



Level



Pressure



Flow



Temperature



Liquid
Analysis



Registration



Systems
Components



Services



Solutions

Technical Information

Commubox FXA291

Gateways / Interfaces

Intrinsically safe CDI interface for transmitters

Converts signals at USB interface



Application

- The Commubox FXA291 connects Endress+Hauser field devices with a CDI interface (= Endress+Hauser Common Data Interface) with the USB interface of a computer or laptop. This allows the remote operation and execution of service functions of field devices with the aid of an Endress+Hauser operating program, such as the FieldCare software platform for plant-specific asset management for example.
- The Commubox is a USB low-power device that is powered by means of the USB interface of the computer.

Your benefits

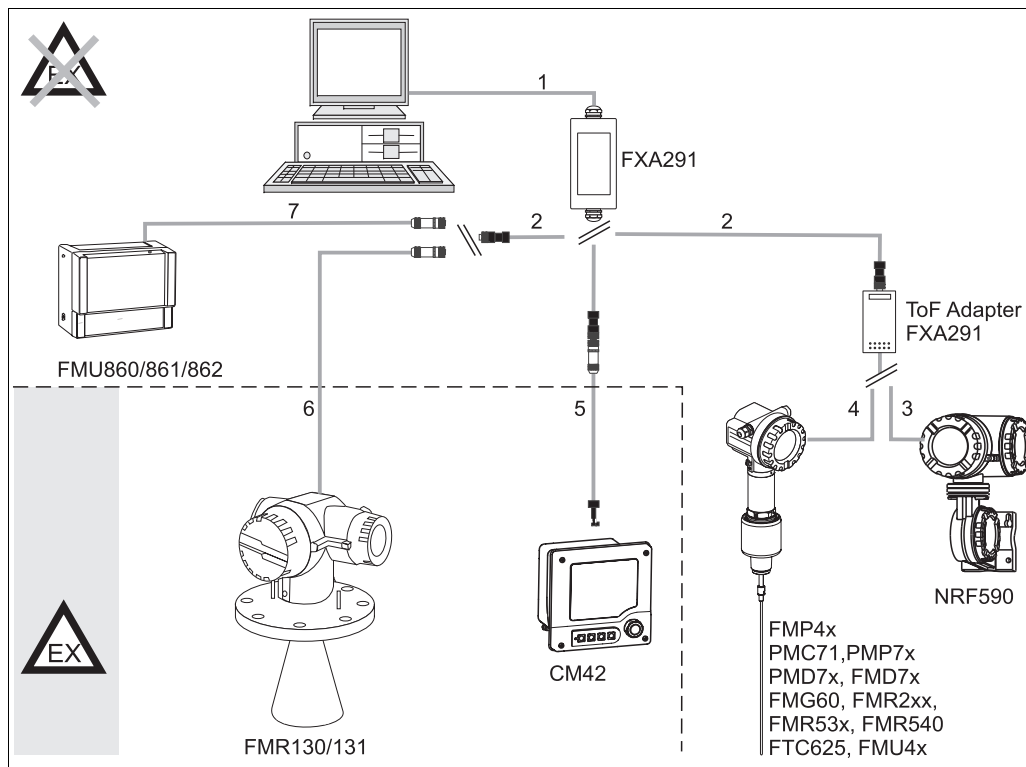
- Onsite commissioning of Endress+Hauser field devices
- Easy to connect field devices with a CDI interface to a computer with a USB interface
- Power is supplied to Commubox by means of the USB interface
- Possible to supply power to the field devices by means of the CDI interface
- Connection to intrinsically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

Function and system design



Warning!

- The Commubox FXA291 must not be used in potentially explosive atmospheres.
- The warnings and installation and operating instructions of the EEx documentation for field devices with a CDI interface must be observed.



Communication between field devices and computer via Commubox FXA291

- 1 Cable between FXA291 and USB connection of PC (cable in FXA291 scope of delivery)
- 2 Adapter cable from FXA291 to ToF adapter or special cables (in FXA291 scope of delivery)
- 3 Additional adapter cable on tank side monitor NRF590 (not in FXA291 scope of delivery)
- 4 Cable between ToF adapter FXA291 and ToF devices (not in FXA291 scope of delivery)
- 5 Adapter cable from FXA291 to intrinsically safe devices with CDI connection (in FXA291 scope of delivery)
- 6 Additional adapter cable to Micropilot FMR130/131(not in FXA291 scope of delivery)
- 7 Additional adapter cable to Prosonic FMU860/861/862 (not in FXA291 scope of delivery)

Direct connection via CDI	Via ToF adapter FXA291	Via additional adapter cable
<ul style="list-style-type: none"> ■ Liquiline M CM42* ■ Prosonic Flow 92F 	<ul style="list-style-type: none"> ■ Prosonic M FMU4x* ■ Levelflex M FMP4x* ■ Micropilot M FMR2xx* ■ Micropilot S FMR53x*, FMR540* ■ Cerabar S PMC7x*, Deltabar S PMD* ■ Gammapiot FMG60* ■ Nivotester FTC625* ■ Tank Side Monitor NRF590* 	<ul style="list-style-type: none"> ■ Prosonic FMU86x ■ Micropilot I FMR13x*

Devices with Ex approval marked with an asterisk (*) are suitable for connection to the FXA291 Commubox in accordance with type-examination certificate **BVS 05 ATEX E 095**.



Note!

The list above only provides information on the Endress+Hauser devices that could be connected to Commubox FXA291 at the time this document was published.

Information on connecting devices that will be launched on the market as of March 2006 will be provided in the documentation on the device in question.

Wiring

Connection



- For computers: USB 1.1 and 2.0 compatible, 4-pole USB connector, type A
- For transmitters: CDI connectors, short-circuit proof, reverse polarity protection

Note!

When delivered, the USB and adapter cables are fully wired on the box side and are fixed in place with a cable gland.

Supply voltage

- Voltage range: from the USB interface of the PC, typically 5VDC
- Field devices powered via VCC up to 100mW, reverse polarity protection

Intrinsically safe signal circuit

For connecting an intrinsically safe circuit with explosion protection [EEx ia] IIC with:

- Connection voltage: < 7 VDC
- U_m : 260V

Performance characteristics

Communication

Communication between computer and FXA291:

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

Environment

Ambient temperature range

-20 to +60 °C (-4 to +140 °F)

Storage temperature

-40 to +85 °C (-40 to +185 °F)

Ingress protection

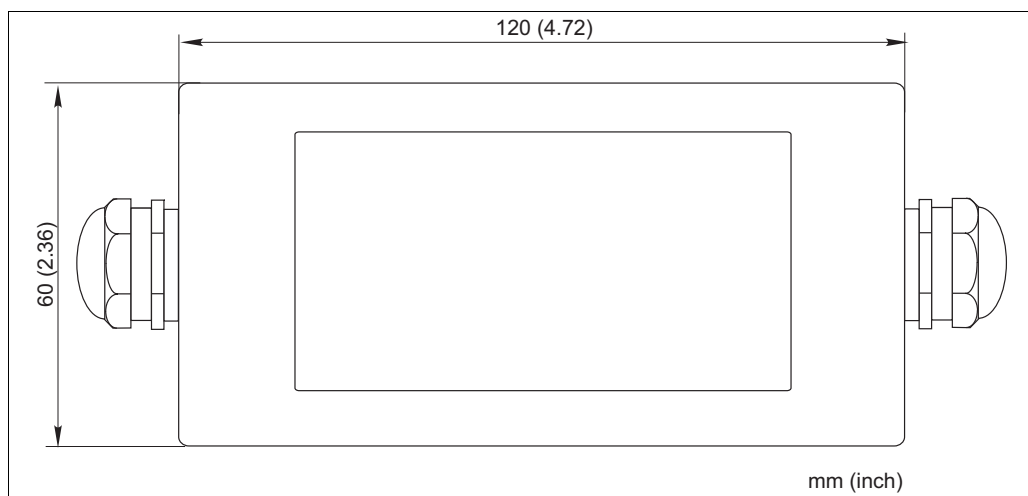
IP51, NEMA/type 3

Relative humidity

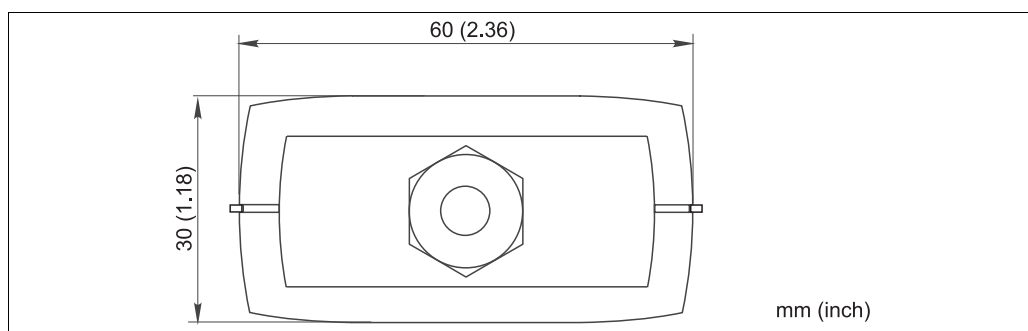
0 % to 95 % (no condensation)

Mechanical construction

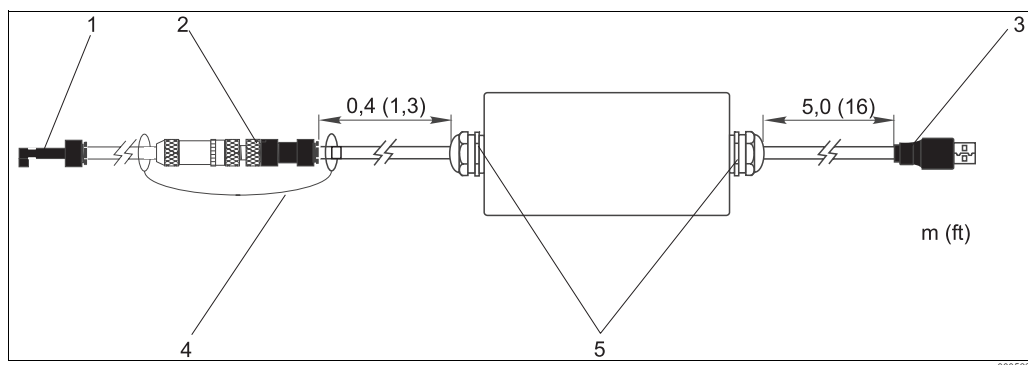
Design, dimensions



Design, dimensions: top view



Design, dimensions: side view (CDI connection/device side)



Commubox FXA291 and components

- 1 CDI connector
- 2 Cable with CDI connection bushing and M8 connector for ToF adapter
- 3 USB cable
- 4 Safety cord
- 5 Cable glands

Weight approx. 0.2 kg (0.44 lbs)

Material

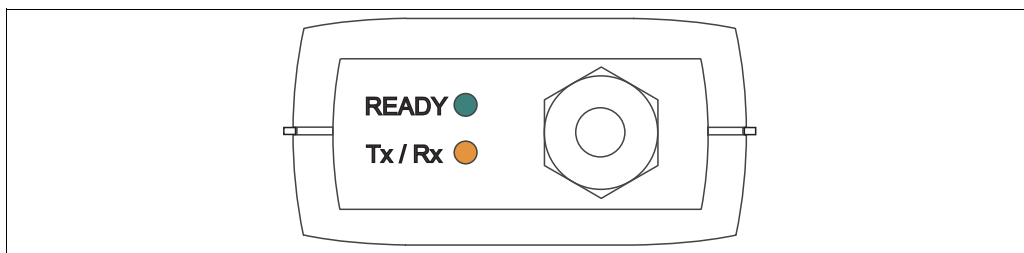
Housing:	ABS
Front membrane:	Polyester

USB interface Personal computer and Commubox FXA291 = USB signal as per USB specification

CDI interface Measuring device(s) and Commubox FXA291 = Endress+Hauser Service protocol

Human interface

Signals



Signal lamps (USB connection/PC side)

a0005933

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

Certificates and approvals

CE mark

Declaration of conformity

The product meets the legal requirements of the harmonized European standards.
The manufacturer confirms compliance with the standards by affixing the **CE** symbol.

Ex approvals

- ATEX II (1) G [EEx ia] IIC
- FM IS Circuits CL I, DIV 1, GP A, B, C, D
- CSA IS Outputs CL I, DIV 1, GP A, B, C, D

Ordering information

Order number

51516983

Scope of delivery

The scope of delivery comprises:

- Commubox FXA291
- USB cable and adapter cable, fully wired on box side
- Installation CD:

– USB Commubox FXA291 Serial Port Driver:

Is automatically installed via hardware detection. See the document on the installation setup for this purpose.

Please follow the appropriate installation instructions.

System requirements

- USB interface (USB 1.1 or 2.0)
- DVD/CD-ROM drive
- Windows 2000/Windows XP/Windows 2003

Accessories

ToF Adapter FXA291

- Power limitation for connection between FXA291 and input of intrinsically safe ToF M devices
- Prevents violation of Ex-permitted limit values of ToF devices
- Baudrate of digital communication and software installations for field devices are not affected
- Order No. 71007843



Note!

Other devices without a CDI device socket: see the corresponding device documentation for suitable adapters.

Appendix

Control Drawing

International Headquarters

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People for Process Automation