

ibaFOB-D




In brief

- PCI and PCI express cards for connecting iba field devices and system couplings
- Fast data transfer between card and computer's memory by DMA technology (CPU load relieving)
- Optical ibaNet inputs and outputs
- Support for all ibaNet communication protocols (2Mbit, 3Mbit, 5Mbit, 32Mbit and 32Mbit Flex)
- Up to 4060 Byte user data per FO link
- Extension modules ibaFOB-4o-D for active outputs or for mirroring of inputs
- External synchronization available
- iba service interface
- „Plug and play“
- Substitute for ibaFOB-S and ibaFOB-X cards

Description

The cards of the family ibaFOB-D are communication cards for ibaNet fiber optical links. The ibaFOB-D cards can be used for connecting a computer with iba field devices like ibaPADU analog-digital converter units, ibaNet750 devices, ibaLink system couplings and iba bus monitors. Moreover, the cards can be used for connecting an iba system with selected automation systems of other manufacturers such as ABB AC 800PEC or SIMATIC TDC with L05/L06 interface.

The cards are the successors of the previous models ibaFOB-S and ibaFOB-X and they can entirely replace those cards. The cards provide different numbers of fiber optical links and they are available as short standard PCI or PCI express cards.

Communication protocols

All current and former ibaNet communication protocols are supported. Thus, data from an old ibaPADU device (S/N < 1000) as well as from iba devices of the latest generation can be processed at the same time on the same card. The fiber optical input/output channels of one card can detect and process all valid ibaNet protocols independently from each other.

Furthermore, the ibaNet protocol 5Mbit for data acquisition over devices ibaPADU-8-ICP, ibaPADU-8-M or -16-M is supported.

Using the ibaNet protocol 32Mbit Flex, it is possible to transmit measurement and configuration data via FO connections with 32 Mbit/s. An Ethernet connection for transmitting configuration data is no longer required.

The size of the data telegrams is flexible, whereas the maximum telegram size is 4060 Byte per FO connection. In the I/O Manager of ibaPDA, the maximum data size to be

transmitted can be determined for a device connected to the fiber optics with 32Mbit Flex. The data size depends on the configured time base (sampling time). Thus, the maximum number of participants in a fiber optical ring with several devices can be estimated and the data size required by the I/O modules can be determined.

Fast data processing with reduced CPU load

Due to the DMA technology (DMA = Direct Memory Access) measured data are written directly into the computer's memory which is used by the software application for reading the data. It is a significant relief for the CPU load while data traffic is boosted.

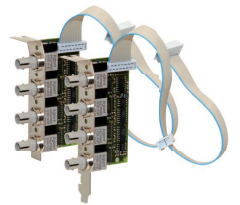
Moreover, the number of cards can be reduced considerably in existing systems by replacing old ibaFOB cards with ibaFOB-D cards. For example, up to 8 FO lines can be merged and connected to just one FO link on the card in combination with the device ibaBM-COL-8i-o.

Extension module for output signals

The cards ibaFOB-4i-D and ibaFOB-2i-D can be upgraded with up to 2 ibaFOB-4o-D output modules. The extension module is connected with the board inside the computer. The module provides 2 different functions:

- Mirroring of inputs
The optical signals of the input channels are mirrored to the output channels without delay.
- Application outputs and duplex operation
Software applications such as ibaPDA and ibaLogic can generate outputs like alarm signals or control output signals

Only 1 ibaFOB-4o-D module is required for the cards ibaFOB-io-D and ibaFOB-2io-D to mirror inputs and outputs.



ibaFOB-4o-D

Short description		
Designation	ibaFOB-D / ibaFOB-Dexp	
Description	PCI / PCI express cards with fiber optic connectors	
	Order number	Quantity FO connectors
ibaFOB-2i-D	11.115710	2 x input
ibaFOB-io-D	11.115810	1 x input, 1 x output
ibaFOB-2io-D	11.115800	2 x input, 2 x output
ibaFOB-4i-D	11.115700	4 x input
ibaFOB-2i-Dexp	11.118030	2 x input
ibaFOB-io-Dexp	11.118020	1 x input, 1 x output
ibaFOB-2io-Dexp	11.118010	2 x input, 2 x output
ibaFOB-4i-Dexp	11.118000	4 x input
Connectors		
FO cable	62.5/125 µm	
FO connector	ST-connector	
Distance between 2 devices	Max. 1.24 mi (2000 m), without repeater	
Data transmission	Support for all ibaNet communication protocols: 2Mbit, 3Mbit, 5Mbit, 32Mbit, 32Mbit Flex	
Supplies and indications		
Power supply	3.3 V or 5 V over PCI bus / 12 V over PCIe 1.0-x1 compatible slot	
Bus clock	33 MHz or 66 MHz PCI / 2.5 Gbit/s (PCIe 1.0)	
Power consumption	Typ. 4.2 W	
Indications	4 LED per FO connector (state of communication) 1 Seven-segment display	
Environmental conditions		
Cooling	Passive	
Mounting	32 or 64 bit PCI slot / PCIe slot (x1, x4, x8, x16)	
Operating temperature	32 °F to 122 °F (0 °C to 50 °C)	
Storage temperature	-13 °F to 158 °F (-25 °C to 70 °C)	
Transport temperature	-13 °F to 158 °F (-25 °C to 70 °C)	
Assembly dimension (d x h)	6.69 in x 3.82 in (170 mm x 97 mm) PCI 32 Bit, short PCI card	
Weight (incl. box and documentation)	Appr. 0.44 lb (200 g)	

Short description		
Designation	ibaFOB-4o-D	
Description	Extension module for ibaFOB-D for mirroring of FO inputs or for active FO outputs	
	Order number	Quantity FO connectors
ibaFOB-4o-D rackline-slot (short design for ibaRackline)	11.116200	4 x output
ibaFOB-4o-D-PCI (long design for PCI slot)	11.116201	4 x output
Connectors		
FO cable	62.5/125 µm	
FO connector	ST-connector	
Distance between 2 devices	Max. 1.24 mi (2000 m), without repeater	
Data transmission	Support for all ibaNet communication protocols: 2Mbit, 3Mbit, 5Mbit, 32Mbit, 32Mbit Flex	
Assembly dimension (d x h)	1.46 in x 2.95 in (37 mm x 75 mm)	
Weight (incl. box and documentation)	Appr. 0.33 lb (150 g)	

Please contact your local iba representative for assistance and detailed information.



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