

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Visit our website - *Click HERE*

HEIDENHAIN



Product Information

EIB 700 Series

Evaluation Electronics

01/2018

EIB 700 Series

The EIB 700 series are external evaluation electronics for precise position measurement, especially for inspection stations and multipoint inspection apparatuses as well as for mobile data acquisition, e.g. during machine calibration.

The EIB 700 series are ideal for applications requiring high-resolution encoder signals and fast measured-value acquisition. In addition, Ethernet transmission enables the use of switches or hubs for the interconnection of multiple evaluation units. It is also possible to use WLAN transmission, for example.

The EIB 700 series are suitable for the following supply voltages:
EIB 741: 100 V AC to 240 V
EIB 742: 24 V DC

Up to **four HEIDENHAIN encoders** can be connected to the EIB 700 either with sinusoidal incremental signals (∿ 1 V_{PP}; ∿ 11 μA_{PP}) or with EnDat interfaces (EnDat 2.1 and EnDat 2.2).

The EIB 700 series subdivides the signal periods of the incremental signals up to 4096-fold for **measured value generation.** The deviations within one signal period are reduced by the automatic adjustment of the sinusoidal incremental signals.

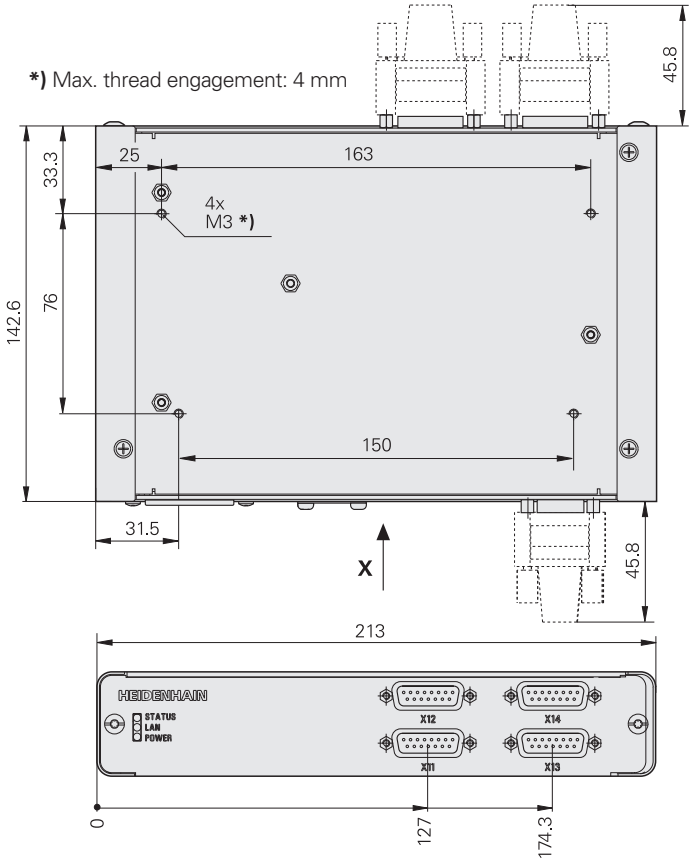
The integrated **measured-value memory** enables the EIB 700 series to save typically 250 000 measured values per axis. Internal or external triggers can be used for axis-specific storage of the measured values.

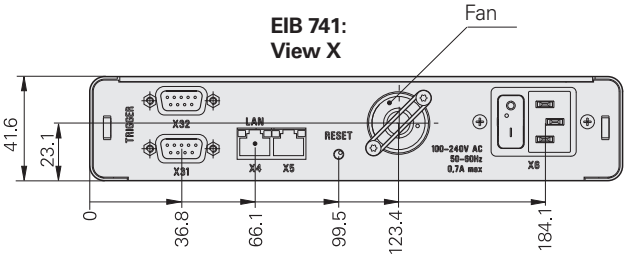
A standard Ethernet interface using TCP/IP or UDP communication is available for **data output.** This permits direct connection to a PC, laptop or industrial PC. The type of measured-value transfer can be selected through the operating mode (transfer of individual values, block transfer, or transfer upon software request).

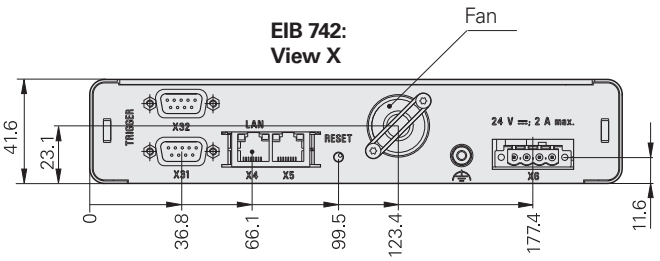
Driver software for Windows, Linux and LabVIEW as well as example programs and the EIB application software are included in the items supplied, in order to **process the measured values** on the PC. The driver software enables customers to easily programming their own applications. In addition, example programs demonstrate the capabilities of the EIB 700 series. The EIB application software serves for commissioning and demonstrating the capabilities of the EIB 700 series. This software is made available in the source code and can serve as a platform for the development of one's own applications.

Due to their **dimensions,** two evaluation electronics of the EIB 700 fit next to each other into a 19-inch housing. They occupy one height unit.

Accessories
Mounting bracket
For installation of two EIB 74x in a 19-inch housing
ID 671144-01





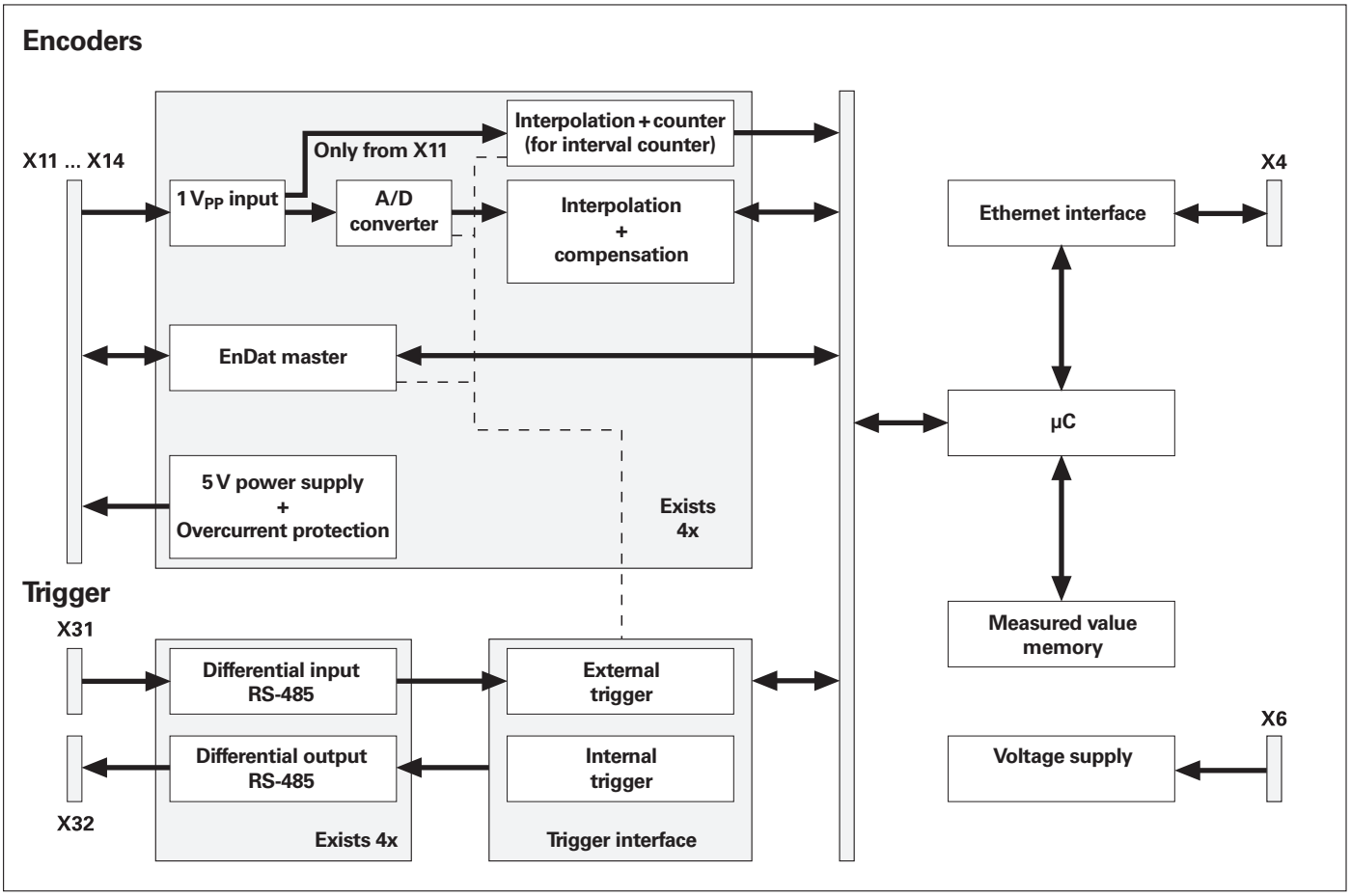


Specifications	EIB 741 EIB 742		
Encoder inputs	D-sub connections, 15-pin, female (X11 to X14), for four encoders		
Interface (switchable)	∿ 1 V_{PP}; ∿ 11 μA_{PP}	EnDat 2.1	EnDat 2.2
Voltage supply for encoders	DC 5.12 V ±0.15 V; max. 450 mA per channel Overcurrent protection (automatic switch-off, resettable) at 550 mA		
Input frequency	≤ 500 kHz	–	–
Subdivision factor	4096-fold	–	–
Signal adjustment	Automatic adjustment of offset, phase and amplitude	–	–
Cable length[1]	≤ 150 m	≤ 150 m	≤ 100 m
Data register for measured values	48 bits (only 44 bits are used)		
Interval counter	Derived from axis 1 (only 1 V_{PP})[5], Interpolation factor can be set from 1-fold to 100-fold Can be used as trigger source or additional counting axis	–	–
Measured-value memory	Typically 250,000 position values per channel		
Measured-value trigger[2]	Storage of the measured values of the four axes alternatively through external or internal trigger. ***External:*** • Signal via trigger input • Software command (over Ethernet) ***Internal:*** • Timer • Interval counter • Reference pulse of the respective axis (from axis 1 also possible for other axes)		
Trigger input[3]	D-sub connection, 9-pin, male Differential inputs as per RS-485, (terminating resistors can be activated)		
Trigger output[3]	D-sub connection, 9-pin, female 4 differential outputs as per RS-485		
Access to measured values	Depends on the selected operating mode (see separate table)		
Software	• Driver software for Windows, Linux and LabVIEW • Program examples • EIB application software		
Data interface[4]	Ethernet as per IEEE 802.3 (10/100/1000 Mbit/s)		
Network address	Automatic assignment through Dynamic Host Configuration Protocol (DHCP) or manual assignment		
Dimensions	≈ 213 mm x 152 mm x 42 mm		
Operating temperature **Storage temperature**	0 °C to 45 °C 0 °C to 70 °C		
Voltage supply	**EIB 741:** AC 100 V to 240 V (±10 %), 50 Hz to 60 Hz (±2 %), power consumption approx. 30 W **EIB 742:** DC 24 V (–15 %/+20 %), max. 2 A		

[1] The supply voltage range of the encoder must be maintained; specified cable length applies when HEIDENHAIN cables are used.
[2] Various trigger sources can be assigned to the individual axes.
[3] Can also be used as logical input or output.
[4] The quality of the data cable between EIB and PC must be adapted to the transmission rate and cable length.
[5] Maximum input frequency during referencing 70 kHz

Remark: The available functions can be expanded by updating the firmware.

Basic circuit diagram



Operating modes

	Soft Realtime	Recording	Streaming	Polling
Properties	Immediate transmission of measured values when the trigger event occurs	Storage of measured values in the EIB's internal measured-value memory	Buffering and block transfer of measured values	Software request from customer application
Selectable trigger sources	All internal and external sources			By software command
Trigger rate	≤ 10 kHz (access time to position values < 100 µs)	≤ 50 kHz	≤ 50 kHz Max. 1 200 000 bytes/s	Depends on the application
Typical applications	Closed loop control	Very high recording rate Offline analysis of data	High recording rate in combination with high recording depth	Quasi-static measured value recording

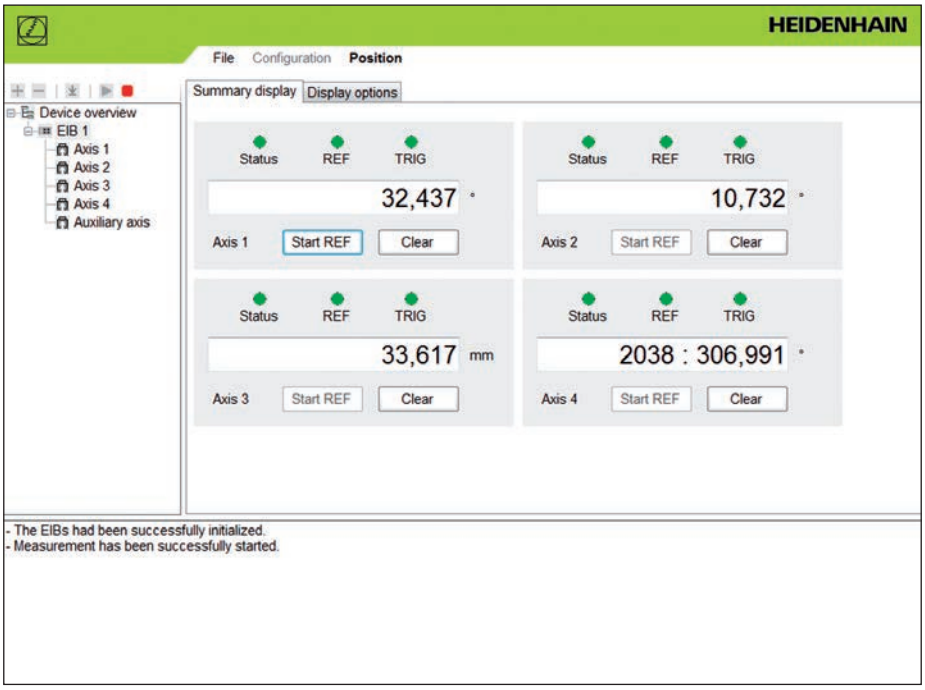
Software
EIB application software

The EIB application software covers two applications:

Initial service and demonstration of the EIB 74x
- Easy configuration of the settings required to operate the EIB 74x (such as input interface, data packets, operating mode, trigger settings, etc.)
- Administration of one or more EIB 74x units
- Simple representation of the positions transmitted by the EIB 74x
- Settings can be saved so that different application projects can be managed

The user's guide provides more information.

Platform for customer applications
The EIB application software is made available in the source code. Based on this application, customers can quickly realize their own applications. The application software was programmed with C++/CLI and Windows Forms in Visual Studio 2008. This programming environment is widely used in technical application programming, but does not necessarily provide state-of-the-art operating techniques like those in Windows 10, for example. However, the customer can adapt the program to other graphic user interfaces.



Windows 10 is a trademark of Microsoft Corporation.

HEIDENHAIN

DR. JOHANNES HEIDENHAIN GmbH
Dr.-Johannes-Heidenhain-Straße 5
83301 Traunreut, Germany
☎ +49 8669 31-0
FAX +49 8669 32-5061
E-mail: info@heidenhain.de

www.heidenhain.de

This Product Information supersedes all previous editions, which thereby become invalid. The basis for ordering from HEIDENHAIN is always the Product Information document edition valid when the order is made.

For more information:

• Product Overview: *Interface Electronics*	598160-xx
• Brochure: *Cables and Connectors*	1206103-xx

655780 · 05 · B · 02 · 9/2019 · PDF

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP