

ibaDIG-40



In brief

- Parallel A/D converter for digital signals
- 40 digital, galvanically isolated input channels with sampling rates of 1 kHz up to 25 kHz per channel and signal level up to DC ± 48 V
- Application in fault reporting systems for high-precision signal recording and subsequent evaluation by means of ibaAnalyzer
- Application with ibaPDA-V6, ibaLogic and ibaScope
- Data transfer with fiber optic cable technology; resistant against electromagnetic irradiation and suitable for longer distances
- Serial connection mode and ring topologies with external synchronization are possible
- With ibaPDA-V6 max. 5,120 signals per system in 1 ms
- When using ibaLogic in the multiplexed mode up to 96 devices can be cascaded within one fiber optic ring with up to 3,840 monitored signals per ring

Characteristics

The device ibaDig-40 is designed for signal acquisition of 40 digital signals. Depending on the software used the signals can be recorded within the cycle of 1 ms (F mode) resp. 40 μ s (M-mode). There is a RJ11 jack available for notebook measurement. The operating mode and the device address are set by means of the rotary switch on the device. Several devices can be synchronized in one measuring channel. The device is suitable for mounting on the rail and operation in industrial environment.

M-Mode with bi-directional data exchange

This mode can be used in conjunction with ibaPDA-V6, ibaLogic or ibaScope.

In M-mode the device works like an ibaPADU-8-M, i. e. fast measurements of digital signals with sampling rates of up to 25 kHz can be performed.

The device is connected to the acquisition-pc via a duplex fiber optic cable and an ibaFOB-io-S, ibaFOB-4i-S or ibaFOB-4i-D card with ibaFOB-4o extension. The sampling clock can be given by a telegram coming from the software application (ibaLogic only).

In conjunction with an ibaLogic application you may link up to 96 devices in a fiber optic ring. By means of a software-controlled switching it's possible to set one device active while the others are disabled in terms of data transmission.

This so-called multiplexing method is the basis for large configurations with up to 30,720 installed signals (8 fiber optic ports * 96 devices * 40 signals). Actually, the signals are measured in groups of 40 signals, one device per fiber optic port at a time.

The number of signals to be measured at the same time and at the highest sampling rate is a matter of the performance of the data acquisition PC.

F-Mode with uni-directional data exchange

This mode is supported by all iba software packages. In this mode, the device works like a regular ibaPADU-8, good for measurements with sampling rates of up to 1 kHz.

The device is connected to the acquisition-pc via a simplex fiber optic cable and an ibaFOB-io-S, ibaFOB-4i-S, -4i-X or -4i-D card.

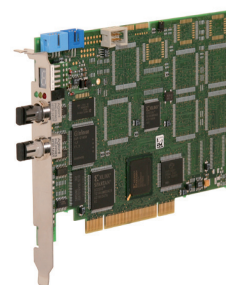
Up to 8 ibaDig-40 devices can be connected in a daisy-chained configuration by one fiber optic line. A ring topology with external synchronization is possible too.

Such a configuration consisting of 8 devices can sample up to 320 digital signals. A fully equipped system with 16 fiber optic ports can measure up to 5,120 signals with a sampling rate of 1 kHz.

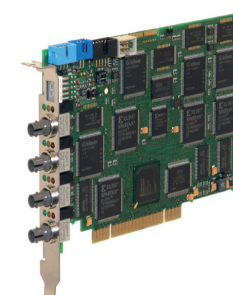


Daisy-chain topology with 8 ibaDig-40 devices along one fiber optic line

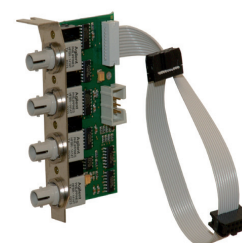
Manufacturer	iba AG, Germany
Order number	16.120500
Sample rate	Max. 1000 samples/s (F-mode); max. 25,000 samples/s (M-mode)
Mechanical stability and test parameters (all 3 axes)	Shock: DIN EN 60255-21-2 Quake: DIN EN 60255-21-3
EMI test parameters	IEC 61000-6-2 or IEC/TS 61000-6-5 IEC 60255-22-1 to IEC 60255-21-3
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]
Cooling	Passive
Mounting	On DIN-rail, snap-on
Humidity class	F, no condensation
Protection class	IP20
Power supply	DC 24 V ±10 % unstabilized
Length of optical cable	Max. 6,560 feet (2000 m) without repeater
Dimensions (W x H x D)	4.96 inch x 7.36 inch x 6.10 inch (126 mm x 187 mm x 155 mm) with DIN-rail clip
Weight (incl. box and manual)	1,5 k g
Digital Inputs	
Amount	40
Input level	Log0: < 10 V abs. Log1: < -10 V, > +10 V (max. ±48 V)
Input level	Max. DC ±48 V
Input current	1 mA
Input filter	1 ms
Galvanic isolation Channel-Channel Channel-Device ground	1.5 kV 1.5 kV
Connectors / Indicators	
Digital inputs	5 x 16-pin jack (Phoenix)
Digital input indication	5 x 8 LED-rows, beside each input connector with 1 LED per input Connector 0: 00 to 07, Connector 5: 32 to 39
Dial switches	S1: device address setting (0 to F) S2: device mode (0 = Run)
Fiber optic connectors	2 jacks, type ST
Power supply	2-pin Phoenix terminal jack
Status displays	3 LEDs: Run (Green) Link (Yellow) Error (Red)
Other interfaces	RJ11-jack for ibaCom-PCMCIA-F card (max. 1 kHz)/RJ45/9-pin Sub-D socket (service)
Data Transmission (fiber optic)	
Data transmission rate	3.3 Mbit/s (F-mode), 5 Mbit/s (M-mode)
Data amount	40 digital signals, in daisy-chain up to 8*40 = 320 digital signals



ibaF0B-io-S



ibaF0B-4i-S



ibaF0B-40

iba Europe

Germany Fuerth Phone: +49 911 97282-27,
sales@iba-ag.com

Germany Berlin Phone: +49 30 854073-41,
ralph.maronde@iba-ag.com

Germany Kamen Phone: +49 2307 5501-68,
ralf.surmann@iba-ag.com

Benelux BVBA
(Belgium, Netherlands, Luxembourg, France, Great Britain, Spain)
Phone: +32 9 226 2304, roeland.struyf@iba-benelux.com

iba Asia

Phone: +49 911 969 4346,
mario.gansen@iba-asia.com

China Phone: +86 021 5840 2768,
julia.wang@iba-china.com

Korea Phone: +82-51-329-7026-8,
sh.lee@iba-korea.com

India Phone: +91-22-67230869,
ajay.tambel@iba-india.com

iba North/South America

iba America, LLC (North America,
US Territories, Caribbean, Bermuda)

Phone: +1 770 886-2318

sb@iba-america.com

iba LAT S.A. (South America)

Phone: +58 286 951 9666,
eric.di.luzio@iba-ag.com

