Open, Scaleable Access to EIB Networks
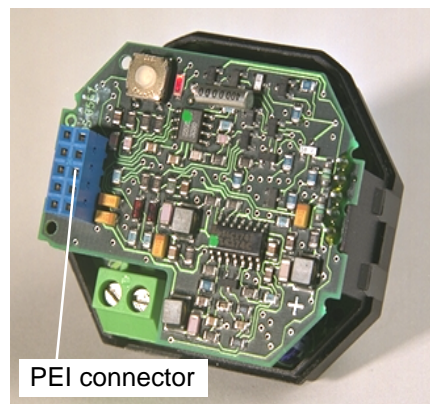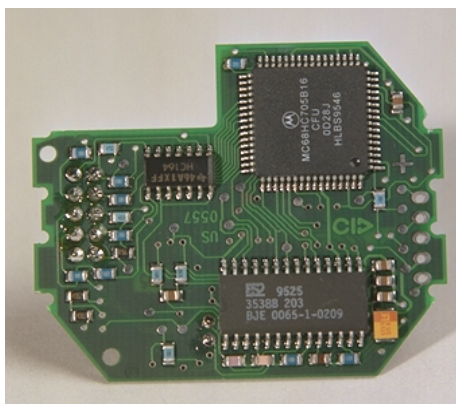
From an open protocol to OEM products: the choice is yours.

1 *Your company wants to join the EIB bandwagon? You want to find out how best to tackle the development of an EIB product range? EIB proposes a broad scale of possibilities, which certainly includes the solution you need!*

EIB, just in case you didn't know

Answering all automation challenges for residential and commercial buildings, EIB is the first solution for Home & Building Electronic (HBE) networks. EIB's decentralised, open network technology is the choice of more than 100 leading companies from industry and engineering. Under various brand names, they market certified, EIB compatible equipment for:

- electrical installation,
- measurement and control,
- heating, ventilation and air conditioning (HVAC),

The protocol and medium specifications are entirely open, and may be implemented without any restrictions. Some standardised but optional features (such as the Physical External Interface) are available to members of the EIB Association at non-discriminatory conditions.

In practice, this means that any company who wishes to do so can make its own complete implementation of EIB. The selection of microprocessor and individual components is entirely up to you! In other words: just take the EIB recipe, and get the ingredients yourself.

Standard building blocks reduce develop-

PEI connector

The EIB Powerline Bus Coupling Unit for flush mounting, showing the Physical External Interface (PEI) connector.

picture courtesy ABB Busch-Jaeger

- security and alarms,
- household appliances, etc.

Originally launched on Twisted Pair communication, EIB now supports all relevant fieldbus media including Powerline and Radio Frequency. EIB.net introduces automation-level capability based on Ethernet.

Implement an open specification on any suitable chip!

To begin with of course, anyone interested can order the full EIB specification.

ment effort

As we shall discover below, you can also tap into a host of ready-made EIB building blocks with various degrees of integration. In doing so, you benefit from reliable and proven technology of several companies with many years of experience in system and application development for EIB.

Many of these building blocks are EIB Certified. This means that the testing requirements for EIB Certification may be reduced, in accordance with the type of standard certified components used in your product.

EIB - We care about Home & Building Electronics.

Many of these components are distributed internationally through neutral channels. Some EIB system component vendors will offer their solutions on a bilateral OEM basis - but always at non-discriminatory conditions for members or licencees of the EIB Association.
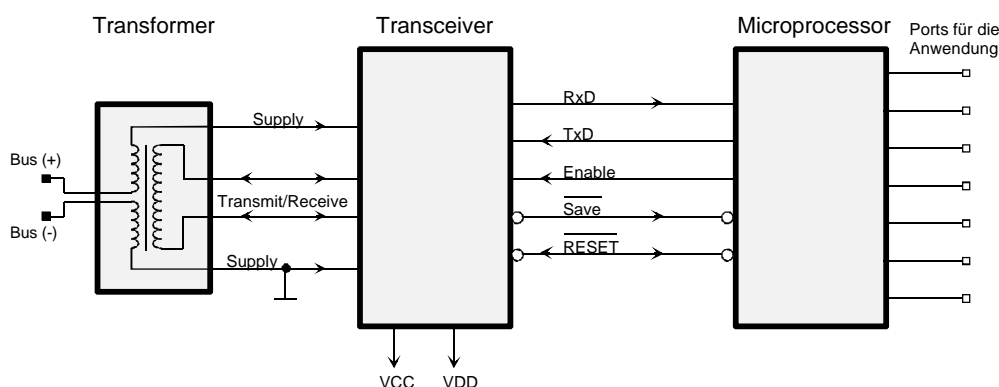
Source code licences accelerate your

One interesting option is to obtain a licence for the source code of the EIB network operating system for some families of industry-standard microprocessors.

Certain EIB system providers offer flexible licencing schemes for this possibility.

Rely on proven technology with EIB chip sets and *Medium Access Units*

Perhaps you are looking for the shortcut to tight

Using these ready-made components, mainstream and niche developers alike can forget about the nitty-gritty of system implementation. Simply focus on your core competence instead!

Bus Interface Modules (BIM) and *Bus Coupling Units* (BCU) are the all-in solution, with the BCU offering the highest level of integration. BCU's come with a modular housing and standard electromechanical interfaces, adapted to the specific requirements of electrical installations (such as DIN-rail or flush mounting).

Typically, the introduction of a new EIB medium is marked by the development of a corresponding BCU by the company which brings in the transmission know-how for the medium.

With the standard internal and external interfaces, any application-specific software or hardware module which is BCU-compatible can be

Block diagram of the inductively coupled EIB Twisted BCU or BIM (available as chip set)

picture courtesy Siemens AG

integration of EIB in your products? Then the certified EIB chip sets may be the answer.

The chip sets typically cover both the firmware (ROM) implementation of the complete EIB system, as well as the medium access (ASIC) in a modular way. UART-like Medium Access Units have also been announced.

The EIB BCU and BIM: standard Bus Access *Units* reduce time-to-market

In addition to the actual protocol, EIB standardizes various other features. Though some of these are optional, certain EIB Bus Access Units implement a very rich set of these application-independent interfaces, catering for a very high level of modularity and portability of application-specific hardware and software across different media.

ported to any EIB field level medium with minimal or no effort. This results in a tremendous multiplication effect for the application-focused companies just as well as for the providers of these system components.

There can be little doubt that through this effect, the BCU architecture has been a major contributing factor to EIB's success.

An offer difficult to refuse: OEM products

Now what if you want to start the distribution of EIB products with your own company's logo tomorrow? Many EIB vendors propose OEM arrangements for ready-to-install products, including the downloadable EEPROM application software. EIBA complements this with smooth derived certification - an option worth considering! ❑

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