



**Connecting Automation Devices™**

# Product Overview

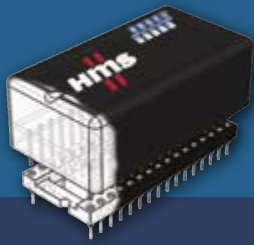
## **Embedded Anybus®-IC**

**Single Chip Controllers for  
Profibus, DeviceNet & Industrial  
Ethernet**



**Contains all analog & digital components  
required for multiple network connectivity**





# Single Chip Solutions



## Take a closer look at the world's best selling embedded fieldbus interface range!

The Anybus-IC is a complete single-chip controller for industrial networks. It is optimized for lower/medium ranged field devices, where a small size and multiple network connectivity is important.

The Anybus-IC is built in hybrid technology and contains all analog and all digital components necessary to implement a network interface. A powerful 16/32 bit micro-controller with Flash and RAM memory, a network protocol chip and all necessary analog components including opto-couplers, a DC/DC converter and bus drivers are integrated in a single housing of only 9 cm<sup>2</sup> in size.



### Key Features

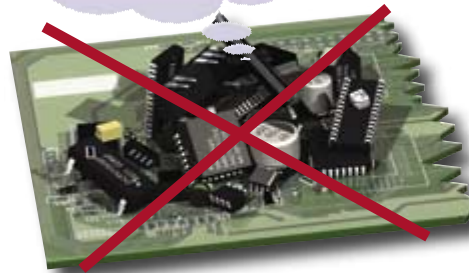
- » Very small size
- » Contains all analog and digital components for full fieldbus connectivity
- » DC/DC converter and Opto Couplers on-board
- » SCI serial interface with max 32 bytes of Input & 32 bytes Output data (Modbus RTU protocol)
- » SSC Shift register interface for data exchange of max 16 bytes Input & 16 bytes Output data
- » Configuration and monitoring via PC configuration port
- » 32 pin DIL connector
- » Flash upgradeable
- » Very short time to design-in

### Tiny but powerful - Size does matter!

The Anybus-IC is not a new protocol ASIC. Instead, it is a hybrid design based on proven protocol chips from the market leaders, and thus incompatibility with the industry standard is excluded right from the start. The Anybus-IC has a 32-pin dual in-line case (42x21x15 mm L,W,H) and requires only one 5 Volt power supply. A separate Anybus-IC version is available for each network. Standardization of the mechanical, electrical and software interfaces ensures that the different Anybus-IC's are interchangeable.

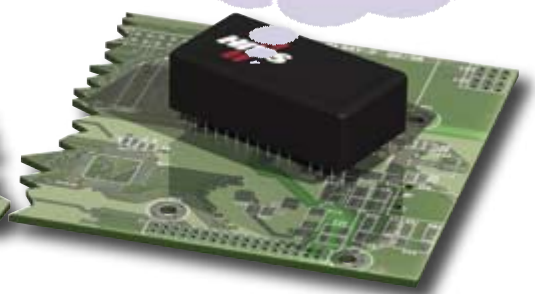
#### Self made solution

- Lots of Circuits
- Complicated Software
- Months of Testing



#### Anybus-IC Solution:

- Only 1 Circuit
- Minimal Software
- Pre-certified



### Tech Specification

- » **Size:** 42 x 21 x 15 mm ( L x W x H )  
2.13 x 0.83 x 0.59" ( L x W x H )
- » **Power Supply:** +5V
- » **Temperature:** Operating -10° to + 70°C  
Non-Operating -25° to + 85°C
- » **Humidity:** 5 to 95% non-condensing
- » **Emission:** EN 50081-2: 1993  
**Immunity:** EN 61000-6-2:1999  
**UL&cUL Compliance:** Pending  
**CE-Mark:** CE marked ( all versions )
- » **Application connector:** 32 pin DIL

### Tested and Verified

The Anybus-IC contains all the digital and analog hardware as well as all necessary software to communicate with the selected network. This makes it possible for HMS to supply a proven solution that has been tested and approved for fieldbus and EMC compatibility.

### Serial Application Interface

The Anybus-IC is connected to the electronics of the field device via its asynchronous or synchronous serial interface. It can be used in stand alone mode inside of a simple field device without own microprocessor or alternatively as an intelligent peripheral network controller inside of devices with own microprocessor.

### Additional Configuration Port

Via this additional serial communication port, the Anybus-IC can be optionally connected to a PC for configuration and monitoring. Via this connection, communication parameters such as baud rate, node address, identification number and I/O size can be modified. Further it is possible to download software updates into the Flash memory of the Anybus-IC.



# for Profibus, DeviceNet & Ethernet

## Available for Profibus, DeviceNet and Industrial Ethernet



The Anybus-IC is available as Profibus-DP Slave, DeviceNet Adapter, EtherNet/IP Adapter and Modbus-TCP Slave. Full standardization of the mechanical, electrical and software interfaces ensure full interchangeability.

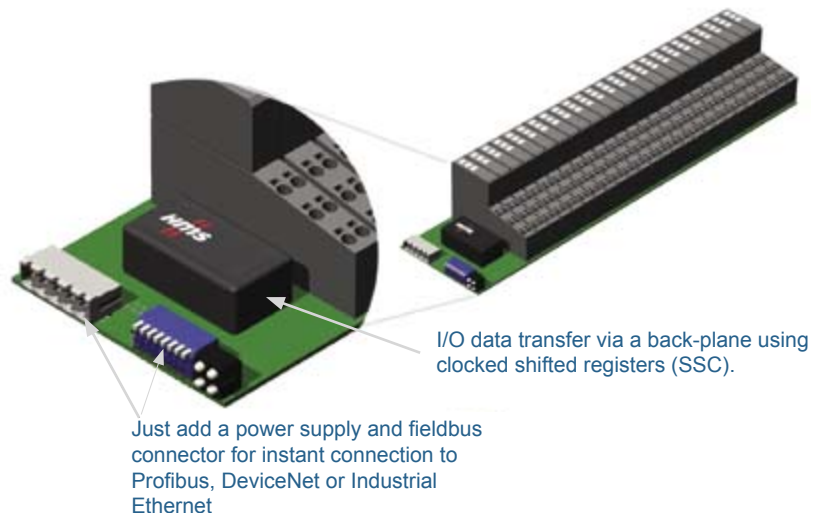
In addition to the Modbus-TCP and Ethernet/IP protocol, the Ethernet versions of the Anybus-IC contain powerful embedded Internet features. The embedded dynamic webserver offers 1,4 Mbyte free disk space to download any kind of application specific web pages. Web pages can be created to display visualization and control functions in a user friendly way by utilizing Java or SSI scripts. A complete E-Mail client is on-board which can be configured to send out email alerts on specific events. The FTP based file system supports multi level access protection. On-board security features include user/admin level control as well as IP address restrictions.

## Using the Anybus-IC in industrial applications

### The Anybus-IC in a Stand Alone operation without a host micro controller

For use in simple processor-less devices such as valve terminals and modular I/Os, the Anybus-IC has a clocked shift register interface (SSC) which can be connected to max 16 bytes Input and 16 bytes Output data.

The Anybus-IC automatically detects how many I/O signals are available during the Power-On phase. This makes it very easy to implement variable I/O configurations such as those typically used in modular I/O devices.

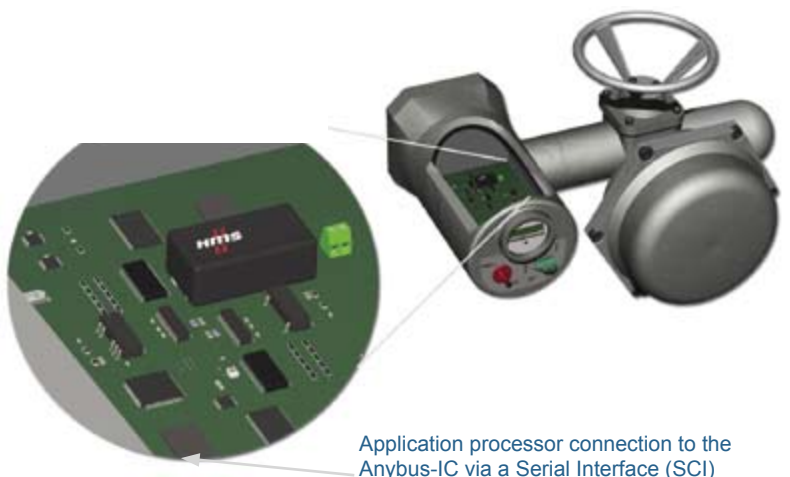


### Anybus-IC in intelligent devices with a micro controller.

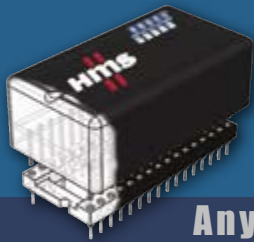
When used in intelligent devices, which typically have their own micro controller, the Anybus-IC is connected to this processor via a serial 2-wire TTL interface (SCI).

A simple data exchange protocol (Modbus based) is used to connect the Anybus-IC and the microprocessor of the field device. The Anybus-IC handles the network protocol. Thus, the microprocessor in the manufacturer's device is not tasked unnecessarily with bus handling.

A max of 32 bytes Input and 32 bytes Output data can be sent via the SCI interface.



**Combining both SCI & SSC interfaces the Anybus-IC can send a total max. 48 bytes Input & 48 bytes Output data.**



# Anybus-IC family

Anybus technology - Proven in over 200,000 industrial applications



## Profibus AB6000



## DeviceNet AB6001



## Ethernet AB6002



- » Complete Profibus-DP Slave functionality according to IEC 61158
- » 32 bytes input / 32 bytes output on the SCI Interface
- » 16 bytes input / 16 bytes output on the SSC Interface
- » Automatic baudrate detection (9600 bit/s - 12 Mbit/s)
- » RS-485 optically isolated Profibus interface with on-board DC/DC converter
- » Up to 237 bytes of User Parameter Data
- » Up to 200 bytes of Extended Diagnostic Data
- » Supports FLASH field upgrades

- » Software functionality according to ODVA SW version 2.0
- » 32 bytes input / 32 bytes output on the SCI Interface
- » 16 bytes input / 16 bytes output on the SSC Interface
- » Baud rate 125-500 kbit/s
- » Optically isolated DeviceNet interface
- » I/O Slave messaging: Bit strobe, Polling, Cyclic & Change of State (COS) and Explicit messaging
- » Acyclic Data and Parameter Data Mapping
- » Supports FLASH field upgrades

- » Ethernet Baudrate 10/100 Mbit/s
- » Supports EtherNet/IP adapter class with I/O server, Message client, and CIP message routing
- » Supports Modbus TCP V1.0
- » Supports UDP/IP & TCP/IP via Transparent socket interface
- » Integrated FTP server provides easy file management using standard FTP clients
- » Telnet server featuring a command line interface similar to the MS-DOS™ environment.
- » Web server with SSI script capability, or support for Java applets and scripts
- » Email client capability with SSI script support

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