



## INOR TRANSMITTERS Supplementary Instructions

Accessories for Inor transmitters  
Including the Ex-approved USB-interface ICON-X

Transmitter configuration kit

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<b>1 Configuration kit</b>	<b>3</b>
1.1 General safety notes.....	3
1.2 General information .....	3
1.3 Certifications .....	3
1.3.1 EU directive compliance .....	3
1.3.2 Ex approvals.....	4
1.4 Scope of delivery.....	4
1.5 Nameplate .....	4
1.6 Technical data.....	5
<b>2 Installation</b>	<b>6</b>
2.1 General safety notes.....	6
2.2 Safety Diagram .....	6
2.3 Installation of USB interface drivers.....	6
2.4 Installation of configuration software ConSoft .....	7
2.5 Description of USB interface ICON-X.....	7
2.6 Installation guide for ConSoft and USB-Interface drivers.....	7
2.7 Troubleshooting.....	8
2.8 Disassembling and recycling of Transmitter configuration kit ICON-X.....	9
2.9 Disassembling and recycling of USB Interface ICON-X .....	10
2.10 Installation and control drawing .....	12
<b>3 Notes</b>	<b>13</b>

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## 1.1 General safety notes

**CAUTION!**

*The USB interface ICON-X is an Ex-approved product that is intended to be used for all type of transmitters when in safe areas.*

## 1.2 General information

The configuration kit includes all necessary software and hardware for configuration of the temperature transmitters from a PC's USB port.

Configuration starts from the main program ConSoft. ConSoft will identify the connected transmitter and open the necessary configuration software.

**ICON-X configuration kit consists of:**

- USB interface ICON-X
- USB cable (connection between PC and USB interface)
- Adapter cables (connection between USB interface and transmitter)

The configuration kit is compatible with Windows XP (SP3), Windows Vista, Windows 7, Windows 8, Windows 8.1 and Windows 10.

**DANGER!**

*ICON-X is the Ex-approved connection between a PC USB interface and an INOR Ex-approved transmitter. It may be used with non-Ex approved Inor transmitter as well. The ICON-X must not be used in hazardous area. Consult the user instruction and Ex-certificate of the used transmitter regarding the possibility to configure "online" if the input of the transmitter is connected to hazardous area.*

**DANGER!**

*ICON-X contains no repairable parts. Repairing or fixing the circuit or replacing components may impact the intrinsic safety.*

**CAUTION!**

*Only one transmitter may be connected at a time.*

## 1.3 Certifications

### 1.3.1 EU directive compliance

The USB interface, used with the provided cables, is CE-marked and complies with the statutory requirements of the relevant EU directives / UK regulations. For more information refer to the Declaration of Conformity, which can be found in the download area of the manufacturer's website.

For other cables than the provided and with cable length  $\geq 3$  m / 9.8 ft. other requirements are valid and are not covered by this product.

### 1.3.2 Ex approvals

ATEX	KIWA 16ATEX0011X	II [1] G [Ex ia Ga] IIC
IECEx	IECEx KIWA 16.0005X	[Ex ia Ga] IIC
USA	FM18US0117X	AIS CL I, Div 1 and 2, GP A-D, CL I, Zn 0, 1 and 2, [AEx/Ex ia Ga] IIC
Canada	FM18CA0056X	

USA and Canada:

EX-approvals according to: FM 3600, ANSI/ISA 60079-0, CAN/CSA C22.2 No. 0,  
CAN/CSA C22.2 60079-0, FM 3610, ANSI/ISA 60079-11, CAN/CSA C22.2 60079-11

See also "Special conditions for safe use" in the Ex certificates in the download area of the manufacturer's website.

### 1.4 Scope of delivery

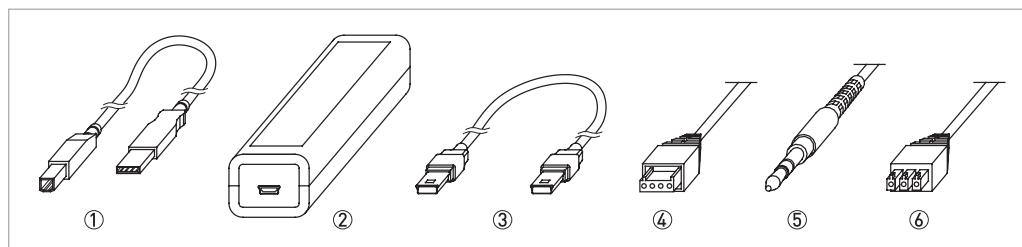
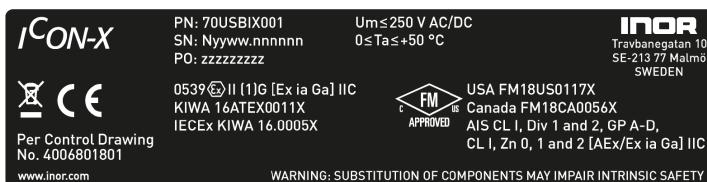


Figure 1-1: Scope of delivery

- ① USB communication cable (connection between PC and USB interface)
- ② USB interface
- ③ Mini USB to Mini USB adapter (USB interface to transmitter)
- ④ Mini USB to four pole rectangular connector (USB Interface to transmitter)
- ⑤ Mini USB to 3.5 mm tele plug connector (USB Interface to transmitter)
- ⑥ Mini USB to three pole rectangular connector (USB Interface to transmitter)

### 1.5 Nameplate



- ① PN = Part number
- SN = Serial number (yyww = year and week of manufacturing)
- PO = Batch number

## 1.6 Technical data

### Operating conditions

Ambient temperature	0...+50°C / +32...+122°F
Storage temperature	-20...+70°C / -4...+158°F
Humidity (non-condensing)	0...90% RH

### Installation

Installation	For detailed information, refer to chapter "Installation".
Dimensions USB interface	Length: 114 mm / 4.49"; width: 36 mm / 1.42" ; heigth: 26 mm / 1.02"

### Electrical connection

Power supply	PC's USB port; 5 VDC; 74 mA max.
Galvanic isolation	1500 VAC
Input (PC to USB interface)	USB cable type A to type B
Output (USB interface to transmitter)	Changeable adapter cables

### System requirements

Windows	Windows XP [SP3], Vista, 7, 8, 8.1 or 10
Display resolution	Minimum 800x600
Free hard disk space	185 MB
PC Port	1x USB 1.1 or higher port type A
Ex parameters	
Comm.port (PC connection)	Um = Vmax : 250 V AC/DC
Output port (to transmitter)	Uo = Voc : 9.4 VDC
	Io = Isc : 96 mA
	Po : 680 mW

## 2.1 General safety notes

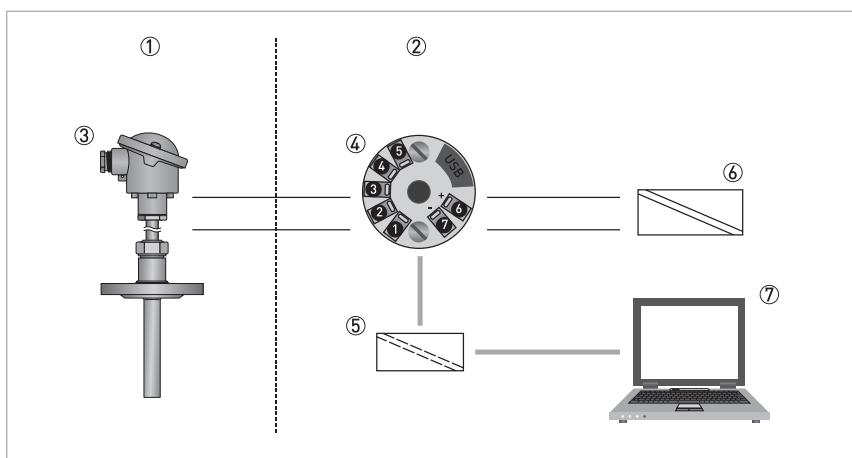
**CAUTION!**

The USB interface ICON-X is an Ex-approved product that is intended to be used for all type of transmitters when in safe areas.

## 2.2 Safety Diagram

**DANGER!**

The transmitter's communication port (USB connection) may only be connected to the certified ICON-X interface. When the ICON-X is connected, the temperature transmitter shall be outside of the hazardous area; a connected sensor may be located in the hazardous area.



- ① Hazardous Area
- ② Safe Area
- ③ Temperature Sensor
- ④ Temperature Transmitter
- ⑤ ICON-X USB interface
- ⑥ Ex-approved Power Supply/ Zener barrier
- ⑦ PC

## 2.3 Installation of USB interface drivers

Before you can use the USB interface you must install the USB drivers on your PC. The setup file includes drivers for the USB interface and can be installed manually when running the setup file. The drivers can also be installed automatically by using Windows Update if the computer supports this function.

For detailed information refer to section "Installation guide for ConSoft and USB-Interface drivers".

All software, USB drivers and installation guides can also be downloaded from the website.

## 2.4 Installation of configuration software ConSoft

All necessary software for configuration can be downloaded from the website of the manufacturer.

For detailed information refer to section "Installation guide for ConSoft and USB-Interface drivers".

All software, USB drivers and installation guides can also be downloaded from the website.

## 2.5 Description of USB interface ICON-X

The USB interface ICON-X is powered from the PC's USB port. There are three LED indicators on the USB interface: "USB", "PC" and "DEV". They are indicators to make the understanding of the communication between PC and transmitter easier. Their functions are described below:

- "USB" LED indicates data transfer. It lights during data transfer, otherwise it is off.
- "PC" LED indicates connection between configuration program and PC. It is green only during reading or writing to transmitter.
- "DEV" LED indicates the transmitter connection status. If it's green, the connected transmitter is detected by the USB interface. Flashing green indicates that the USB interface is waiting for a new transmitter from the same product family, e.g. changing to a new device. When it's red no transmitter is detected by the USB interface and any sort of transmitter can be connected to the USB interface.

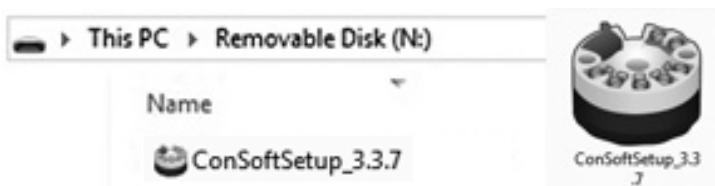


**CAUTION!**

*The installation guide must be read prior to installation.*

## 2.6 Installation guide for ConSoft and USB-Interface drivers

Locate the executable setup file "ConSoftSetup". Double click on the file to start the installation process and follow the instructions on screen.



## 2.7 Troubleshooting

Error message	Action
Error message "USB Interface is not installed. The program will not work." displayed when starting ConSoft.	Install drivers for the USB interface.
Error message "USB Interface:s hardware and/or software should be updated." appears in ConSoft.	Contact us for update of your USB interface.
Error message "Unable to install because a newer version of this product is already installed." is displayed during installation of ConSoft.	A newer version of ConSoft is already installed on the computer. If you still want to install the older version, uninstall ConSoft through "Control Panel – Add or Remove Programs".

## 2.8 Disassembling and recycling of Transmitter configuration kit ICON-X

This section describes (in short) the instructions of handling and disassembling the device when it's reached EOL (end of life) or is disposed of after usage. The information given is sufficient to gather the most important parts of the device (by the end-user) which can be used for recycling.

### Content of USB configuration kit ICON-X

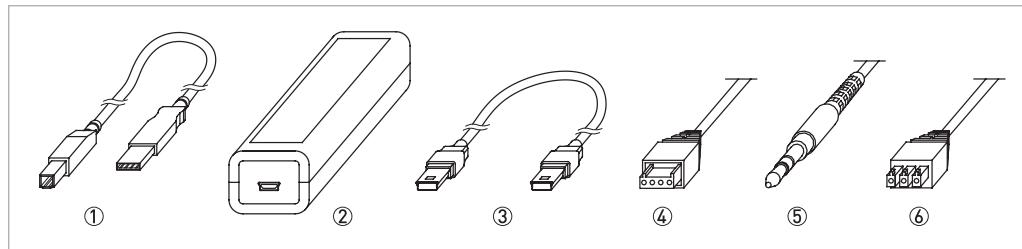


Figure 2-1:

Item No	Item Name	Weight (g)	Weight (lb)
1	USB communication cable (connection between PC and USB interface ICON-X)	42	0,09
2	USB Interface ICON-X	63	0,14
3	Mini USB to Mini USB adapter (USB interface ICON-X to transmitter)	17	0,04
4	Mini USB to four pole rectangular connector (USB interface ICON-X to transmitter)	23	0,05
5	Mini USB to 3.5 mm tele plug connector (USB interface ICON-X to transmitter)	19	0,04
6	Mini USB to three pole rectangular connector (USB interface ICON-X to transmitter)	24	0,05
7	Case polypropylene	300	0,66
8	Foam cushioning PU	20	0,04
Total		506	1,12

Table 2-1: USB configuration kit ICON-X

Item 1 and 3 - 6; sorted as electrical waste

Item 2; sorted according to chapter 2.9

Item 7 and 8; sorted as plastic.

## 2.9 Disassembling and recycling of USB Interface ICON-X

**DANGER!**

*The device MUST be disconnected from mains power before disassembling.*



*Wear personal protective equipment. Make sure you use a steady workplace/bench to do the disassembly actions.*

**CAUTION!**

*Before disassembling the device, make sure you have the proper tools needed:*

- Torx Screwdriver T9
- Philips head Screwdriver #1

Item 2 (Table 2-1) USB Interface ICON-X consists of

Item No	Item Name	Weight (g)	Weight (lb)
1	Label, upper side polyester	0	0
2	Label, bottom side polyethylene	0	0
3	General purpose ABS plastic package box (UL94-HB)	38	0,08
4	PCB Glass fiber reinforced Epoxy 10,6x2,9 cmm <sup>2</sup>	22	0,05
5	Cover Screws threaded, 2 pieces (4x3/4 self-tapping oval head 19,1 mm)	2	0
6	Sealing washer, 2 pieces	0	0
7	PC Board Screws, 2 pieces (4x1/4 self-tapping oval head 6,4 mm)	0	0
Total		63	0,14

Table 2-2: USB configuration interface ICON-X

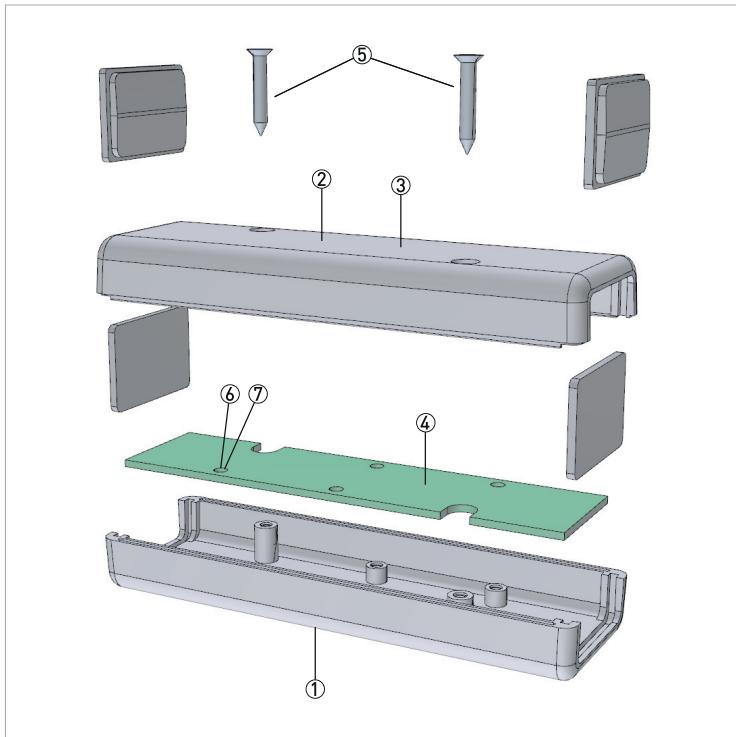


Figure 2-2: Disassembled USB interface ICON-X

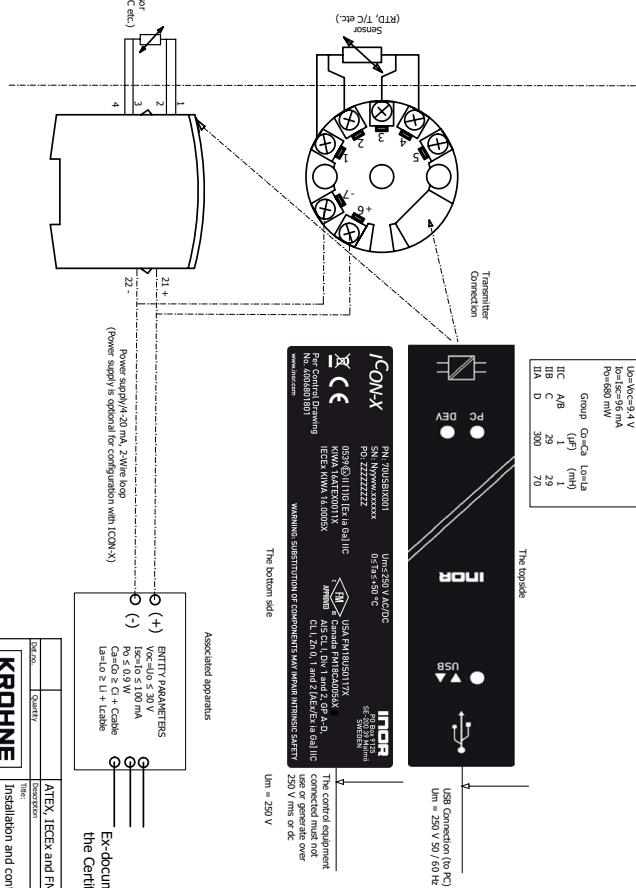
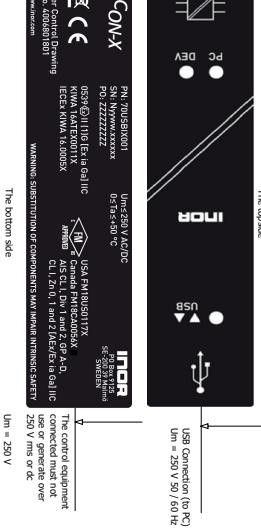
USB Interface ICON-X may be separated into smaller parts.  
Items are numbered according to the Table 2-2.



- **Disassembling USB Interface ICON-X**

1. Disconnect connection to the PC (if any connected).
2. Disconnect temperature transmitter (if any connected).
3. Remove the labels (polyester and polyethylene) sorted as plastic.
4. By unscrewing of the two threaded screws (item 5) from the bottom cover of the housing, upper part of Item 3 (in Table 2) can be separated from bottom part.
5. Lift up front and rear panel of the item 3. They are sorted as plastic.
6. By unscrewing of the two threaded screws (item 7) on the PCB (item 4) separate the bottom cover of the housing - Item 3 and PCB (item 4).
7. Items 1, 2 and 3 are sorted as plastic.
8. Item 4 sorted as electronic waste.
9. Item 6 (Sealing washer) sorted as ordinary waste.
10. Item 5 and 7 are sorted as metal waste.

## 2.10 Installation and control drawing

Hazardous (Classified) Location	Non Hazardous Location (Safe area)
<b>ICON-X configuration kit</b> 	
<b>Europe:</b> KEMA 16ATEX0011 X IECEx KEMA 16.0002X CE 0539  II (1) G (Ex ia Ga) IIC ATEX Class I, Division 1, Zone 1, Zone 2 [AEx / Ex ia Ga] IIC 0 °C ≤ Ta ≤ +50 °C	<b>North America:</b> USA: FM18US0117X Canada: FM18CA005X Class I, Division 1, Division 2, Groups A, B, C, D; 0 °C ≤ Ta ≤ +50 °C
	
<p><b>Associated apparatus</b></p> <p><b>ENTITY PARAMETERS</b></p> <p>Vo&lt;sub&gt;dc&lt;/sub&gt; ≤ 250 V Ra&lt;sub&gt;dc&lt;/sub&gt; ≤ 110 mΩ Ra&lt;sub&gt;dc&lt;/sub&gt; ≤ 100 mΩ Ca&lt;sub&gt;dc&lt;/sub&gt; ≤ 100 nF Ca&lt;sub&gt;dc&lt;/sub&gt; ≤ 100 pF La&lt;sub&gt;dc&lt;/sub&gt; ≤ 100 nH La&lt;sub&gt;dc&lt;/sub&gt; ≤ 100 pH</p> <p>(Power supply is optional in configuration with ICON-X)</p> <p><b>Ex-document, may not be revised without approval from the Certification Body.</b></p>	<p><b>Specific conditions of use:</b></p> <p>The transmitter's communication port (USB connection) may only be connected to a certified ICON-X receiver.</p> <p>If the receiver is correct, the temperature transmitter shall be outside of the hazardous area. If connected inside the hazardous area, the transmitter must not be connected to the communication port of the transmitter unless area is known to be non-hazardous.</p> <p>1. The configuration of the associated apparatus or intrinsically safe equipment is simple apparatus shall be approved.</p> <p>2. Safety barriers must be installed in accordance with the manufacturers instructions.</p> <p>3. Installation must be in accordance with the National Electrical Code (NEC) or CSA Standard C22.1-02.</p> <p>4. If a safety barrier is used and the safety barrier requires an earth connection then the earth connection must be connected to the communication port of the transmitter unless area is known to be non-hazardous.</p> <p>5. If no safety barrier is used, the communication port of the transmitter must be connected to the earth connection of the safety barrier.</p> <p>6. Do not connect any communication equipment to the communication port of the transmitter unless area is known to be non-hazardous.</p> <p><b>Europe:</b></p> <p>1. The associated apparatus or intrinsically safe equipment shall be approved.</p> <p>2. Safety barriers must be installed in accordance with the manufacturers instructions.</p> <p>3. If the cable parameters are unknown, the following values may be used as a guideline:</p> <p>Capacitance = 200 pF/m Inductance = 0.65 µH/m Characteristic impedance = 50Ω (50Ω/feet)</p> <p>4. If a safety barrier is used and the safety barrier requires an earth connection then the earth connection must be connected to the communication port of the transmitter unless area is known to be non-hazardous.</p> <p>5. If no safety barrier is used, the communication port of the transmitter must be connected to the earth connection of the safety barrier.</p> <p><b>North America:</b></p> <p>1. The configuration of the associated apparatus or intrinsically safe equipment is simple apparatus shall be approved.</p> <p>2. Safety barriers must be installed in accordance with the manufacturers instructions.</p> <p>3. Installation must be in accordance with the National Electrical Code (NEC) or CSA Standard C22.1-02.</p> <p>4. If a safety barrier is used and the safety barrier requires a ground connection then the ground shall be less than 10 ohms.</p> <p>5. If no safety barrier is used, the communication port of the transmitter must be connected to the earth connection of the safety barrier.</p> <p>6. Do not connect any communication equipment to the communication port of the transmitter unless area is known to be non-hazardous.</p>