FIX CONTROL

FixSet

Manual

EN

FixLoader, FixLogger und FixMaster

These operating instructions can also be downloaded as a digital version from the Fixcontrol website:

www.fixcontrol.ch

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Overview

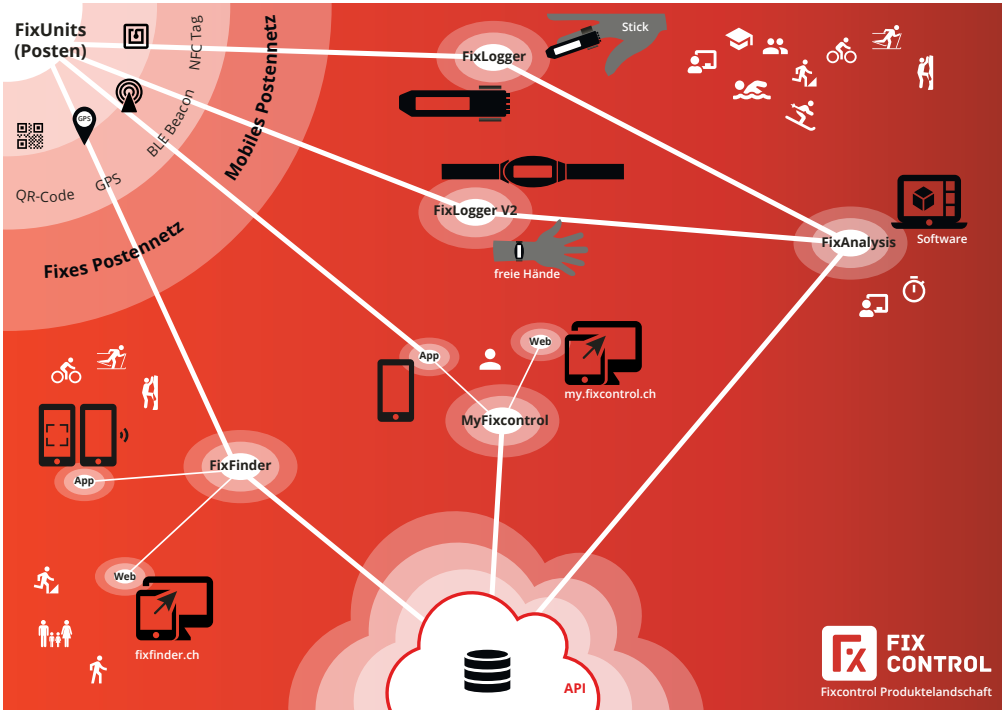
Fixcontrol

Fixcontrol was born out of an idea to motivate children and adults to exercise outdoors. With many years of experience in orienteering and product development, Fixcontrol has positioned itself in the timekeeping system sector. The range is characterised by innovative products that are well coordinated with each other. The great flexibility and adaptability enables a solution for various applications.

The aim of Fixcontrol is to offer comprehensive advice based on the products and to provide customers with long-term support on site during installation and maintenance.

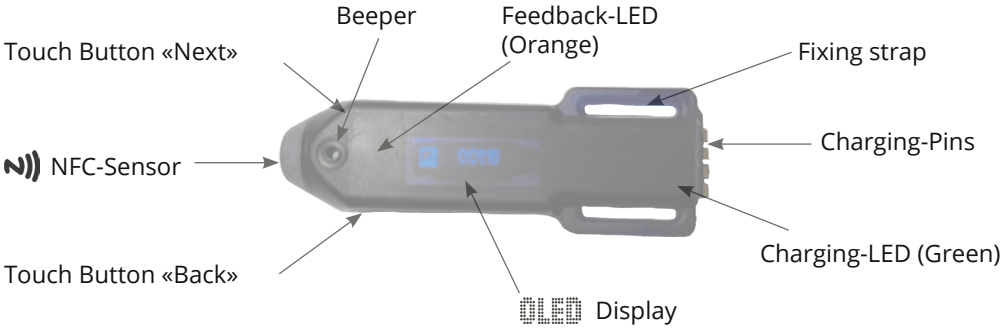
Erleben Sie eine einfache und attraktive Gestaltung von diversen Freizeit-Aktivitäten.

FixSystem

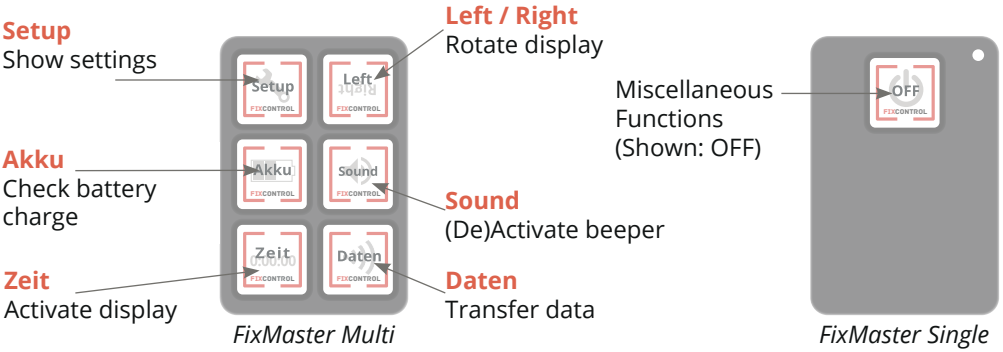


Bedienelemente

FixLogger



FixMaster



FixMaster Multi

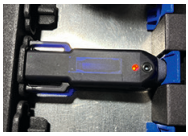
FixMaster Single

FixMaster Single Start control

FixMaster Single Arrival control

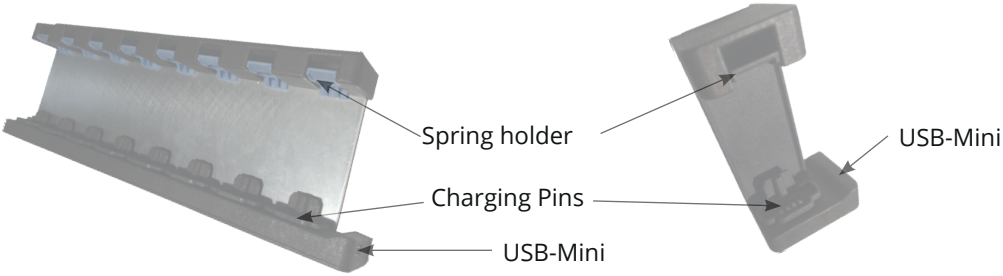
Functions and operation

Charge FixLogger

① Insert FixLogger	② Connect cable, activate mains power	③ Indicate activated power	④ Charge FixLogger	⑤ FixLogger ready
				
Insert the required number of FixLoggers into the FixLoader	Plug in the USB mini cable and connect the adapter to the mains voltage	Orange LED flashes three times; the green LED indicates external voltage	The display then shows the current charge level and the charging symbol	A tick appears next to the battery symbol when charging is complete

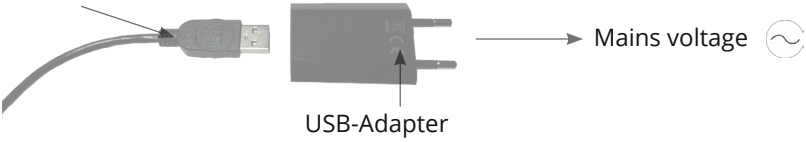
FixLoader Multi / Single

The FixLoader Multi offers space to charge eight FixLoggers simultaneously. With the FixLoader Single, one data logger can be loaded at a time.



Both FixLoaders are supplied with power using a USB cable and a USB charging adapter. Minimum requirements for USB output: 550mA and 5VDC.

USB: 550mA, 5VDC



Check battery charge status

① Read FixTag «Akku»

Read Akku-Tag with FixLogger

② Show charge status

Display shows the charge status for 3s

	Battery is empty No use possible
	Akku is 1/3 charged No use possible
	Akku is 2/3 charged Operating time 4h
	Akku is almost full
	Akku is full Charging time ca. 2.5h Operating time 7h

Only charge the FixLogger at temperatures between 0°C and 35°C.

If the FixLogger is clamped in the charging adapter for a longer period of time and the battery is fully charged as a result, the green charging LED may go out.

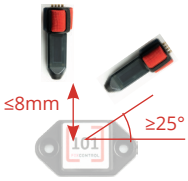
FixLogger automatically disconnects from the battery if it is not used for a long period of time, but it should still be recharged regularly (every six months).

Read FixTag in general

① Sensor area

The active sensor area is in the red brackets

② Distance and angle



Reading distance is less than 8mm

③ Detection

As soon as the FixTag is recognised, the orange LED flashes several times

④ Confirmation

A sound is emitted and a confirmation appears on the display

⑤ Function

The desired function is now executed

Read confirmation is given both via the orange LED and the display, but also as a sound. The display switches off automatically after a minimum of 10 seconds. Except in run mode and during data transmission, another function can be started at any time.

Using the run mode

① Start timing

Read out the start tag with FixLogger; old data is deleted

② Run mode shown

The flag symbol flashes on the display flag symbol flashes with the current running time

③ Read controls

Hold the FixLogger at the respective

④ Confirm controls

Successful reading is confirmed once for 10 seconds with the control number

⑤ Display control number again

Touch both touch buttons at the same time

⑥ Confirm further items

Punch further controls according to the same procedure

⑦ Stop timing

Read out arrival tag with FixLogger

⑧ Display arrival time

The destination symbol and the total time appear on the display

⑨ Activate Display Mode

Display mode is automatically activated (see next page)

⑩ Timeout

The display is deactivated again after 10 seconds of inactivity

Repeated reading of the start tag restarts the time measurement again. Old times are automatically deleted when the start tag is read out.

If the same control is read out immediately one after the other, the time of the last acknowledgement is saved in each case.

A control can be read out several times and - if the same control was not previously read - the item is saved again.

The time measurement stops when the arrival tag is read for the first time; there is no response to a repeated readout.

No other tags with special functions can be read during run mode.

Activate and navigate the display

① Read FixTag «Zeit»

② Activate Display

Display shows first information

③ Next

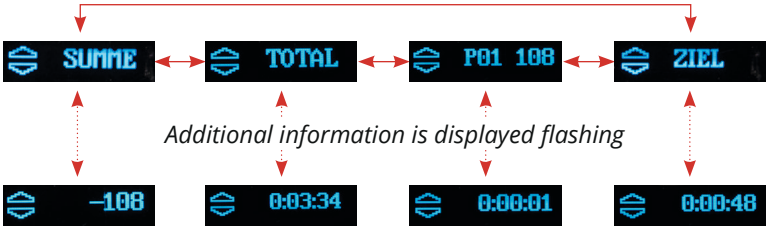
④ Previous

Touch the touch buttons to display further information

⑤ Timeout

The display is deactivated again after 10 seconds of inactivity

The order of the display screens is defined as follows:



Checksum

Total time (Format *h:mm:ss*)

Split time to a control (Format *h:mm:ss*)

Time to arrival (Format *h:mm:ss*)

The checksum is calculated using the item numbers by alternately subtracting and adding them in the correct order.

Example SUM = 103 - 107 + 110 - 115 + 106 = -3

The number of split times depends on the corresponding number of acknowledged controls during timing.

If the finish was stamped directly after the start without punching a control, the display shows «Pxx xx:xx».

Within ten minutes of the display going out, it can be reactivated by touching both touch buttons simultaneously.

(De)Activate FixLogger

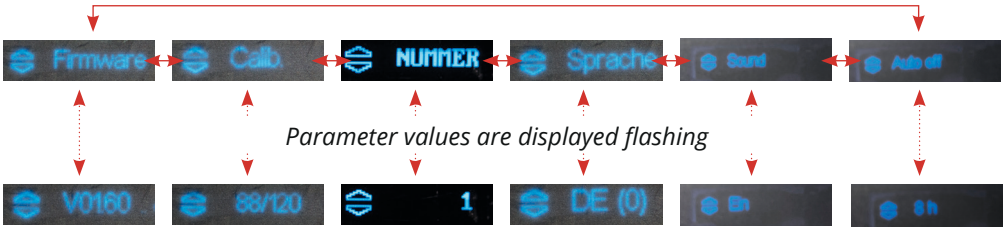
①	②	③	④	⑤
Read FixTag «OFF»	Wait for countdown	Off-Mode	Activate	Standby
				
Read out the off-tag with FixLogger	The three-second countdown appears on the display	FixLogger does not respond to tags and orange LED does not flash	Place FixLogger in the charging station, orange LED flashes, then display shows charging status	Orange LED flashes every 30 seconds; FixLogger is ready

As long as the FixLogger can be activated, the orange feedback LED flashes briefly every 30 seconds (sign of life). Nevertheless, it is recommended to check the battery charge level with the Akku tag before use.

When using the FixLogger for the first time after delivery and after off mode, it must be placed in the charging station for a short time.

Read settings

The following system parameters are displayed with the «Setup tag»: Firmware, NFC calibration, logger number and language.



Firmware Version	NFC Calibration	Number	Language	Auto Power Off Timeout	Sound

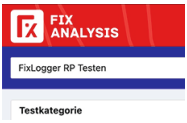
The last display screen can be shown again within ten minutes by touching both touch buttons at the same time. This function applies to the display and settings mode.

Transfer data

① Connect ANT USB-stick

Insert the ANT USB stick into a USB port on the computer

② Start FixAnalysis



Start the software FixAnalysis

③ Start data transfer

Read out the data tag with FixLogger

④ Data transfer

The display shows the data transfer

⑤ Confirm transfer

A confirmation appears
✓ = Success
x = Error

The functions and operation of FixAnalysis are described in a separate user manual. FixAnalysis can be downloaded free of charge from the website. However, use requires a licence.

Change display direction, switch sound

① Read FixTag

Read the orientation tag with FixLogger

② Confirmation

The display is rotated by 180° (alternately for the right and left hand)

③ Timeout

The display is deactivated again after 5s of inactivity

Read the sound tag with FixLogger

The indicator on the display shows whether the buzzer is switched on or off

The display is deactivated again after 5s of inactivity

The selected setting for the display remains permanently saved, even if the battery is empty. Only the beeper is reactivated when the device is switched on.

Troubleshooting

Assistance

The following assistance can be found on the Fixcontrol website:

Online Support	*www.fixcontrol.ch/support*
Manual / Fact sheets	*www.fixcontrol.ch/downloads*

Problem handling

1. *Why does my FixLogger in the FixLoader not display a battery status or why does it generally remain dark?*

If the green LED (under the finger strap) does not light up, there is no charging voltage. The following points must be checked:

- Is the FixLogger correctly inserted in the FixLoader?
- Are all cables plugged in correctly? No connectors bent or broken off?
- Is the charging adapter used connected to the mains voltage, or is the USB port used (computer, USB hub) active and is it supplying sufficient power?

2. *The orange LED does not light up when reading a FixTag and/or the animation does not appear on the display.*

If the battery charge level is insufficient, the FixLogger must be charged. It must be ensured that the detection distance is not too great and that the FixLogger is held with the sensor surface on the FixTag for a sufficient length of time.

3. *Only the orange LED lights up and then the display remains dark and the FixLogger does not respond.*

A FixTag was read, which is not permitted in the current state of the FixLogger and therefore cannot start a function.

4. *The orange LED only flashes briefly and the display remains dark.*

The battery voltage is too low. The FixLogger must be charged until the corresponding display (with a tick) appears.

5. The selected function is not started.

Hold the FixLogger up to the tag again and check that the distance and angle are correct. If the tag still cannot be read out, the battery charge level is too low and the FixLogger must be recharged.

6. No confirmation display appears when the arrival control is read out.

Either the arrival control was not read out correctly (try again) or it has already been read out. Timekeeping stops automatically the first time the finish control is read out.

7. The total time and split times do not appear on the display.

Ensure that the display mode has been started correctly. The touch buttons must be activated long enough and, above all, in the right place to show the next information on the display.

8. After sending the data, a cross appears.

The data transfer did not work. Ensure that the receiving side is set up (computer with stick and ANT driver, FixAnalysis started) and the data transmission must be triggered again.

9. The orange LED flashes briefly.

The orange LED flashes briefly every 30 seconds to indicate that the FixLogger is still in sleep mode and tags can be read.

10. The FixLogger is quickly discharged after a full charging cycle.

The FixLogger should never be stored in places that are too hot or too cold or near metal, as otherwise the battery may discharge rapidly. The FixLogger should also be switched off with the OFF tag when not in use.

11. The FixLogger does not respond when reading a FixTag. The orange LED does not flash.

The FixLogger is either fully discharged and must be charged in the charging station, or the FixLogger is in Off mode. To exit Off mode, the FixLogger must also be held briefly in the charging station to activate the internal power supply.

Technical specifications

General information

Material

The material used for moulding FixLoggers, FixTags and FixUnits is Technomelt based on polyamide and consists of renewable raw materials. Technomelt does not contain any critical substances in accordance with RoHS and WEEE. No chemical reactions take place during processing and no solvents are released.

Radio technology

The FixLogger contains an ANT radio transmitter and receiver to transfer the data to the computer. The passive FixTags (items) are read using an NFC reader. To prevent self-discharge, no metal should be brought permanently into the vicinity of the FixLogger.

User interface

An OLED display and two LEDs provide the user with information about the status of the FixLogger. Two touch buttons are integrated for navigation. A beeper provides an audible feedback.

Akku

The FixLogger is powered by a rechargeable lithium-polymer battery. With a fully charged battery, an average operating time of five hours is guaranteed after three days of standby time. The operating times are calculated with an average stamping interval of one minute.

Memory

The FixLogger saves the running time and the split times of the registered control in the internal memory. Together with information data from the FixLogger, this memory can be transferred to the computer.

Size and comfort

The FixLogger is only available in one size. This is approximately 70x15x15 mm. A strap can be attached to the FixLogger can be fitted with a strap so that it can be worn comfortably on the finger. Various versions of the FixTags and FixUnits are available in different sizes. Information on this can be found on the Fixcontrol website.

Cleaning

The Fixcontrol products are fully encapsulated and therefore waterproof. The contacts of the FixLogger are coated, but can develop microcracks if not handled properly. This means that the contacts can be exposed to minute amounts of sweat or moisture over long periods of time, which can lead to corrosion and contamination and thus to reduced contact capability during charging.

The Fixcontrol products can be easily cleaned with water. Regular cleaning is recommended to remove dirt and sweat residues. The following points must be observed:

- ☐ Do not use chemical cleaning agents for cleaning, as these can attack the material
- ☐ No sharp or abrasive objects may be used for cleaning.
- ☐ After cleaning, rub the Fixcontrol products dry with a cloth; appropriate storage allows the products to dry out completely.

Specification

Akku Type	Integrated rechargeable lithium polymer 3.7V, 125mAh	
Akku Run Time	Sleep Mode Run Mode	2.5 days 5 hours read controls every 2 minutes
Charging parameters	5 VDC 550mA	Standard Mini USB2 connection Ambient temperature min. 0°C
Operating temperature	-20°C to +60°C (continuously) Storage temperature 0°-40°C	
Water protection	IP68 • Dust-tight, protection against contact • Protection against permanent submersion	
Radio protocol	2.4GHz ANT radio transmission	
NFC protocol	13.56MHz, ISO/IEC 15693	

Authorisation requirements

FixLogger, FixTag, FixUnit

CE

Hereby, Fixcontrol GmbH declares that the radio equipment type «FixLogger» with its associated passive units is in compliance with Directive 2014/53/EU (RED). The full text of the EU Declaration of Conformity is available at the following internet address:

www.fixcontrol.ch/conformity

Note A type list of FixTags and FixUnits is also available at the above Internet address.

FixLoader

CE

The charging adapters «FixLoader Multi» and «FixLoader Single» comply with the following guidelines:

2014/35/EU	Low voltage Directive (LVD)
2014/30/EU	Electromagnetic compatibility (EMC)
2011/65/EU	Restriction of hazardous substances (RoHS)
2012/19/EU	Waste of Electrical and Electronic Equipment (WEEE)
2005/32/EC	Energy related Products (ErP)

The full text of the EU Declaration of Conformity is available at the following Internet address:

www.fixcontrol.ch/conformity

Accessories

CE

According to the manufacturer «Dynastream Innovations», the ANT-USB2 stick complies with the necessary standards. The following is the manufacturer's original text:

«The ANT USB2 stick is declared to be in conformance with the essential requirements and other relevant provisions of 1999/5/EC and 2006/95/EC, as a low-powered unlicensed transmitter.»

European Union

This is a declaration of conformity with regard to the EU directive 2014/53/EU (RED). Fixcontrol is declaring conformity to the essential requirements and other relevant provisions of

- Directive 2014/53/EU (RED) and other applicable directives
- Compliant with the standard 2014/53/EU (RED)
- Conforme à la norme 2014/53/EU (RED)

Safety instructions

Warnings

- ☐ The FixLogger and most of the FixTags are made of thermoplastic material; prolonged skin contact may cause skin irritation or allergic reactions.
- ☐ The FixLogger and the FixTags contain electrical components that can cause injuries if used improperly.
- ☐ The substances contained in Fixcontrol products and their components may be harmful to the environment or human health if handled or disposed of improperly.
- ☐ Fixcontrol products are not toys. They contain small parts that pose a choking hazard. The products must be kept away from small children aged 0-3 years and must not be given to pets to play with.
- ☐ Fixcontrol products are designed exclusively for outdoor and indoor use. Nevertheless, the FixLogger in particular should be protected from extreme environmental conditions:
  - do not expose it to direct and strong sunlight for long periods of time
  - Do not expose to extremely high (>40°C) or low temperatures (<-20°C)
  - Storage of the fully charged FixLogger only recommended between 0°C and 35°C
- ☐ If damage to one of the Fixcontrol products allows access to the components, the product must no longer be used.
- ☐ Accidents or damage caused by improper and unintended use will invalidate the warranty. In this case Fixontrol accepts no liability.

Vorsichtsmassnahmen bezüglich des Akkus

The FixLogger contains a lithium-polymer battery.

- ☐ Fixcontrol recommends using the supplied charging adapter and USB cable. The battery must be charged in accordance with these instructions.
- ☐ The FixLogger cannot be opened to replace the battery or carry out other work. The battery must not be dismantled, deformed or otherwise modified. Health hazards may arise.

- The FixLoader Multi requires at least 550mA and 5V. In addition to the products approved by Fixcontrol, only connections that fulfil these requirements, such as computers, hubs with their own power supply or power supply units, should be used, which are certified by a recognised test laboratory.

- The battery may only be charged at temperatures between 0°C and 35°C. When not in use, the battery must be charged regularly - ideally every six months..

Disposal and Recycling

Fixcontrol products are electronic devices that contain, among other things, a lithium polymer battery. For this reason, Fixcontrol products must not be disposed of with normal household waste after use. The Fixcontrol products must be taken to an appropriately equipped materials disposal centre.

There are collection centres for the recycling of rechargeable batteries and electronic devices in all countries of the European Union. Information can be obtained from the local waste disposal office.

All materials and processes used in Fixcontrol products comply with the RoHS Directive.

Security declaration

The Fixcontrol products have been tested and comply with the safety requirements of the EN-Norm «EN60950-1:2006 + A11:2009 + A1:2010 + A12: 2011 + A2: 2013»

Information displays

The FixLogger is connected to an external power supply, the charging process is active.

The loading progress is displayed in three sequences.

The tick appears when charging as soon as the battery charge level is high enough to start an eight-hour run.

Battery charge level is not sufficient to activate the desired function.

The battery charge level is sufficient to start a five-hour run.

Animation of the confirmation signalling successful reading of a control.

The display of the orienteering flag alternating with the running time indicates that the running mode / time measurement is activated.

Confirmation of a control in run mode.

The finish symbol and the finish time are displayed after the finish control.

Data transfer is ongoing.

Confirm the data transfer with a cross or tick next to the symbol.

The various displays in display mode and their sequence are described on page 9.

Touch button has been pressed.

Setting the display reading direction for right-handers.

Setting the display reading direction for left-handers.