

ibaBM-FOX-i-3o

Optical Signal Splitter



Manual

Version 1.4 en

Measurement and Automation Systems



ibaBM-FOX-i-3o - Manual

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ibaBM-FOX-i-3o - Manual V 1.4 en

We have checked that the contents of this manual match the hardware and software described here. However, deviations cannot be fully ruled out, so that we cannot assume any warranty should any deviations actually exist. This manual is regularly updated. Necessary revisions are included in future editions, or can be downloaded from the Internet.

The latest version is always available for downloading at:

<http://www.iba-ag.com>.

We would welcome any suggestions for improvements which you may have.

Version	Date	Revision	Chapter / pages	Author	Gepr.	Version HW/FW
V 1.4	05/11/09	Cover, Dimensional Drawing, Contacts				

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This manual

This compact manual provides the information for installation and handling of the device ibaBM-FOX-i-3o.

For further information concerning the system integration and software configuration please refer to the corresponding engineering manuals and / or software documentation of our software products used in conjunction with this device.

You can find the latest issue of this manual always on our website <http://www.iba-aq.com> in the download area.

This manual uses several symbols which essentially have the following meanings:



Important hint or warning in order to avoid hazard against material or life.



A useful tip or clue to make your work easier.



This draws your attention to special features, such as exceptions to rules, etc.



A reference to additional documentation or more in-depth literature.



iba training courses

Hint for training courses by iba concerning related products or subjects

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1 Introduction

The ibaBM-FOX-i-3o device (**Fiber Optics x 3**) is designed to generate three parallel optical output data streams from one incoming fiber optic signal data stream.

In addition, the incoming optical signal is refreshed (repeater functionality)

The maximum input baud rate can be up to 5.0 Mbit/s and can be used with the following iba devices/ PC-boards

- ibaPADU-8, ibaPADU-16, ibaPADU-32
- ibaPADU-8-O
- SLM Monitor
- ibaPADU-8-ICP (only data stream to the PC)
- ibaLink-SM-64-io, ibaLink-SM-128V-i-2o
- ibaFOB x/4-F
- ibaFOB-4i, ibaFOB-4, ibaFOB-4i-S
- ibaFOB-io, ibaFOB-io-S

It is possible to monitor the data with a Notebook connected to the RJ45 jack via an ibaCom-PCMCIA-F card (not for ibaPADU-8-ICP/ -8-M!).

2 Package Contents

The package includes the following items:

- ibaBM-FOX-i-3o device with 2-pole Phoenix connector (for power supply)
- ibaBM-FOX-i-3o manual

3 System Requirements

- Power supply 24 V DC
- Signal source (outputs of ibaPADU, ibaLink-SM- or ibaFOB card)
- Signal target (inputs of ibaPADU-8-O, ibaLink-SM- or ibaFOB card)
- PC, equipped with ibaFOB-card and software ibaPDA, ibaLogic or ibaQDR
- The supported baud rates range from 2.0 Mbit/s up to 5 Mbit/s

4 Installing the Device

Install:

Make sure the DIN-rail clip at the back of the device fits properly into the top edge of the DIN-rail, then lightly press the device down – back into the DIN-rail. The device will easily snap into the DIN-rail. After that connect the power supply and all necessary connectors.

Removing the device:

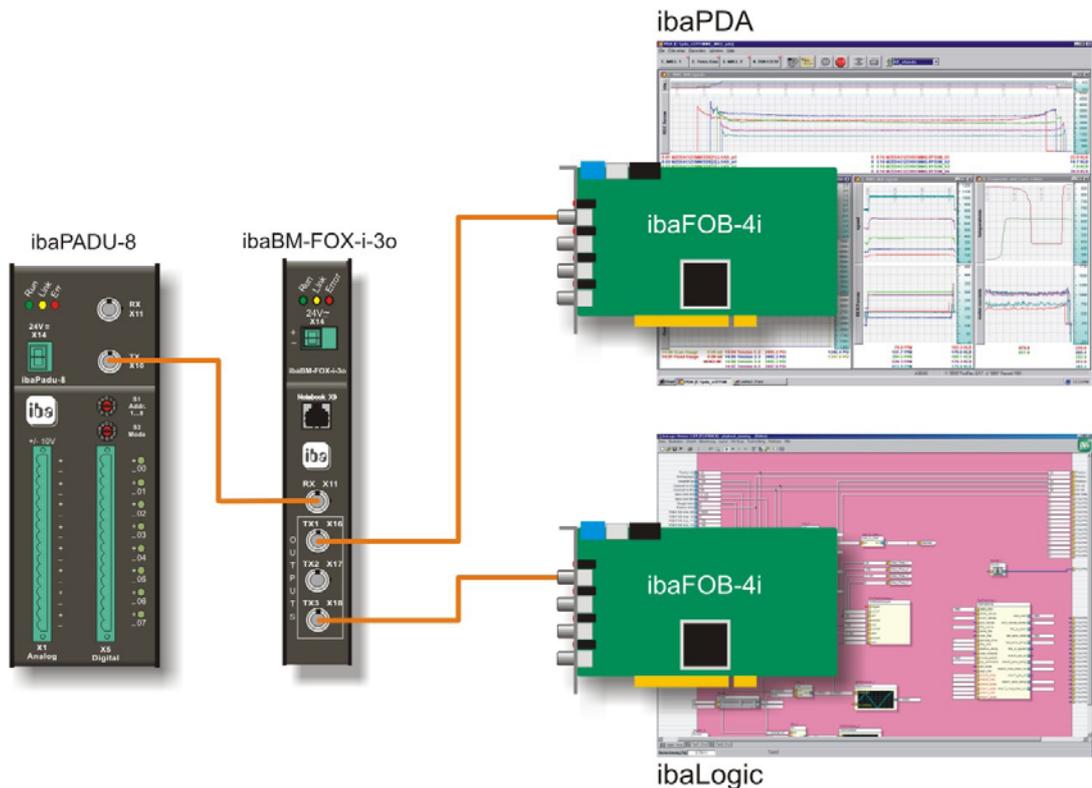
First remove all connectors from the device.

With one hand press the top of the device slightly down to ensure that the device later will be secure between both hands.

Place two fingers of the other hand under the bottom of the device and slightly push the device upward. The device will easily remove from the DIN-rail.

5 System Topologies

The ibaBM-FOX-i-3o provides the ability to multiply fiber optical links. This is possible at each interconnection between iba devices, also between ibaPADU-8 and ibaPADU-8-O devices. A variety of system topologies can be created. Applications can vary from redundant I/O-systems, to measurement systems running in parallel to the I/O system while reusing the same I/O devices. ibaBM-FOX-i-3o can also be simply used for signal refreshing when fiber optic transmissions over 2000 m (6500 ft.) are necessary.

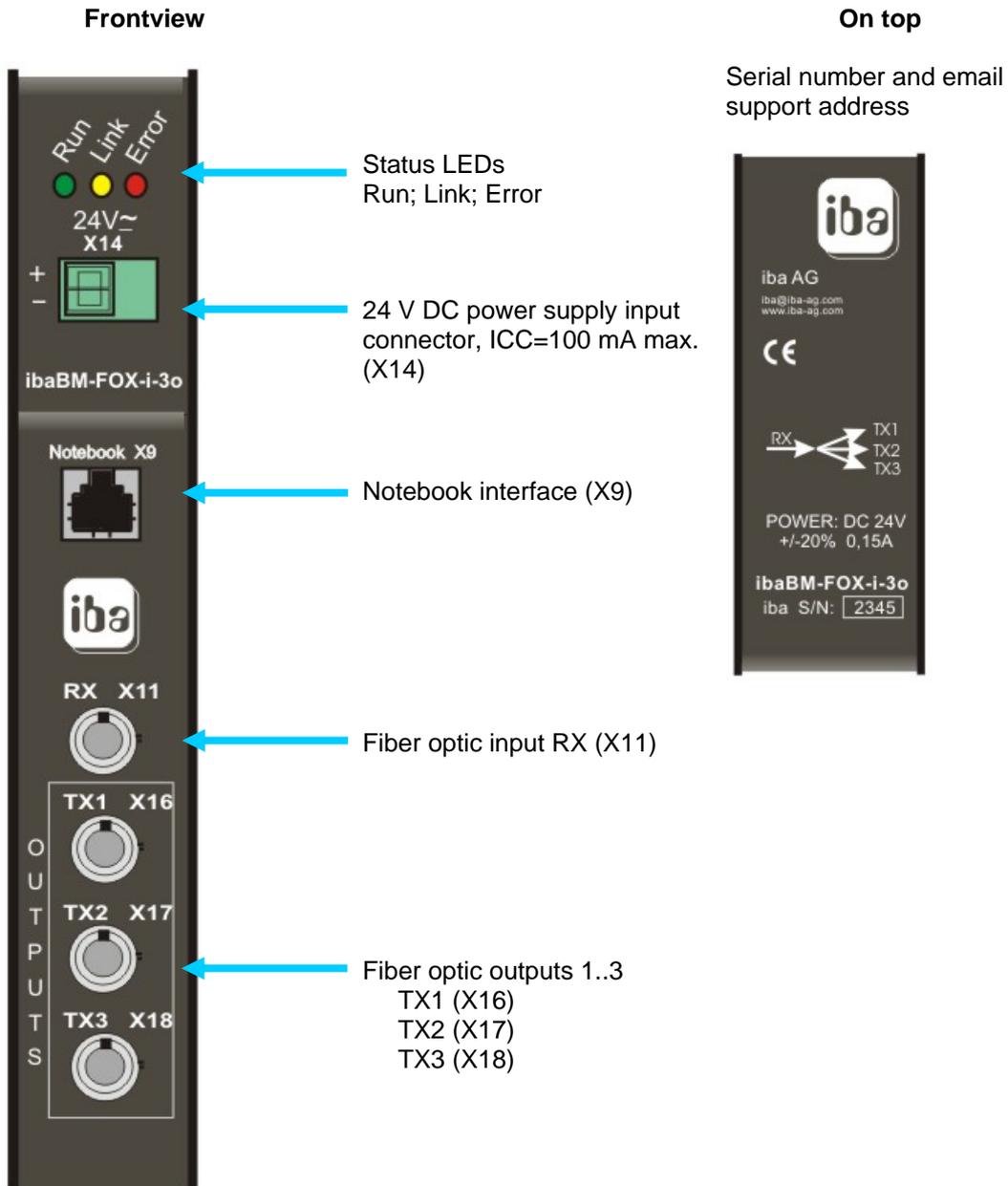


6 Functionality

The device provides the following functions:

- 24 V DC power supply (18..32 V input voltage range).
- Rugged, EMI-stable metal chassis with DIN-rail snap mount.
- 3 status LEDs
- One fiber optic input,
- 3 fiber optic outputs
- Signal refreshing of the incoming data stream (bit refresh)
- Delay between input and output(s) max. 80 ns

6.1 Device Views, Connectors and Switches



6.2 LEDs

The three LEDs can be interpreted as follows.

LED	Status	Interpretation
Run (green)	blinking	When the device is connected to power and running
	off	No power supply
Link (yellow)	on	Shows that a data stream with valid data is coming via on the fiber optic input
	off	No valid data or no data at all
Error (red)	on	Broken fiber (the data stream is broken or the data is not valid)
	off	No error (ERROR LED is cancelled if error disappears)

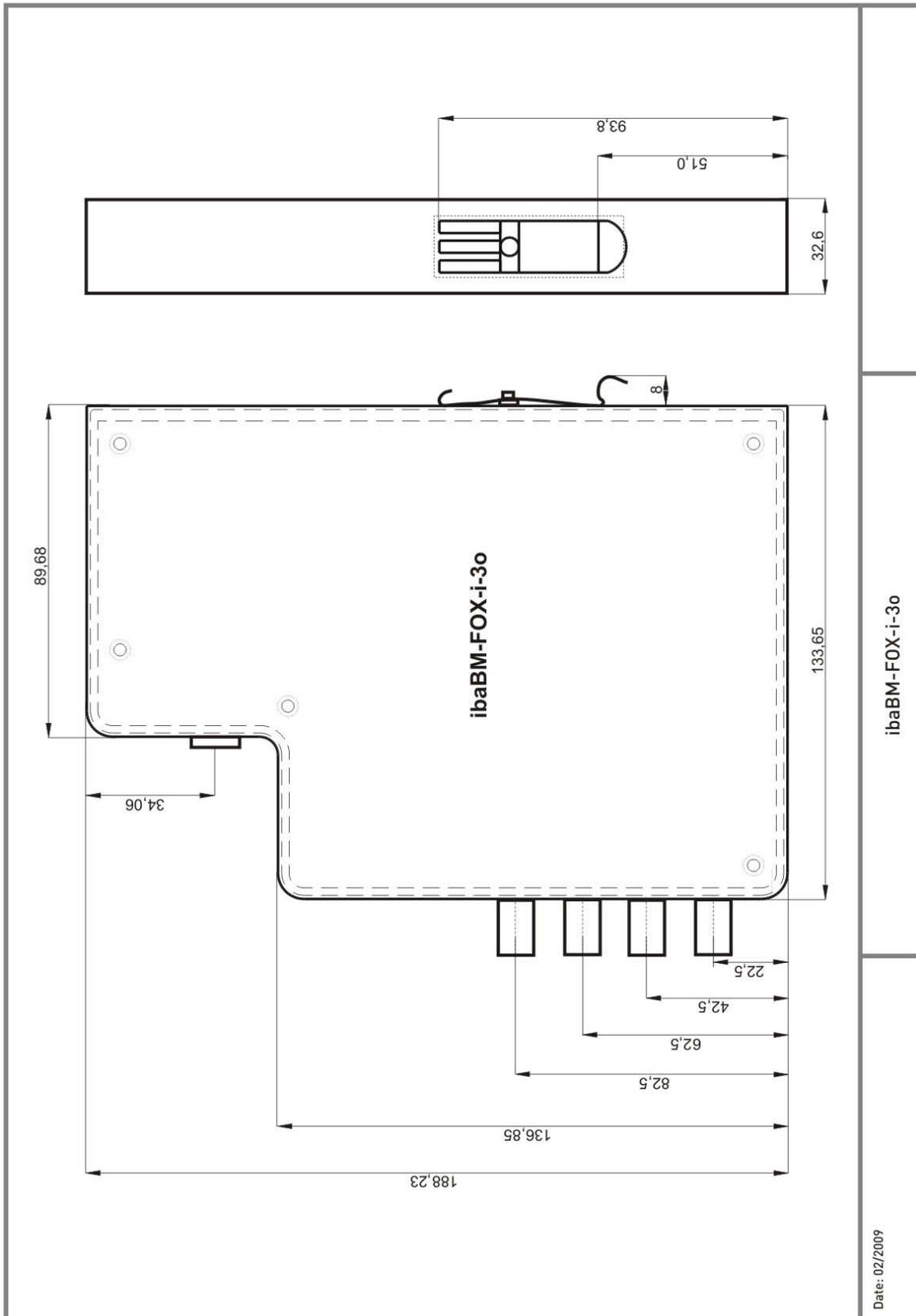
7 Programming

No programming or adjusting is necessary to operate the device.

8 Technical Data and Environmental Conditions

Order no. f iba:	13.113500
Mechanical stability	DIN IEC 68-2-6 (if DIN rail is mounted correctly)
Operating temperature:	0 °C to 50 °C (32 °F...122 °F)
Storage temperature:	-25 °C to 70 °C (-13 °F...158 °F)
Transport temperature:	-25 °C to 70 °C (-13 °F...158 °F)
Cooling:	Self cooling
Mounting:	DIN rail snap on mount
Humidity class:	F, no moisture
Protection class:	IP20
Power supply:	24 V DC +/-20 % not stabilized
Current consumption:	max. 100 mA
Max. length of optical cable without repeater	max. 2000 m (6500 ft.)
FO-cable	62,5/125 µm
Coupling	ST Lean
Dimensions in mm (Width x Height x Depth)	33 x 194 x 155 (incl. DIN rail clip)
Masses (incl. box and manual)	750 g
Fiber optic inputs / outputs:	
Number of IOs	1 input + 3 outputs
Baud rates	Between 2.0 and 5.0 Mbit/s
Usable iba devices and boards	ibaPADU-8/-16/-32, ibaPADU-8-O, SLM, iba-Link-SM-64-io, ibaLink-SM-128V-i-2o, ibaFOB-x/4-F, ibaFOB-io, ibaFOB-4i / -4o ibaPADU-8-ICP (only data stream to PC)

8.1 Dimensional Drawing



Dimensions given in mm

9 Accessories

Product	iba order no.	Comment
Fiber optic cable simplex with ST-jacks 1 x 5 m	50.101050	

For other fiber optic connectors, cabling and associated products refer to the iba product catalog.

10 Support and Contact

For technical support or sales information, please contact your local iba representative or call the following numbers:

Telephone: +49 911 97282-14

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For downloads of the latest software versions as well as hardware and software manuals please use our web-site at: <http://www.iba-ag.com/>

Any feedback, comments or tips on errata in this documentation or suggestions for improvement will be appreciated. Simply send an e-mail or fax to us, thank you for your support.



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