Operating Instructions
USB Communicator
Interface converter USB - I²C
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1 About this document

1.1 Function
This operating instructions manual provides all the information you need for mounting, connection and setup as well as important instructions for maintenance and fault rectification. Please read this information before putting the instrument into operation and keep this manual accessible in the immediate vicinity of the device.

1.2 Target group
This operating instructions manual is directed to trained specialist personnel. The contents of this manual should be made available to these personnel and put into practice by them.

1.3 Symbols used

Information, tip, note
This symbol indicates helpful additional information.

Caution: If this warning is ignored, faults or malfunctions can result.

Warning: If this warning is ignored, injury to persons and/or serious damage to the instrument can result.

Danger: If this warning is ignored, serious injury to persons and/or destruction of the instrument can result.

Ex applications
This symbol indicates special instructions for Ex applications.

SIL applications
This symbol indicates instructions for functional safety which must be particularly taken into account for safety-relevant applications.

• List
The dot set in front indicates a list with no implied sequence.

→ Action
This arrow indicates a single action.

1 Sequence of actions
Numbers set in front indicate successive steps in a procedure.

Battery disposal
This symbol indicates special information about the disposal of batteries and accumulators.
2 For your safety

2.1 Authorised personnel
All operations described in this operating instructions manual must be carried out only by trained specialist personnel authorised by the plant operator.
During work on and with the device the required personal protective equipment must always be worn.

2.2 Appropriate use
The instrument is an interface converter for connecting a PC to communication-capable sensors.
You can find detailed information on the application range in chapter "Product description".
Operational reliability is ensured only if the instrument is properly used according to the specifications in the operating instructions manual as well as possible supplementary instructions.
For safety and warranty reasons, any invasive work on the device beyond that described in the operating instructions manual may be carried out only by personnel authorised by the manufacturer. Arbitrary conversions or modifications are explicitly forbidden.

2.3 Warning about incorrect use
Inappropriate or incorrect use of the instrument can give rise to application-specific hazards, e.g. vessel overfill or damage to system components through incorrect mounting or adjustment.

2.4 General safety instructions
This is a state-of-the-art instrument complying with all prevailing regulations and guidelines. The instrument must only be operated in a technically flawless and reliable condition. The operator is responsible for the trouble-free operation of the instrument.
During the entire duration of use, the user is obliged to determine the compliance of the necessary occupational safety measures with the current valid rules and regulations and also take note of new regulations.
The safety instructions in this operating instructions manual, the national installation standards as well as the valid safety regulations and accident prevention rules must be observed by the user.
For safety and warranty reasons, any invasive work on the device beyond that described in the operating instructions manual may be carried out only by personnel authorised by the manufacturer. Arbitrary conversions or modifications are explicitly forbidden.
The safety approval markings and safety tips on the device must also be observed.
2.5 Safety label on the instrument
The safety approval markings and safety tips on the device must be observed.

2.6 CE conformity
The device fulfills the legal requirements of the applicable EC guidelines. By affixing the CE marking, we confirm successful testing of the product.
You can find the CE Certificate of Conformity in the download section of our homepage.

2.7 Safety instructions for Ex areas
Please note the Ex-specific safety information for installation and operation in Ex areas. These safety instructions are part of the operating instructions manual and come with the Ex-approved instruments.
3 Product description

3.1 Configuration

Scope of delivery
The scope of delivery encompasses:

- USB Communicator interface converter
- USB cable
- Documentation
  - this operating instructions manual
  - if necessary, further certificates

Type label
The type label contains the most important data for identification and use of the instrument:

- Article number
- Serial number
- Technical data

3.2 Principle of operation

Area of application
The USB Communicator is an interface converter for connection of communication-capable sensors to the USB interface of a PC. An adjustment software such as PACTware with appropriate DTM is required for parameter adjustment.

Functional principle
The interface converter is connected via the USB interface to a PC. It converts signals and protocols of the USB interface into the appropriate signal/protocol of the connected instrument.

Voltage supply
Voltage supply of USB Communicator is provided via the USB interface of the PC.

Detailed information about the power supply can be found in chapter "Technical data".

3.3 Operation

The adjustment is carried out via a Windows PC with a parameter adjustment software such as PACTware with respective DTM. There are no adjustment elements on the instrument itself.

3.4 Packaging, transport and storage

Packaging
Your instrument was protected by packaging during transport. Its capacity to handle normal loads during transport is assured by a test based on ISO 4180.

The packaging of standard instruments consists of environment-friendly, recyclable cardboard. For special versions, PE foam or PE foil is also used. Dispose of the packaging material via specialised recycling companies.

Transport
Transport must be carried out in due consideration of the notes on the transport packaging. Nonobservance of these instructions can cause damage to the device.
Transport inspection

The delivery must be checked for completeness and possible transit damage immediately at receipt. Ascertained transit damage or concealed defects must be appropriately dealt with.

Storage

Up to the time of installation, the packages must be left closed and stored according to the orientation and storage markings on the outside.

Unless otherwise indicated, the packages must be stored only under the following conditions:

- Not in the open
- Dry and dust free
- Not exposed to corrosive media
- Protected against solar radiation
- Avoiding mechanical shock and vibration

Storage and transport temperature

- Storage and transport temperature see chapter "Supplement - Technical data - Ambient conditions"
- Relative humidity 20 ... 85 %
4  Connection

4.1  Connection to the PC

**Note:**
Before connecting to the PC, you first have to install the driver (included in the DTM).

An USB interface (1.1/2.0/3.0) is compulsory for connection of USB Communicator to a PC. The connection is provided with the supplied USB cable. Voltage supply is provided via the USB interface.

**Driver**

A suitable driver is required for operation which is included in the corresponding DTM. The USB driver is automatically installed with the DTM installation. When connecting USB Communicator for the first time, the driver installation is automatically finished and is ready for operation without a restart.

4.2  Connection of the sensor

The USB Communicator can be installed directly into the sensor instead of the display and adjustment module.

The USB Communicator must not be used in Ex areas.

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**Fig. 1: Installation and connection**

1  USB cable
2  Sensor
5 Maintenance and fault rectification

5.1 Instrument repair

If a repair is necessary, please proceed as follows:

On our homepage in the Internet under http://www.krohne-mar.com/fileadmin/
media-lounge/PDF-Download/Specimen_e.pdf you can download a return form.
By doing this you help us carry out the repair quickly and without having to call back for needed information.

- Print and fill out one form per instrument
- Clean the instrument and pack it damage-proof
- Attach the completed form and possibly also a safety data sheet to the instrument
6 Disposal

6.1 Disposal

The instrument consists of materials which can be recycled by specialised recycling companies. We use recyclable materials and have designed the parts to be easily separable.

**WEEE directive 2002/96/EG**

This instrument is not subject to the WEEE directive 2002/96/EG and the respective national laws. Pass the instrument directly on to a specialised recycling company and do not use the municipal collecting points. These may be used only for privately used products according to the WEEE directive.

Correct disposal avoids negative effects on humans and the environment and ensures recycling of useful raw materials.

Materials: see chapter "Technical data"

If you have no way to dispose of the old instrument properly, please contact us concerning return and disposal.
7 Supplement

7.1 Technical data

**Electrical data**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage supply from USB interface</td>
<td>5 V</td>
</tr>
<tr>
<td>Max. power consumption</td>
<td>500 mW</td>
</tr>
<tr>
<td>Galvanic separation between</td>
<td>I²C-Bus - USB</td>
</tr>
</tbody>
</table>

**Ambient conditions**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permissible ambient temperature</td>
<td>-20 ... +60 °C (-4 ... +140 °F)</td>
</tr>
<tr>
<td>Storage and transport temperature</td>
<td>-40 ... +70 °C (-40 ... +158 °F)</td>
</tr>
</tbody>
</table>

**Electrical protective measures**

| Protection rating | IP 40 |

**Connection cable**

<table>
<thead>
<tr>
<th>Connection</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>USB cable</td>
<td>for connection to the USB interface of the PC</td>
</tr>
<tr>
<td>Cable length</td>
<td>150 cm (59.055 in)</td>
</tr>
</tbody>
</table>

7.2 Dimensions

*Fig. 2: Dimensions USB Communicator*
7.3 Trademark
All the brands as well as trade and company names used are property of their lawful proprietor/originator.