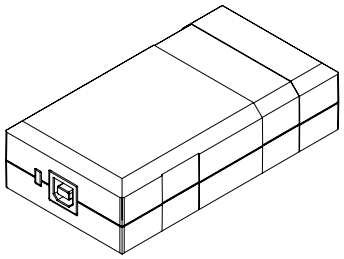
- For supplying radio detectors, radio gateways and service devices with power
- ULTRALIFE Lithium manganese dioxide type U9VL-J Li/MnO2 9 V, 1.2 Ah battery with pin cover
- Compatible with:
  - Radio gateway FDCW221
  - DOW1171 radio smoke detector
  - Radio test set DZW1171
  - Line tester FDUL221
  - Detector exchanger and tester FDUD292
  - Intelligent detector tester FDUD293
- Order no.: A5Q00004142

3.4.2.4 MCL-USB adapter FDUZ221



- For connecting FDnet devices to a personal computer
- Interface converter for USB on MC link
- Compatible with:
  - Floor repeater terminal FT2010
  - Floor repeater display FT2011
  - Radio gateway FDCW221
  - Detector exchanger and tester FDUD292
  - Intelligent detector tester FDUD293
  - Line tester FDUL221
- For details, see document 009854 (assembly instructions)
- No longer available, replaced by MCL-USB adapter (radio) FDUZ227

3.4.2.5 MCL-USB (radio) adapter FDUZ227



- For connecting FDnet devices to a personal computer
- Signals can be transmitted to SWING radio devices via radio
- Interface converter for USB on MC link
- Compatible with:
  - Floor repeater terminal FT2010
  - Floor repeater display FT2011
  - Radio gateway FDCW221 and FDCW241
  - Detector exchanger and tester FDUD292
  - Intelligent detector tester FDUD293
  - Line tester FDUL221
  - Radio manual call point FDM27x
  - Radio fire detector FDOOT271
- For details, please refer to document A6V10347735
- Order no.: S54323-F106-A1

4 Commissioning the service device

⚠ CAUTION

Risk of injury due to protruding guide pin on handle

Injuries when handling the service device

- Be aware of the guide pin when working with the service device.

4.1 Insert battery

The batteries must be inserted before using the device for the first time.

⚠ WARNING

Short-circuit as a result of incorrectly inserting batteries

Warming of batteries and risk of fire

- When inserting battery, note polarity.

1. Open the battery compartment on the back of the service device.
2. Remove pin cover from battery.
3. Insert one 9 V lithium manganese dioxide battery. Note the positive and negative poles.
4. Close the battery compartment.

⇨ The battery is inserted and you can now switch on the service device.

Dispose of batteries in an environmentally friendly manner and observe national guidelines and regulations.

See also

- Replacing the battery [→ 45]
- 9 V lithium manganese dioxide battery [→ 21]

4.2 Calibration

The service device need not be calibrated.

5 Operation

5.1 Switching on and off

Switching on the service device

1. Briefly press the on/off button above the display.
   ⇨ The following is shown on the display: Device manufacturer, device type, firmware version.
2. Press any button on the keypad.

⇨ The main menu is shown on the display.

⇨ The service device is switched on and ready for operation.

Switching off the service device

1. Press and hold the on/off button above the display for two to three seconds.
   ⇨ The power symbol and 'OFF' are shown on the display.
2. Release the on/off button.

⇨ The service device is switched off.

If the service device does not perform an action for approx. 20 minutes, it is automatically switched off.

5.2 Navigating in the menu

There are two ways of navigating to a particular menu item:

- Directly entering the menu level using the numerical buttons on the keypad
- Using the navigation buttons on the keypad

Navigating with the numerical buttons

- Enter the desired menu level using the numerical buttons on the keypad.

⇨ You are taken straight to the corresponding menu item or the command is directly executed.

Example: If you would like to select menu item '4.4 Setup' in the '1 Language:' menu, press buttons <4> and <1> on the keypad one after the other.

You will find an overview of all menu items with the corresponding menu levels in the 'Menu overview' chapter.

Navigating with the navigation buttons

- Use the following navigation buttons to navigate between the menu levels.

Navigation button	Function
	Down
	Up
	Right Select menu item Select next menu level down
	Left Select next menu level up
	Select menu item Select next menu level down
	Select next menu level up

See also

- Menu overview [→ 27]

5.3 Using telescope rods

The telescope rods FDUM291 and FDUM292 or extension tubes can be used to extend the service device. When using telescope rods, ensure that the service device is securely fixed in the telescope rod.

⚠ WARNING

Risk of injury from falling objects

When working with telescope rods, it is possible for parts to fall off the roof, or for the test head to break off, fall down, and cause serious injuries.

- Wear a hardhat when working with telescope rods.

See also

- Telescope rod FDUM291 [→ 20]
- Telescope rod FDUM292 [→ 21]

5.4 Working in sub-zero temperatures

The indication speed on the service device display is slow in sub-zero temperatures. At -20 °C, it can take between five and ten seconds for the text to be shown on the display. You should therefore use the numerical buttons instead of the navigation buttons to directly enter the desired command. You do not have to wait for the text to be shown on the display.

5.5 Inserting and removing detectors

The service device does not have to be switched on to insert and remove detectors.

Inserting the detector

1. Place detector in service device so that it snaps into place. There are four possible positions.
2. Guide service device and detector towards fitted base and insert detector into base.
3. Turn clockwise until detector snaps into place in base.
4. Pull service device straight down.

⇨ The detector is inserted in the base.

Removing the detector

1. Guide service device towards detector.
2. Turn service device clockwise until detector snaps into place in service device.
3. Turn service device and detector anti-clockwise until detector comes loose from base.
4. Guide service device and detector down.

⇨ The detector is removed from the base.

5.6 Menu overview

Menu	Description
'2 Test Diagnosis'	**Testing devices and activating alarms**
● '2.1 Check'	Testing the device [→ 33]
● '2.2 Check + ALARM'	Testing device automatically and activating alarm [→ 35]
● '2.3 Check+Testalarm'	Testing device automatically and activating test alarm [→ 37]
● '2.4 ALARM'	Activating the alarm [→ 34]
● '2.10 WARNING DL2'	Activating danger level 2 [→ 37]
'4 Setup'	**Settings for service device**
● '4.1 Language:'	Selecting the language [→ 38]
● '4.2 Timeout Time'	Setting the time limit for the communication search [→ 40]
● '4.3 Illumination Time'	Setting the backlight duration of the display [→ 39]
● '4.4 Illum. Mode:'	Setting the display backlight [→ 38]
● '4.5 Default Setup'	Reset settings to delivery status [→ 41]
● '4.6 Repeat:'	Switch repetition function on and off [→ 40]
● '4.7 Save Setup'	Saving settings [→ 41]
● '4.8 Display Contrast'	Setting display contrast [→ 39]
● '4.9 Buzzer:'	Setting the signal sound [→ 39]

See also

- Testing devices, activating alarms and test alarms [→ 33]
- Undertaking settings on the service device [→ 38]

5.7 Executing commands - general procedure

This chapter describes the general procedure of how to execute commands with the service device, for example testing detectors or activating alarms. Commands are basically executed in three steps:

1. Enter command on service device.
2. Transfer command to compatible device.
   - ⇨ The three LEDs flash while the service device is searching for the peripheral device.
   - ⇨ The yellow and green LEDs flash while the service device is executing the command.
   - ⇨ The LEDs stop flashing once the command has been executed.
   - ⇨ The command result is indicated by the LEDs.
3. Read result off LEDs and/or service device display. See table below and the 'Deviation list [→ 41]' chapter.

LEDs	Meaning
Green	● Confirmation: Command was successfully transferred. OR ● Test result: Device is ok.
Green and yellow	Observe information on the display
Yellow	Observe information on the display
Yellow and red	Error, observe information on the display
Red	Communication error, observe information on the display

For more information about the results and corresponding measures, refer to documentation for corresponding device.

The procedure is different for the following product groups:

- Point detector [→ 29]
- Manual call point [→ 30]
- Alarm sounder and alarm sounder with supplementary optical indication [→ 31]
- Input/output modules, linear smoke detector and radio gateway [→ 32]

The detector line and software version of the fire control panel determine which commands can be executed.
You will find further information in the 'Testing devices, activating alarms and test alarms [→ 33]' chapter.

See also

Setup [→ 16]

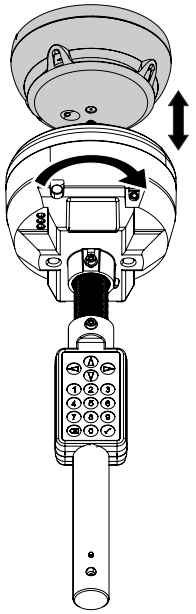
5.7.1 Point detector

Executing commands - general procedure

▷ The internal alarm indicator is set so that it flashes in normal mode.

▷ The adapter cable is not plugged into the service device.

1. Select the desired command on the service device, for example the '2.1 Check' menu item.
2. Guide the service device to the detector. See figure. Use a telescope rod if necessary.
3. Turn service device clockwise until detector snaps into place in service device. See figure.
4. Read command result off LEDs and display.



Executing commands on a point detector

See also

Deviation list [→ 41]
Executing commands - general procedure [→ 28]

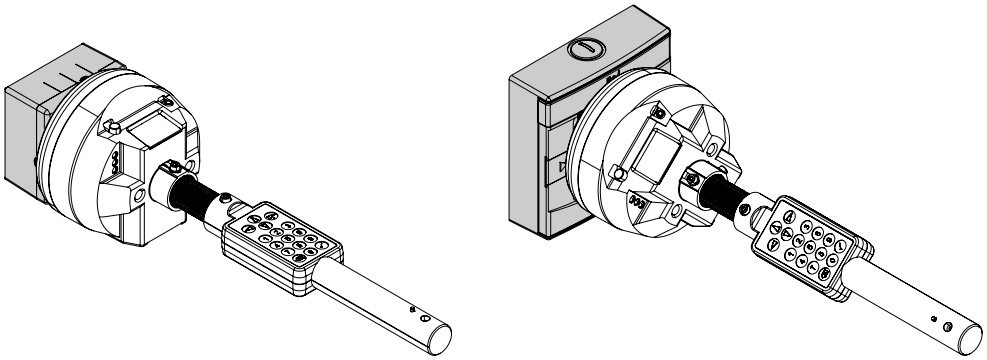
5.7.2 Manual call point

Executing commands - general procedure

▷ The internal alarm indicator is set so that it flashes in normal mode.

▷ The adapter cable is not plugged into the service device.

1. Select the desired command on the service device, for example the '2.1 Check' menu item.
2. Hold service device on front of detector. Guides assist with positioning. See figure.
3. To transfer the command to the device, press the <5> button on the keypad.
4. Read command result off LEDs and display.



Executing commands on manual call points

See also

- Deviation list [→ 41]
- Executing commands - general procedure [→ 28]

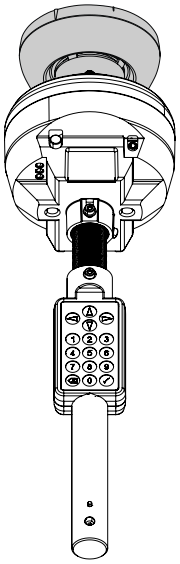
5.7.3 Alarm sounder and alarm sounder with supplementary optical indication

Executing commands - general procedure

▷ The internal alarm indicator is set so that it flashes in normal mode.

▷ The adapter cable is not plugged into the service device.

1. Select the desired command on the service device, for example the '2.1 Check' menu item.
2. Guide service device towards device and hold it as vertically as possible to the device. See figure.
3. To transfer the command to the device, press the <5> button on the keypad.
4. Read command result off LEDs and display.



Executing commands on a sounder base

See also

Deviation list [→ 41]
Executing commands - general procedure [→ 28]

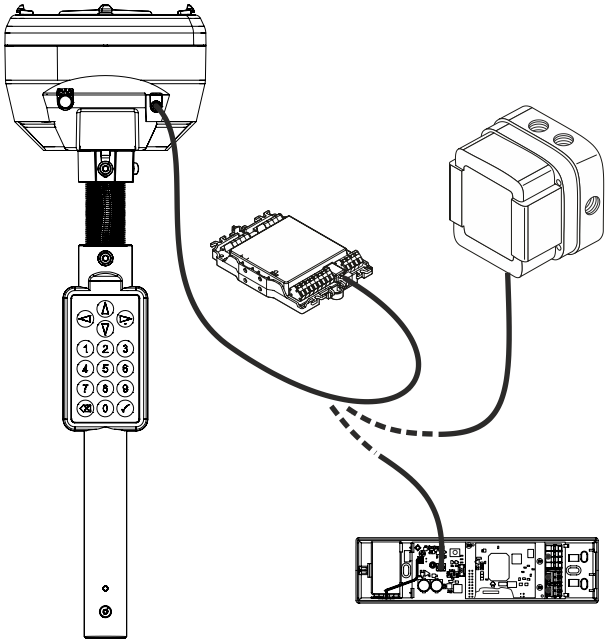
5.7.4 Input/output modules, linear smoke detector and radio gateway

Executing commands - general procedure

1. Connect service device and compatible device to adapter cable. See figure.

Depending on space, use the straight or bent connector.

2. Select the desired command on the service device, for example the '2.1 Check' menu item.
3. Read command result off LEDs and display.



Executing commands on input/output modules, linear smoke detector, and radio gateway

See also

- Deviation list [→ 41]
- Executing commands - general procedure [→ 28]

5.7.5 Executing commands with the repetition function

▷ The repetition function is switched on.

▷ The repetition function can be used for commands.

1. Execute the command.
   - ⇨ The red, yellow, and green LEDs flash alternately and the device searches for a detector.
   - ⇨ As soon as transmission starts, the green and yellow LEDs flash alternately.
   - ⇨ The LEDs stop flashing once the command has been executed.
   - ⇨ The command result is indicated by the LEDs.
   - ⇨ If no deviation occurs, the red, yellow and green LEDs start to flash when the service device is removed from the detector and the command can be repeated.
   - ⇨ If a deviation does occur, you should exit repetition mode.
2. To exit repetition mode, press the <⌫> button.

⇨ You can select and execute a new command.

See also

- Executing commands - general procedure [→ 28]
- Setting the repetition function [→ 40]

5.8 Testing devices, activating alarms and test alarms

5.8.1 Testing the device

'2.1 Check' menu

The status and error register of the device are queried with the '2.1 Check' command. The following is tested:

- Parameter set
- Operation mode
- Line separator
- Faults
- The infrared signals of the forward scatterer and the backward scatterer are also tested for neural fire detectors (FDOOT, FDOOTC) and smoke detectors (FDO).

Procedure

- Execute the '2.1 Check' command.

⇨ The device is tested.

⇨ If there is a deviation, this is indicated by the LEDs and on the display.

See also

- Deviation list [→ 41]
- Executing commands - general procedure [→ 28]

5.8.2 Activating the alarm

'2.4 ALARM' menu

You can activate an alarm immediately without having previously tested the device with the '2.4 ALARM' command.

1. Set on the control panel how the alarm should be evaluated:
   - Alarm with controls
   - Alarm without controls
   - Test alarm
2. Execute the '2.4 ALARM' command.

⇨ The signal sound sounds once you have switched on the signal sound on the service device. You can switch off the signal sound using the <▽> button.

⇨ The green LED lights up as soon as the command has been transferred to the device.

⇨ As soon as the alarm has been transferred to the control panel, the device's internal alarm indicator flashes brighter and faster.

Activating an alarm on a collective detector line with alarm verification

To activate an alarm on a collective detector line with alarm verification, the command for alarm activation must be transferred several times until the control panel registers an alarm. To do so, proceed as follows:

1. Switch on repetition function on service device: 4.6 Repeat:' menu item.
2. Repeat steps 1 and 2 outlined above.
3. Remove the service device from the compatible device after the first alarm activation.
4. Place the service device back onto the compatible device.
   ⇨ As soon as the first alarm is activated, the collective detector line with alarm verification is switched off and restarted.
   ⇨ As soon as the collective detector line is active again, the detector exchanger and tester executes the command once again.
   ⇨ An alarm is activated on the control panel.
5. Remove the service device from the compatible device.

Alarm status for a device on an FDnet detector line

The alarm status for the device remains in existence while there is a connection between the service device and the compatible device. The alarm status for the device is canceled approximately 10 s after the connection has been disconnected.

Alarm status on a collective or MS8 detector line

The alarm status for the device remains in existence until the alarm on the control panel is reset or the power supply to the device is cut.

See also

- Setting the repetition function [→ 40]
- Executing commands with the repetition function [→ 33]
- Executing commands - general procedure [→ 28]
- Deviation list [→ 41]

5.8.3 Testing device and activating alarm

'2.2 Check + ALARM' menu

The device is initially tested with the '2.2 Check + ALARM' command. If there are no deviations, an alarm is activated.

1. Set on the control panel how the alarm should be evaluated:
   - Alarm with controls
   - Alarm without controls
   - Test alarm
2. Execute the '2.2 Check + ALARM' command.

⇨ The signal sound sounds once you have switched on the signal sound on the service device. You can switch off the signal sound using the <▽> button.

⇨ The device is tested.

⇨ If there is a deviation, this is indicated by the LEDs and on the display. In this instance, an alarm is not activated.

⇨ If there is no deviation, an alarm is activated.

⇨ As soon as the alarm has been transferred to the control panel, the device's internal alarm indicator flashes brighter and faster.

Activating an alarm on a collective detector line with alarm verification

To activate an alarm on a collective detector line with alarm verification, the command for alarm activation must be transferred several times until the control panel registers an alarm. To do so, proceed as follows:

1. Switch on repetition function on service device: 4.6 Repeat:' menu item.
2. Repeat steps 1 and 2 outlined above.
3. Remove the service device from the compatible device after the first alarm activation.
4. Place the service device back onto the compatible device.
   - ⇨ As soon as the first alarm is activated, the collective detector line with alarm verification is switched off and restarted.
   - ⇨ As soon as the collective detector line is active again, the detector exchanger and tester executes the command once again.
   - ⇨ An alarm is activated on the control panel.
5. Remove the service device from the compatible device.

Alarm status for a device on an FDnet detector line

The alarm status for the device remains in existence while there is a connection between the service device and the compatible device. The alarm status for the device is canceled approximately 10 s after the connection has been disconnected.

Alarm status on a collective or MS8 detector line

The alarm status for the device remains in existence until the alarm on the control panel is reset or the power supply to the device is cut.

See also

- Deviation list [→ 41]
- Setting the repetition function [→ 40]
- Executing commands - general procedure [→ 28]

5.8.4 Testing device and activating test alarm

'2.3 Check+Testalarm' menu

The device is initially tested with the '2.3 Check+Testalarm' command. If there are no deviations and the device is in test mode, a test alarm is activated.

!	*NOTICE*
	Danger of alarms on collective, MS8, interactive, AnalogPLUS, and SIGMALOOP detector lines On collective, MS8, interactive, AnalogPLUS, and SIGMALOOP detector lines, an alarm is activated instead of a test alarm as only the peripheral device is used in test mode. The information confirming that the peripheral device is in test mode is not sent to the fire control panel. • Take appropriate alarm evaluation measures before executing this command.

1. Switch the device to test mode on the control panel.
2. Execute the '2.3 Check+Testalarm' command.
   - ⇨ The device is tested.
   - ⇨ If there is no deviation and the device is in test mode, a test alarm is activated.
   - ⇨ If the device is not in test mode, this is indicated by the LEDs and on the display. In this instance, a test alarm is not activated.
   - ⇨ If there is a deviation, this is indicated by the LEDs and on the display. In this instance, a test alarm is not activated.
3. Switch the device back to normal mode on the control panel.

You will find more information about switching the test mode on and off in the documentation for the fire detection system.

See also

Executing commands - general procedure [→ 28]
Deviation list [→ 41]

5.8.5 Activating danger level 2

'2.10 WARNING DL2' menu

You can activate danger level 2 with the '2.10 WARNING DL2' command.

!	*NOTICE*
	Danger of alarm due to incorrect use If you activate danger level 2, an alarm can be activated on the control panel. • Take appropriate alarm evaluation measures before executing this command.

▷ Firmware version 2.6 or higher is installed on the service device.

- Execute the '2.10 WARNING DL2' command.

⇨ Danger level 2 is activated.

5.9 Undertaking settings on the service device

You can undertake settings on the service device in the '4. Setting' menu, for example:

- Selecting the language
- Setting the display backlight
- Setting display contrast
- Setting the signal sound
- Setting the time limit
- Switching repetition function on and off

5.9.1 Selecting the language

'4.1 Language:' menu

The display texts can be shown in different languages as standard. The available languages depend on the firmware.

1. Navigate to the '4.1 Language:' menu item.
   ⇨ The current language setting is displayed after the colon.
2. Press the <▷> button to select another language.
3. Select the '4.7 Save Setup' command. Otherwise the setting is only saved until the service device is next switched off.

⇨ The setting remains saved until you change it.

5.9.2 Setting the display backlight

'4.4 Illum. Mode:' menu

You have three setting options for the display backlight:

- On: Display backlight is always switched on.
- Off: Display backlight is always switched off.
- Automatic: If you do not perform an action on the service device, the display backlight is automatically switched off after a certain time. You can set the time in the '4.3 Illumination Time' menu.

Having the display backlight is switched on increases power consumption and reduces battery life. You will find more information on power consumption in the 'Technical data' chapter.

1. Navigate to the '4.4 Illum. Mode:' menu item.
   ⇨ The current setting is displayed after the colon.
2. Press the <▷> button to change the setting: 'ON', 'OFF', or 'AUTO'.
3. Select the '4.7 Save Setup' command. Otherwise the setting is only saved until the service device is next switched off.

⇨ The selected setting remains saved until you change it.

See also

Technical data [→ 55]

5.9.3 Setting the backlight duration of the display

'4.3 Illumination Time' menu

If you have selected the automatic display backlight, you can specify for how long the display should be lit. You can set a duration of between 1 and 99 seconds.

1. Navigate to the '4.3 Illumination Time' menu item.
2. Use the keypad to enter the desired duration in seconds.
3. Press the <✓> button.
4. Select the '4.7 Save Setup' command. Otherwise the setting is only saved until the service device is next switched off.

⇨ The selected setting remains saved until you change it.

5.9.4 Setting display contrast

'4.8 Display Contrast' menu

1. Navigate to the '4.8 Display Contrast' menu item.
2. Select the desired contrast using the <△> and <▽> buttons.
   ⇨ The contrast is displayed using a bar.
3. Press the <✓> button.
4. Select the '4.7 Save Setup' command. Otherwise the setting is only saved until the service device is next switched off.

⇨ The selected setting remains saved until you change it.

5.9.5 Setting the signal sound

'4.9 Buzzer:' menu

You have three setting options for the signal sound:

- On: The signal sound sounds each time you press a button on the keypad and when either command '2.4 ALARM' or '2.2 Check + ALARM' is executed. In the latter instance, the signal sound continues for the set time limit or until you switch it off with the <▽> button.
- Off: The signal sound is switched off.
- Automatic: The signal sound only sounds if either command '2.4 ALARM' or '2.2 Check + ALARM' is executed.

1. Navigate to the '4.9 Buzzer:' menu item.
   ⇨ The current setting is displayed after the colon.
2. Press the <▷> button to change the setting: 'ON', 'OFF', or 'AUTO'.
3. Select the '4.7 Save Setup' command. Otherwise the setting is only saved until the service device is next switched off.

⇨ The selected setting remains saved until you change it.

5.9.6 Setting the time limit

'4.2 Timeout Time' menu

The time limit determines how long the service device searches the communication with the compatible device once you have entered a command.

The time spent on this process is limited as the required power consumption is relatively high and the battery life is reduced. You will find more information on power consumption in the 'Technical data' chapter.

You can set a duration of between 20 and 255 seconds.

1. Navigate to the '4.2 Timeout Time' menu item.
2. Use the keypad to enter the desired duration in seconds.
3. Press the <✓> button.
4. Select the '4.7 Save Setup' command. Otherwise the setting is only saved until the service device is next switched off.

⇨ The selected setting remains saved until you change it.

See also

Technical data [→ 55]

5.9.7 Setting the repetition function

You can set the service device so that one command is executed several times in succession. This allows you to test several compatible devices one after another, for example, without having to enter the command on the service device each time.

The repetition function can be used for the following commands:

- '2.1 Check'
- '2.2 Check + ALARM'
- '2.3 Check+Testalarm'
- '2.4 ALARM'
- '2.10 WARNING DL2'

Switching on repetition function

1. Navigate to the '4.6 Repeat:' menu item.
   ⇨ The current setting is displayed after the colon.
2. Select the 'ON' setting with the <▷> button.

⇨ The repetition function is switched on and you can now execute a command.

The command is repeated until you press the <⌫> button or a deviation occurs on a device.

Switching off repetition function

1. Navigate to the '4.6 Repeat:' menu item.
   ⇨ The current setting is displayed after the colon.
2. Select the 'OFF' setting with the <▷> button.

⇨ The repetition function is switched off.

5.9.8 Saving settings

'4.7 Save Setup' menu

1. Navigate to the '4.7 Save Setup' menu item.
2. Press the <✓> or <▷> button.

⇨ All settings made are saved even after the service device is switched off, until you change or reset them.

See also

Resetting settings [→ 41]

5.9.9 Resetting settings

'4.5 Default Setup' menu

You can reset all settings, such as language, display backlight and signal sound to the delivery status.

1. Navigate to the '4.5 Default Setup' menu.
2. Press the <✓> or <▷> button.
   ⇨ The settings are reset.
3. Select the '4.7 Save Setup' command.

⇨ The settings are permanently reset.

5.10 Deviation list

The following list shows all the deviations which can be displayed on the service device.

The display text on the service device is always in English.

No.	Display text on service device	Meaning
1	IRED F error	The forward scatterer is not transmitting.
2	IRED B error	The backward scatterer is not transmitting.
3	Src 1 danger 1	Possible danger Resetting, not ready
4	Src 1 danger 2	Probable danger First activation during alarm verification Input modules and input/output modules: Input is active.
5	Src 1 danger 3	Highly probable danger Final activation during alarm verification
6	Src 2 danger 1	Possible danger Resetting, not ready
7	Src 2 danger 2	Probable danger First activation during alarm verification Input modules and input/output modules: Input is active.

No.	Display text on service device	Meaning
8	Src 2 danger 3	Highly probable danger Final activation during alarm verification
9	Src 3 danger 1	Possible danger
10	Src 3 danger 2	Probable danger Input modules and input/output modules: Input is active.
11	Src 3 danger 3	Highly probable danger
12	Src 4 danger 1	Possible danger
13	Src 4 danger 2	Probable danger Input modules and input/output modules: Input is active.
14	Src 4 danger 3	Highly probable danger
15	Data error	Faulty data
16	Watchdog	Watchdog has expired
17	Supply	Electrolytic capacitator voltage is too low
18	Transmit	Data transfer error
19	Src 1 trouble	Fault bit on Source 1
20	Src 2 trouble	Fault bit on Source 2
21	Src 3 trouble	Fault bit on Source 3
22	Src 4 trouble	Fault bit on Source 4
23	Device jabber	Communication error
24	Device off	Device is switched off
25	Low priority	Low priority mode
26	Configuration	Standard configuration
27	Test mode	Test mode
28	Separator open	Line separator is open
29	LED off	The internal alarm indicator is set so that it does not flash in normal mode. Communication with the service device is not therefore possible.
30	Output A on	Output A on
31	Output B on	Output B on
32	Output C on	Output C on
33	Output D on	Output D on
34	In 1 impaired	Function impaired
35	In 1 fatal err	Malfunction
36	In 1 inaptly par	Parameter setting can be improved
37	In 1 void par	Incorrect parameter setting
38	In 1 problem 1	External problem 1, depends on device type
39	In 1 problem 2	External problem 2, depends on device type
40	In 1 problem 3	External problem 3, depends on device type
41	In 1 trouble 1	External fault 1, depends on device type
42	In 1 trouble 2	External fault 2, depends on device type
43	In 1 trouble 3	External fault 3, depends on device type
44	B1 diff Line	Deviation on line resistance

No.	Display text on service device	Meaning
45	B1 unstab. Line	Unstable line resistance
46	B1 res.	Reserved
47	B1 open line	Open line
48	B1 short circuit	Short-circuit
49	B1 earth ending	Reserved (earth fault)
50	In 2 impaired	Function impaired
51	In 2 fatal err	Malfunction
52	In 2 inaptly par	Parameter setting can be improved
53	In 2 void par	Incorrect parameter setting
54	In 2 problem 1	External problem 1, depends on device type
55	In 2 problem 2	External problem 2, depends on device type
56	In 2 problem 3	External problem 3, depends on device type
57	In 2 trouble 1	External fault 1, depends on device type
58	In 2 trouble 2	External fault 2, depends on device type
59	In 2 trouble 3	External fault 3, depends on device type
60	B2 diff Line	Deviation on line resistance
61	B2 unstab. Line	Unstable line resistance
62	B2 res.	Reserved
63	B2 open line	Open line
64	B2 short circuit	Short-circuit
65	B2 earth ending	Reserved (earth fault)
66	In 3 impaired	Function impaired
67	In 3 fatal err	Malfunction
68	In 3 inaptly par	Parameter setting can be improved
69	In 3 void par	Incorrect parameter setting
70	In 3 problem 1	External problem 1, depends on device type
71	In 3 problem 2	External problem 2, depends on device type
72	In 3 problem 3	External problem 3, depends on device type
73	In 3 trouble 1	External fault 1, depends on device type
74	In 3 trouble 2	External fault 2, depends on device type
75	In 3 trouble 3	External fault 3, depends on device type
76	B2 diff Line	Deviation on line resistance
77	B3 unstab. Line	Unstable line resistance
78	B3 res.	Reserved
79	B3 open line	Open line
80	B3 short circuit	Short-circuit
81	B3 earth ending	Reserved (earth fault)
82	In 4 impaired	Function impaired
83	In 4 fatal err	Malfunction
84	In 4 inaptly par	Parameter setting can be improved

No.	Display text on service device	Meaning
85	In 4 void par	Incorrect parameter setting
86	In 4 problem 1	External problem 1, depends on device type
87	In 4 problem 2	External problem 2, depends on device type
88	In 4 problem 3	External problem 3, depends on device type
89	In 4 trouble 1	External fault 1, depends on device type
90	In 4 trouble 2	External fault 2, depends on device type
91	In 4 trouble 3	External fault 3, depends on device type
92	B4 diff Line	Deviation on line resistance
93	B4 unstab. Line	Unstable line resistance
94	B4 res.	Reserved
95	B4 open line	Open line
96	B4 short circuit	Short-circuit
97	B4 earth ending	Reserved (earth fault)
98	Out A no par	No parameter setting or deviation on output
99	Out A trouble	Action is not performed, hardware fault
100	Out A void par	Invalid parameter setting or fault on detector line
101	Out B no par	No parameter setting or deviation on output
102	Out B trouble	Action is not performed, hardware fault
103	Out B void par	Invalid parameter setting or fault on detector line
104	Out C no par	No parameter setting or deviation on output
105	Out C trouble	Action is not performed, hardware fault
106	Out C void par	Invalid parameter setting or fault on detector line
107	Out D no par	No parameter setting or deviation on output
108	Out D trouble	Action is not performed, hardware fault
109	Out D void par	Invalid parameter setting or fault on detector line
110	maybe excha.	Observe information
111	advice excha.	Replacement recommended
112	needed excha.	Replacement necessary
113 114	turn FDUD one quarter and retry	Rotate the service device 90° and execute the command again.

6 Maintenance / Troubleshooting

6.1 Replacing the battery

The battery charge state is indicated on the display. Replace the battery if the battery is showing 'flat' or if nothing happens once you have switched the service device on.

The battery charge state is indicated on the display as follows:

Display	Meaning
	Full charge
	66 % charge
	33 % charge
	Battery is flat.

Replacing the battery

⚠ WARNING

Short-circuit as a result of incorrectly inserting batteries

Warming of batteries and risk of fire

- When inserting battery, note polarity.

1. Open the battery compartment on the back of the service device.
2. Remove old battery.
3. Move pin cover from new battery to old battery.
4. Insert one 9 V lithium manganese dioxide battery. Note the positive and negative poles.
5. Close the battery compartment.

⇨ The battery is replaced and you can switch on the service device.

Dispose of batteries in an environmentally friendly manner and observe national guidelines and regulations.

See also

9 V lithium manganese dioxide battery [→ 21]

6.2 Updating the firmware

You should update the firmware if new device types are available which are compatible with the service device.

Recommendation: Update the firmware annually.

Firmware version from 2.0

As of firmware version 2.0, you can update the firmware with the 'FDUD29x Firmware Updater' software. You will find more information in chapter 'Updating the firmware with the 'FDUD29x Firmware Updater''.

Contact your localization manager for the 'FDUD29x Firmware Updater'.

Firmware version earlier than 2.0

If the firmware version for your service device is earlier than 2.0 and you want to update the firmware, get in touch with your Siemens contact.

The current firmware version of the service device is shown on the display after switching on.

6.2.1 Updating the firmware with the 'FDUD29x Firmware Updater'

The process of updating the firmware with the 'FDUD29x Firmware Updater' is divided into two sections:

- Installing 'FDUD_updater_fix'.
- Updating the firmware for the service device.

In this chapter, 'MCL-USB adapter' refers to the following devices:

- MCL-USB adapter FDUZ221
- MCL-USB (radio) adapter FDUZ227

Installing FDUD_updater_fix

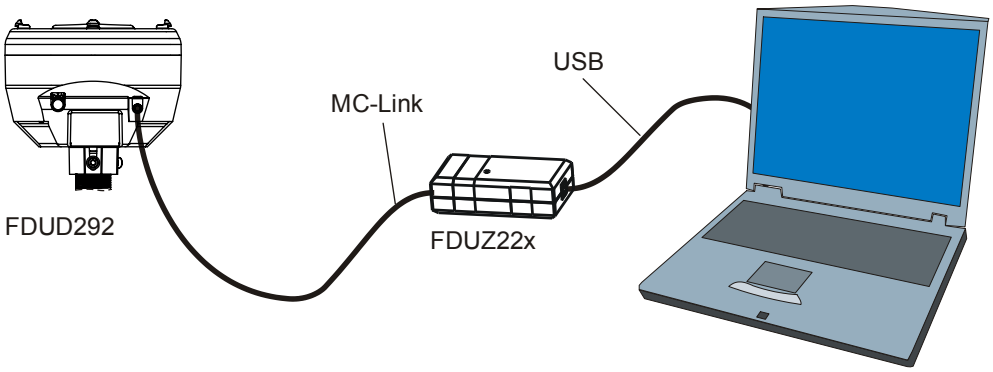
▷ The driver for the MCL-USB adapter is installed on the PC. You will find information about installing the driver in documents A6V10347735 and 009854.

▷ The service device has firmware version 2.0 or higher.

▷ The service device is switched off.

▷ The EXE file with the 'FDUD29x Firmware Updater' version 3.1.5 or higher is saved on the PC.

1. Connect the PC to the service device via the MCL-USB adapter.



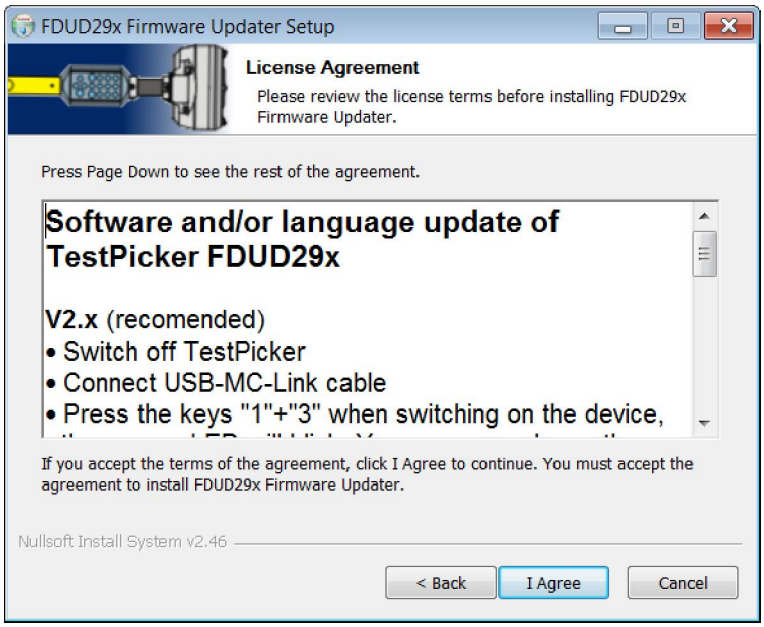
PC connection to the service device

2. Double click on the EXE file with the 'FDUD29 Firmware Updater'.

   ⇨ The 'FDUD29x Firmware Updater Setup' window shown below is displayed.

3. Click on 'Next'.

   ⇨ The window shown below is displayed.

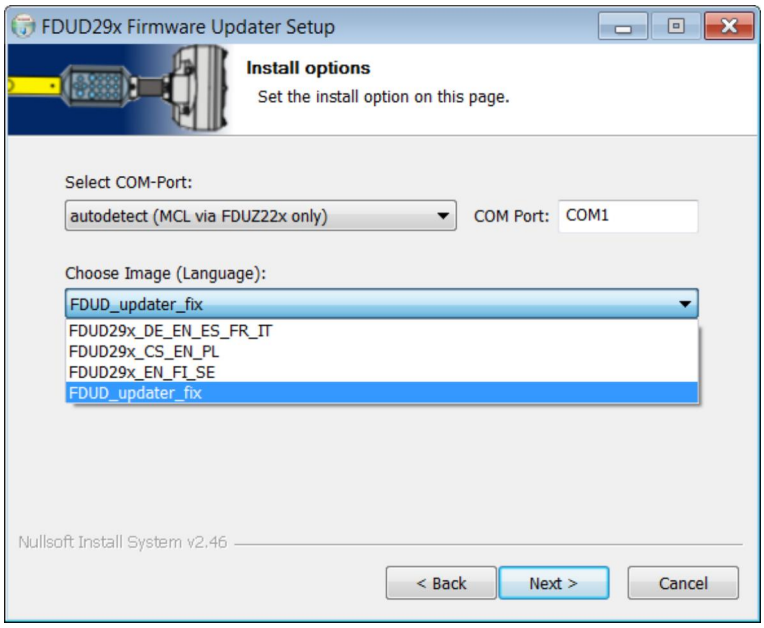


4. Press buttons 1 and 3 on the service device and hold them down while you switch on the service device.

   ⇨ The yellow LED flashes.

5. Click on 'I Agree' in the 'FDUD29x Firmware Updater Setup' window.

   ⇨ The window shown below is displayed.



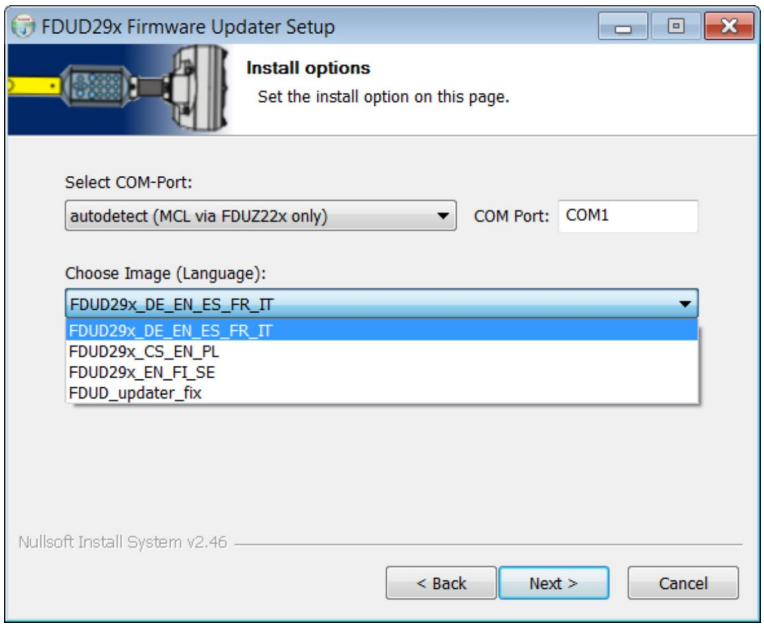
6. Select 'autodetect (MCL via FDUZ22x only)' in the 'Select COM Port' drop-down list.
7. Select 'FDUD_updater_fix' in the 'Choose Image (Language)' drop-down list.
8. Click on 'Next'.
   - ⇨ The yellow LED stops flashing.
   - ⇨ The FDUD_updater_fix is installed.
   - ⇨ After approximately 30 s, the 'The FDUD29x could be written properly' message appears in the 'FDUD29x Firmware Updater Setup' window and the yellow LED flashes.
9. Click on 'Close' in the 'FDUD29x Firmware Updater Setup' window.

⇨ The 'FDUD_updater_fix' is installed.

Updating the firmware for the service device

▷ The installation of the FDUD_updater_fix is complete and the yellow LED flashes.

1. Double click on the EXE file with the 'FDUD29 Firmware Updater'.
   - ⇨ The 'FDUD29x Firmware Updater Setup' window is displayed.
2. Click on 'Next' in the 'FDUD29x Firmware Updater Setup' window.
3. Click on 'I Agree' in the 'FDUD29x Firmware Updater Setup' window.
   - ⇨ The window shown below is displayed.



4. Select 'autodetect (MCL via FDUZ22x only)' in the 'Select COM Port' drop-down list.
5. Select the disk image with the required language in the 'Choose Image (Language)' drop-down list.
6. Click on 'Next'.
   - ⇨ The yellow LED stops flashing.
   - ⇨ The green LED flashes and the firmware is installed.
   - ⇨ The green LED stops flashing after approximately 3 minutes.
   - ⇨ The message 'The FDUD29x could be written properly' is displayed in the 'FDUD29x Firmware Updater Setup' window and the start screen is displayed on the service device display.
7. Click on 'FDUD29x Firmware Updater Setup' in the 'Close' window.
8. Disconnect the service device from the computer.

⇨ The firmware update is complete.

If the message 'The FDUD29x could be written properly' is displayed at the end of the update, the firmware has been installed correctly, even if error messages were displayed during the installation.

6.3 Error list

Error	Possible cause	Action required
'Device Not Testmode'	Zone is not set to test mode.	Set the zone to test mode on the station or using the detector exchanger and tester.
'MC link'	Transfer error	On the station, switch the MC link on at station level.
'Panel'	Communication problem between peripheral device and station	On the station, switch the MC link on at station level.
'Device No Config'	Peripheral device set to 'Unmanned'	Set peripheral device to 'Manned'.

6.4 Remedying faults

Fault	Check	Remedy/problem
No reaction after switching on	Is the battery inserted?	Insert a fully charged battery.
	Is the battery flat?	Insert a fully charged battery.
Slow communication	Is there a deviation in the device you want to test?	A deviation is indicated by the internal alarm indicator. It slows down communication with the service device.
Interrupted communication	Is the internal alarm indicator on the compatible device dirty?	Clean the internal alarm indicator with a damp cloth.
	Are the alarm indicator sensors on the service device dirty?	Vacuum off the dirt or clean the alarm indicator sensors with a damp cloth.
No communication	Is the faint pause flashing deactivated on the device?	Switch on the MC link on the station.
No communication	Is the internal alarm indicator of the device you want to test switched off?	Switch on the internal alarm indicator.
Dark display	Does the display go dark after touching the screen?	1. Switch off the service device. 2. Wait a few seconds. 3. Switch on the service device.

Fault	Check	Remedy/problem
A deviation is indicated during another test even though the fault has been remedied.	Has a fault been rectified on a collective detector line?	If a fault has been rectified on a collective detector line, the internal alarm indicator of the compatible device and the service device both show the fault until the fault is reset or the power supply is cut. ● Reset the fault on the control panel. ● Briefly cut the power supply to the device.
The error message 'IRED F error' or 'IRED B error' is displayed.	Is the detector grid dirty?	Clean the grid.
	Are the infrared sensors on the service device dirty?	Vacuum off the dirt or clean the infrared sensors with a brush.
	Is there direct sunlight?	Avoid direct sunlight.
A test alarm cannot be triggered using the '2.3 Check+Testalarm' command.	Is the 'Device Not Testmode' message displayed on the service device?	Switch on test mode on the control panel.
The firmware update using the 'FDUD29x Firmware Updater' is interrupted.	Is the 'CRITICAL:updater:Could not connect, upgrade not possible' error message displayed?	Adapt the energy management settings in Windows so that the PC cannot switch off the MCL-USB adapter.
	Does a window appear with the 'An error occured: Could not write the target' error message?	Switch off the service device and repeat the steps to update the firmware. See the 'Updating the firmware with the 'FDUD29x Firmware Updater' [→ 46]' chapter
	Are the following 3 conditions all met? ● Yellow service device LED is flashing ● Orange MCL-USB adapter LED is on ● Window with 'An error occured: Could not write the target' error message is displayed	Restore the firmware. See the chapter 'Restoring the firmware with the 'FDUD29x Firmware Updater''.

6.4.1 Restoring the firmware with the 'FDUD29x Firmware Updater'

The process of restoring the firmware with the 'FDUD29x Firmware Updater' is divided into the following three sections:

- Connecting the service device to the PC.
- Updating the firmware for the service device.
- Disconnecting the service device from the PC.

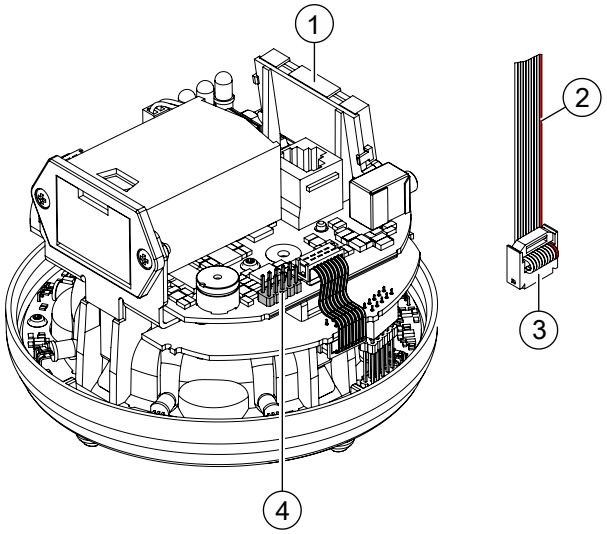
Connecting the service device to the PC

▷ The service device is switched off.

▷ The service device has firmware version 2.0 or higher.

▷ An FDUL221-C PC cable is available.

1. Loosen and remove the two screws from the test head for the service device.
2. Remove the handle with the keypad from the test head.
3. Loosen the keypad cable connector from the test head.
4. Plug the 10-pin connector for the FDUL221-C PC cable (3) onto the 10-pin test head connection (4) so that the red marking on the FDUL221-C PC cable (3) is facing the display (1).



5. Connect the FDUL221-C PC cable to the PC.

Updating the firmware

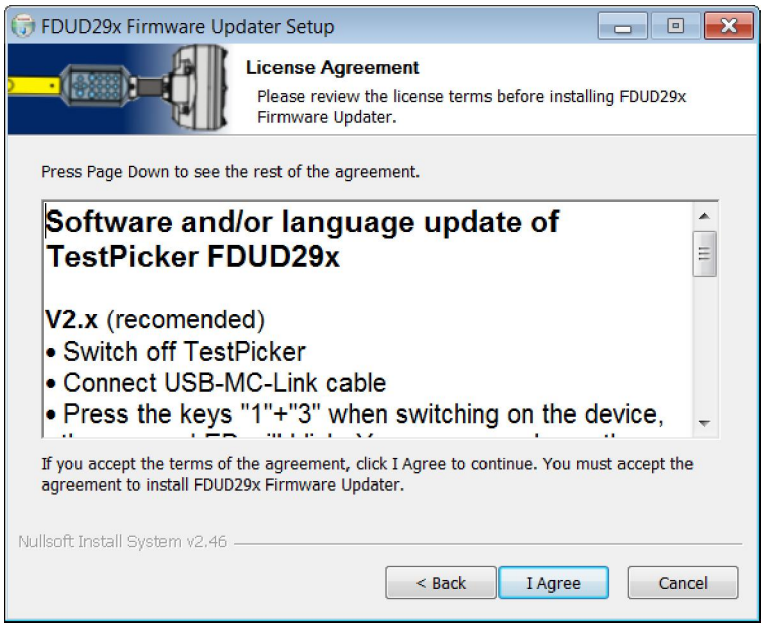
▷ The service device is switched off.

▷ The service device is connected to the PC via the FDUL221-C PC cable.

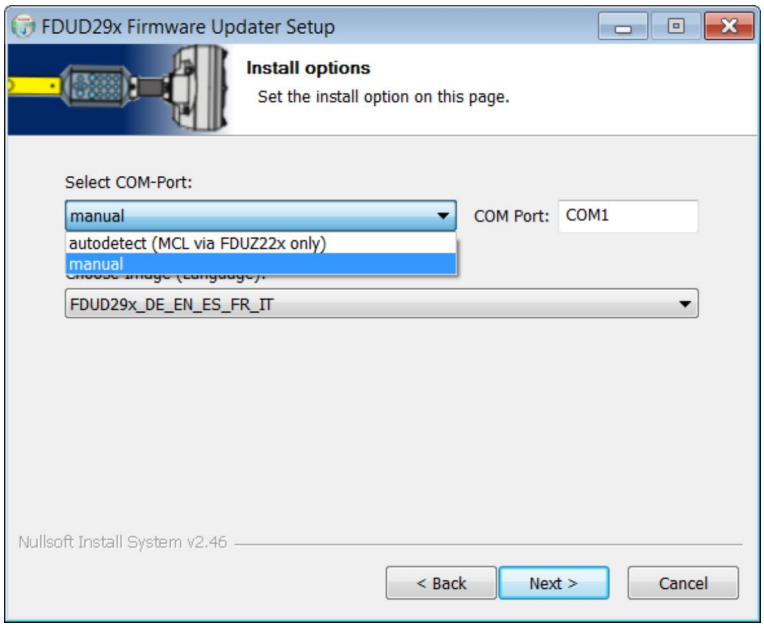
▷ The EXE file with the 'FDUD29x Firmware Updater' version 3.1.5 or higher is saved on the PC.

1. Double click on the EXE file with the 'FDUD29 Firmware Updater'.
   ⇨ The 'FDUD29x Firmware Updater Setup' window shown below is displayed.

2. Click on 'Next'.
   ⇨ The window shown below is displayed.



3. Click on 'FDUD29x Firmware Updater Setup' in the 'I Agree' window.
   ⇨ The window shown below is displayed.



4. Select 'manual' in the 'Select COM Port' drop-down list.
5. Press and hold the on/off button and click on 'Next' while the firmware is updating.
   ⇨ The firmware is updated.
   ⇨ The 'FDUD29x Firmware Updater Setup' window displays the 'The FDUD29x could be written properly' message after approximately 3 minutes.
6. Release the on/off button.
7. Click on 'FDUD29x Firmware Updater Setup' in the 'Close' window.

⇨ The firmware for the service device is updated.

Disconnecting the service device from the PC

1. Remove the FDUL221-C PC cable from the test head for the service device and from the PC.
2. Insert the connector for the keyboard cable.
3. Place the handle with the keyboard onto the test head.
4. Use the two screws to fasten the handle with the keyboard on the test head of the service device.

7 Specifications

7.1 Technical data

Device characteristics	Operating current:	
	● Switched off	0.8 µA
	● In standby mode with display backlight off	1.7 mA
	● During communication with 3 LEDs and signal sound on	83 mA
Connections	MC link:	
	● Wireless interface	
	● 3.5 mm jack	
Battery	Number of batteries	1
	Type	9 V lithium manganese dioxide battery
Ambient conditions	Operating temperature/Permissible ambient temperature	
	● Permanent	-20…+40 °C
	Storage temperature:	
	● With battery	-25…+60 °C
	● Without battery	-30…+75 °C
	Air humidity	≤95 % rel. (no moisture condensation)
	Protection categories according to EN 60529/IEC 60529	IP20
Mechanical data	Dimensions:	
	● Test head (∅ x H)	121 x 85 mm
	● Length	382 mm
	Weight	686 g
Standards	European standards	● EN 55024 ● EN 60068-1 ● EN 60950-1 ● EN 61000-6-3 ● EN 300220-2 ● EN 301489-1 ● EN 301489-3
Approvals	EC Certificate of Conformity:	CE

7.2 Environmental compatibility and disposal

This device is manufactured using materials and procedures which comply with current environmental protection standards as best as possible. More specifically, the following measures have been undertaken:

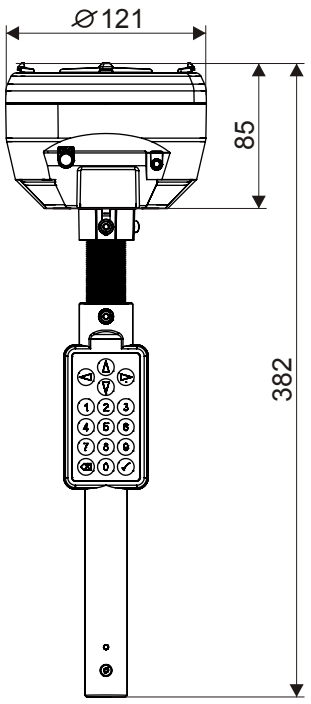
- Use of reusable materials
- Use of halogen-free plastics
- Electronic parts and synthetic materials can be separated

Larger plastic parts are labeled according to ISO 11469 and ISO 1043. The plastics can be separated and recycled on this basis.

Electronic parts and batteries must not be disposed of with domestic waste.

- Take electronic parts and batteries to local collection points or recycling centers.
- Contact local authorities for more information.
- Observe national requirements for disposing of electronic parts and batteries.

7.3 Dimensions



Dimensions

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