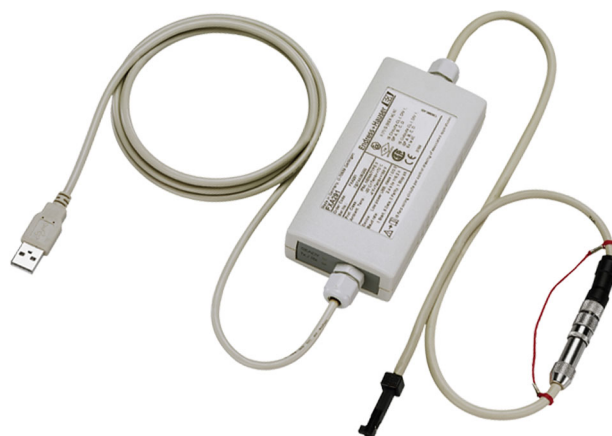


# Technical Information

## Commubox FXA291

Intrinsically safe interface for connecting intrinsically safe and non-intrinsically safe transmitters to a USB port



### Application

- The Commubox FXA291 connects Endress+Hauser field devices with a CDI interface (CDI = Endress+Hauser Common Data Interface) and the USB port of a computer or laptop. This enables the remote operation and execution of service functions of the field devices using an Endress+Hauser operating program, e.g. FieldCare for plant-specific asset management for example.
- The Commubox is a USB low-power device that is powered via the USB port of the computer.

### Your benefits

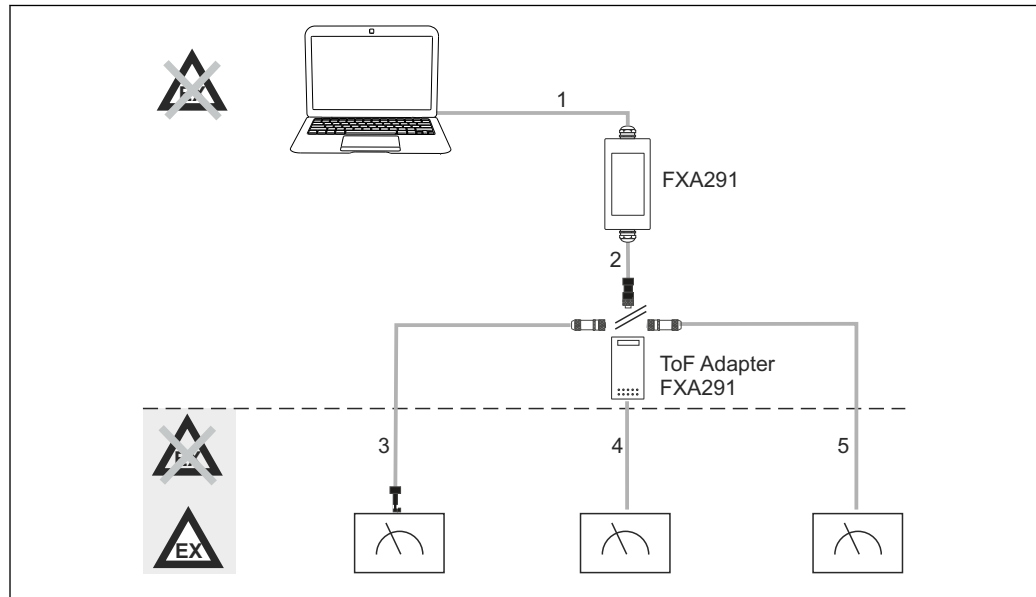
- Onsite commissioning of Endress+Hauser field devices
- Easy to connect field devices with a CDI interface to a computer with a USB port
- Power is supplied to the Commubox via the USB port
- Possible to supply power to field devices via the CDI interface
- Connection to intrinsically safe and non-intrinsically safe field devices
- Suitable for Endress+Hauser operating programs, such as FieldCare

## Function and system design

### NOTICE

**Non-designated use in hazardous areas can damage the device**

- ▶ Only use the Commubox FXA291 in non-explosive atmospheres.
- ▶ Comply with the warning, installation and operating instructions in the Ex documentation for field devices with a CDI interface.



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1 Possible applications of Commubox FXA291

- 1 Cable between FXA291 and USB of the computer
- 2 Cable between FXA291 and M8 connector
- 3 Cable of standard adapter FXA291 (for measuring devices in all work areas)
- 4 Cable for ToF field devices (for pressure and level)
- 5 Cable for additional level measuring devices

**i** For reasons of safety, only the ToF adapter FXA291 may be used to connect to devices FMR2xx, FMR53x, FMR540, FMP4x, FMU4x, PMC71, PMP7x, PMD7x, FMD7x, FMB70, FMG60.



For information on the field devices, see [www.endress.com/FXA291](http://www.endress.com/FXA291).

## Communication and data processing

Communication between the computer and FXA291

- Baud rate: 2400 to 115.2k
- Data bits: 8
- Stop bits: 1
- Parity: none
- Start bits: 1
- Duplex communication

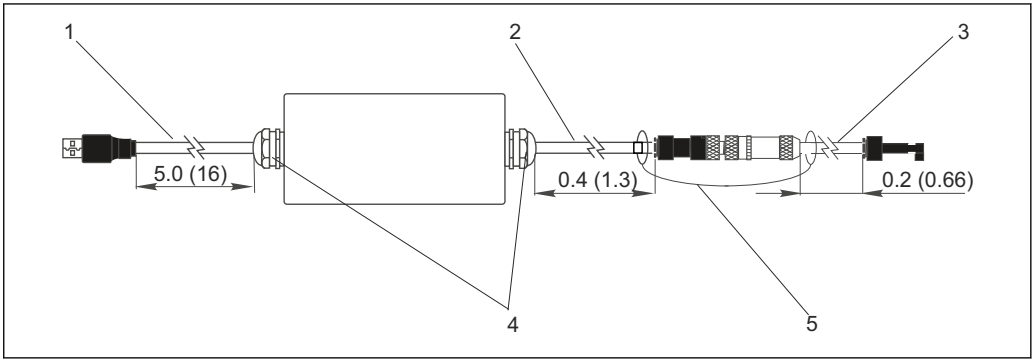

## Power supply

Connection	<ul style="list-style-type: none"><li>■ For computers: USB 1.1 and 2.0 compatibility, 4-pin USB connector, type A</li><li>■ For transmitters: CDI connectors, short-circuit proof with reverse polarity protection</li></ul> <p> The USB and adapter cable are ready-wired on the box side upon delivery and secured with a cable gland.</p>
Supply voltage	<ul style="list-style-type: none"><li>■ Voltage range: from the USB port on the PC, typically 5VDC</li><li>■ Field devices powered up to 100 mW via VCC, reverse polarity protection</li></ul>
Intrinsically safe signal circuit	<p>For connecting an intrinsically safe circuit with type of protection [Ex ia] IIC with:</p> <ul style="list-style-type: none"><li>■ Connection voltage: &lt; 7 VDC</li><li>■ <math>U_m</math>: 260V</li></ul> <p> With Commubox FXA291, the intrinsically safe connection and non-intrinsically safe connection are protected. Therefore, it is possible to connect non-Ex devices to the intrinsically safe side of a Commubox FXA291 without this affecting approval to connect an Ex-device subsequently.</p>


## Environment

Ambient temperature range	-20 to 60 °C (-4 to 140 °F)
Storage temperature	-40 to +85 °C (-40 to 185 °F)
Degree of protection	IP51, NEMA/type 3
Relative humidity	0 to 95 %, non-condensating

## Mechanical construction

Design, dimensions	 <p>A0005931</p> <p> 2    Commubox FXA291 and components, dimensions in m (ft)</p> <ul style="list-style-type: none"><li>1    Cable between Commubox FXA291 and the USB port of the PC</li><li>2    Cable with CDI connection socket and M8 connection plug for ToF adapter</li><li>3    Cable for standard adapter with CDI connector</li><li>4    Cable glands</li><li>5    Safety cord</li></ul>
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 3 Top view, dimensions in mm (inch)

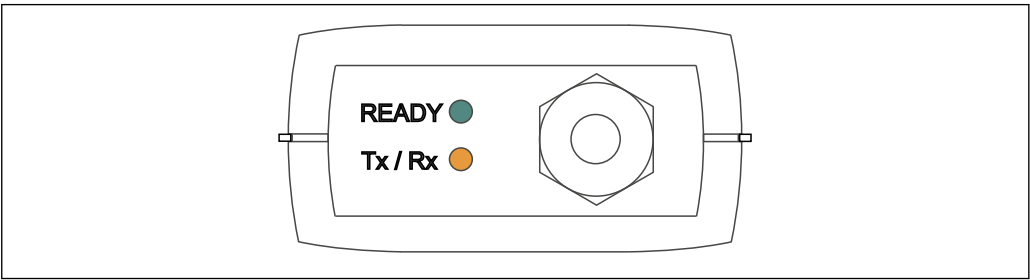


4 Side view (CDI connection/device side), dimensions in mm (inch)

<b>Weight</b>	Approx. 0.2 kg (0.44 lbs)	
<b>Materials</b>	Housing:	ABS
	Front foil:	Polyester
<b>USB port</b>	Personal computer and Commubox FXA291 = USB signal as per USB specification	
<b>CDI interface</b>	Measuring device(s) and Commubox FXA291 = Endress+Hauser Service protocol	

# Operability

## User interface



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5 Indicator lights (USB connection/PC side)

Signal	Light	Meaning
READY	Green	Commubox FXA291 is operational
Tx / Rx	Red	Communication from computer to field device
Tx / Rx	Yellow	Communication from field device to computer
Tx / Rx	Orange	Duplex communication

## System requirements

- USB port (USB 1.1 or 2.0)
- DVD/CD-ROM drive
- Windows 8 / Windows 7 / Windows XP

# Certificates and approvals

## CE mark

The product meets the requirements of the harmonized European standards. As such, it complies with the legal specifications of the EU directives. The manufacturer confirms successful testing of the product by affixing to it the **CE** mark.

## Ex approvals

### ATEX

- II (1) G [Ex ia Ga] IIC
- II (1) D [Ex ia Da] IIIC
- BVS05 ATEX E095

### IECEX

- [Ex ia Ga] IIC
- [Ex ia Da] IIIC
- IECEX BVS05 14.0096

### EAC Ex

The product has been certified in accordance with Directive TR CU 012/2011 valid within the Eurasian Economic Area (EAEU). The EAC conformity mark has been affixed to the product.

- [Ex ia Ga] IIC
- [Ex ia Da] IIIC
- Certificate number EAЭC RU C-DE.AA87.B00227/19

### Certification body (only version for EAC)

ООО "НАННО ЦСВЭ"  
Russian Federation

## Ordering information

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Order number	51516983
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**Scope of delivery**

The scope of delivery comprises:

- Commubox FXA291
- USB cable, ready-wired on box side
- Connecting cable, ready-wired on box side
- Cable for standard adapter FXA291
- Installation CD

**USB Commubox FXA291 Serial Port Driver:**

Is automatically installed via the hardware detection function. See the documentation on the installation setup for this purpose. Follow the installation instructions.

## Accessories

The following are the most important accessories available at the time this documentation was issued.

- For accessories not listed here, please contact your Service or Sales Center.

**ToF adapter FXA291**

- Including cable to ToF devices
- Power limitation for connection between FXA291 and input of intrinsically safe ToF M devices
- Prevents breaching of Ex-approved limit values of ToF devices
- Does not affect the baud rate for digital communication and the installation of software upgrades for field devices
- Order No. 71007843

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[www.addresses.endress.com](http://www.addresses.endress.com)

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