

## Product Datasheet - Technical Specifications



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# LAN-AD16fx

## LAN Data Acquisition System

### Data Acquisition via Network. Remote.

The LAN technology of the LAN-AD16fx allows for measurement applications across great distances. The number of measuring points, where the devices are installed, is basically not limited. Data transmission to a server PC is fast and reliable.

### PoE. Self-Supplier.

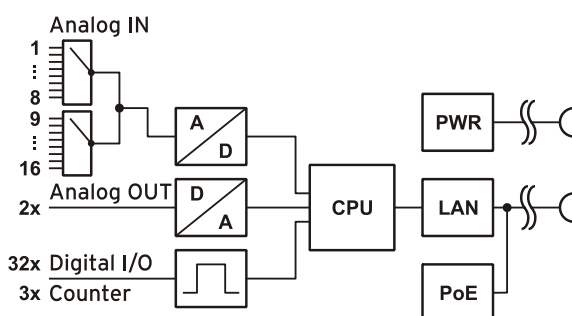
The device can be supplied with power via network (Power over Ethernet). This reduces cabling efforts to a minimum and makes mobile measurements a lot easier.

### TCP/IP. Guaranteed Reliable.

LAN-AD16fx uses the TCP/IP protocol providing for safe and complete data transmission. Besides that, transmission via internet is possible - data acquisition with absolutely new possibilities.

### Cascadable. Synchronizable.

The number of DAQ systems and with it the number of available channels is only limited by the bandwidth of the network. Several devices can be synchronized with each other. If so, all measured data in distributed operation always keep time even with long-term measurements.



Functional diagram

### 16 Analog IN. 2 Analog OUT.

16 analog inputs can be sampled with 16 bit resolution and 250kHz total sampling rate. The measuring range ( $\pm 10V$ ,  $\pm 5V$ ,  $\pm 2V$ ,  $\pm 1V$ ) is selected via software for each channel separately.

The two  $\pm 10V$  outputs can be used for analog controls with 16 bit accuracy.

### 32 Digital I/O.

Digital states are recorded or set at 32 digital inputs or outputs. The direction of the two 16-bit ports is set via software

### Count and Measure: Pulses. Frequency. Position. Period.

If for the acquisition of large quantities, speed measurement, or determination of position: These are only a few applications the three 32-bit counters of the LAN-AD16fx can be used for. With the pulse time feature, precise measuring e.g. at slowly rotating shafts is possible.

### Open for Everyone.

Widely supported: The data acquisition system can be used under Windows<sup>®</sup> XP/7/8/10 as well as under Mac OS X, Free BSD, and Linux. The complete software for installation and programming of the LAN-AD16fx is included for free.

### NextView<sup>®</sup>. Try for Free.

The DAQ system is supported by NextView<sup>®</sup>, the software for data acquisition and analysis. A fully functional 14-day trial is included with delivery to directly test the functionality of the LAN-AD16fx.

## Technical Data

(typical at 20°C, after 5min., +12V supply)

### • Analog Inputs

Channels // Resolution // Sampling rate:	16 analog inputs (single-ended) // 16 Bit // max. 250kHz total sampling rate*			
Measuring ranges // Noise:	±10V // ±5 LSB	±5V // ±7 LSB	±2V // ±8 LSB	±1V // ±8 LSB
Surge protection:	±35V (when turned on), ±20V (when turned off), max. ±20mA in total of all input channels!			
Memory depth:	only depending on the size of the hard disk of the server PC			
Input resistance // Input capacity:	1MΩ (with device turned off: 1kΩ) // 5pF			
Zero shift // Gain drop:	±50ppm/°C // ± 50ppm/°C			
Frequency accuracy // Frequency drift:	max. ±100ppm // max. ±50ppm/°C			

\* The total sampling rate is the sum of the sampling rates of the individual used channels (e.g. if 5 channels are scanned with 50kHz, the total sampling rate adds up to 250kHz). The values for accuracy always relate to the respective measuring range. Errors might add at worst.

### • Analog Outputs

Output range // Output current:	2 voltage outputs with ±10V // 1mA max.
Resolution // Accuracy:	16 bit // typ. 1mV
Zero shift // Gain drop:	±50ppm/°C // ± 50ppm/°C

### • Digital Channels

Channels:	2x 16 lines (bidirectional, set in groups of 8)
Counters:	3x 32-bit counters with opt. counter reset, operating mode: counter, up/down counter, quadrature decoder for incremental encoder, pulsetime measurement (temporal resolution 16,67ns), connect at any digital inputs
Level:	CMOS/TTL compatible (low: 0V..0.7V; high: 3V..5V)
Resistance R <sub>i</sub> // Output current:	100Ω // 0.5mA

### • General Data

Power supply:	via network (Power over Ethernet) with switch featuring PoE; otherwise externally: +12..40V DC, typ. 3W, max.
Connections analog // digital:	all channels at a 37-pin D-Sub female at the device back // front
LAN connection:	Twisted Pair RJ45 socket, 100Mbit, , automatic MDI/MDI-x detection
CE standards:	EN61000-6-1, EN61000-6-3, EN61010-1
ElektroG // ear registration:	RoHS and WEEE compliant // WEEE Reg.-No. DE75472248
Max. permissible potentials:	<b>60V DC acc. to VDE</b> , max. 1kV ESD on open lines
Temperature ranges // Relative humidity:	operating temp. -25..50°C, storage temp. -25..70°C // 0-90% (not condensing)
Dimensions // Protection type:	167 x 113 x 30 mm // IP30
Delivery:	device in aluminum housing, 3-pin DIN connector
Available accessories (optional):	power supply unit ZU-PW40W, current shunt ZU-CS250R, gender changer ZU37SS, connecting cables ZUKA37SB, ZUKA37SS, ZUKA-TP (Twisted Pair), D-Sub plug ZUST37, 3-pin DIN socket ZU3DIN, connector boards ZU37BB/-CB/-CO, DIN rail set ZU-SCHI, waterproof housing ZU-PBOX-LAN
Warranty:	2 years from date of purchase at bmcm, claims for damages resulting from improper use excluded

### • Software

Software free of charge download:	LIBAD4 SDK for C/C++ programming on Windows XP/7/8/10, Mac OS X, Unix (FreeBSD, Linux); trial version of the measuring software NextView® to test and operate the hardware; configuration software LAN-Admin
NextView® (optional):	professional software (versions: Professional, Lite) for the acquisition and analysis of measurement data on Windows- 8/10