Anybus®

IC - Single Chip Solutions

Very small communication interfaces fitting into a standard DIL-32 chip socket

- Profibus
- DeviceNet
- CANopen
- EtherNet/IP
- Modbus-TCP
- Profinet

Anybus-IC is a family of very small communication interfaces with the footprint of a DIL-32 chip socket. Anybus-IC is ideal for industrial automation devices where size, connector **flexibility and simplicity are the decisive factors.**

Anybus-IC is a family of complete single chip interfaces for industrial networks. It is optimized for field devices, where small size, low power consumption and multiple network connectivity is important. Anybus-IC is based on the new Anybus NP30 processor from HMS. Anybus-IC contains all electronic components and software necessary to implement a full featured industrial communication interface. Everything is integrated into a single board solution that fits perfectly into a standard DIL-32 chip socket consuming only 9 cm² (3.5 sq. in) in size.

Tiny, but powerful - when size restrictions are the main factor!

Anybus-IC is a small communication interface based on HMS' new NP30 processor. It provides a very small connectivity solution designed for integration into small sized devices with limited space for the communication interface. Anybus-IC can be used with various network connectors such as M12 or screw terminals, which makes it an elegant solution for devices that are used in harsh industrial environments. The Anybus-IC has a footprint of a standard DIL-32 chip socket.
Anybus-IC requires only one 5 Volt power supply and provides a full galvanically isolated network interface. 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. The Anybus-IC contains all the digital and analog hardware as well as all necessary software to communicate with the selected network. Anybus-IC is a proven solution that has been tested and approved for fieldbus/Ethernet conformity.

Fieldbus and industrial Ethernet

Anybus-IC is available for fieldbus versions, Profibus, DeviceNet and CANopen, as well as Ethernet versions supporting EtherNet/IP, Modbus-TCP and Profinet. Anybus-IC includes embedded Internet features. The embedded dynamic web server offers a lot of free disk space to download any kind of application specific web pages. Web pages can be created to visualize information and control functions in a user friendly way by utilizing Java or SSI scripts. Anybus-IC provides a complete E-mail client on-board which can be configured to send out E-mail alerts on specific events. The FTP-based file system supports multi level access protection.

An example of the Anybus-IC DeviceNet in a valve block. Just simply add power and network connectors for instant DeviceNet connectivity.

Communication with or without a micro controller

Flexible data exchange interfaces

Apart from the network interface, the module features two additional data exchange interfaces (SCI and SSC). These interfaces operate independently of each other and can be used simultaneously.

Serial Communication Interface (SCI)

Intelligent devices such as incremental encoders, sensors/actuators, operator terminals and motor control units normally have their own micro controller. Via the serial 2-wire TTL interface (SCI), the Anybus-IC connects to the micro controller of an intelligent automation device. This provides access to cyclic I/O data and acyclic parameters of the network. The communication between the Anybus-IC and the micro controller of the automation device is based on the proven Modbus-RTU protocol. Via the SCI interface, the Anybus-IC supports up to 128 byte Input and 128 byte Output data.

Synchronous Serial Channel (SSC)

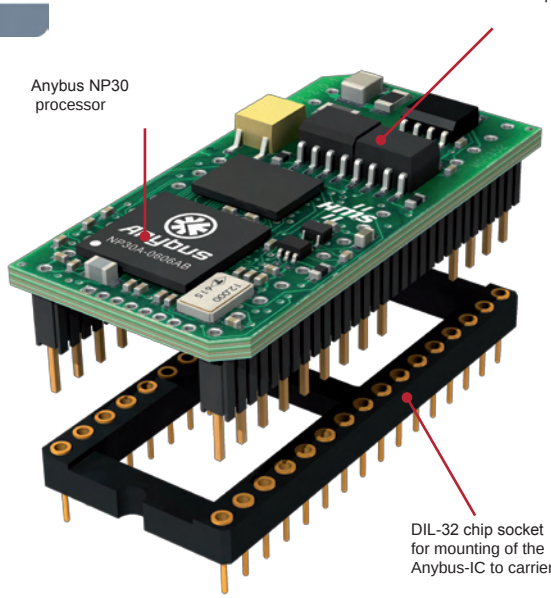
For non-intelligent devices, like valve terminals and modular I/O devices, Anybus-IC features a clocked shift register interface (SSC) that provides direct access to cyclic I/O network data without the need for an additional microprocessor. With additional A/D or D/A converts, even analog Input or Output signals can be easily integrated into fieldbus or industrial Ethernet networks.

WHY USE ANYBUS-IC MODULES?

- Connectivity to several networks in one development
- Very small single board solution, ideal where size restriction matters
- Same hardware and software interface from the view of the host device
- Very low power consumption
- Capability to use specific network connectors for IP65 protected devices
- Up to 70% savings in development costs compared with own implementation
- Continuous technology maintenance by HMS
- Short time-to-market, typically only 1-3 months for several networks

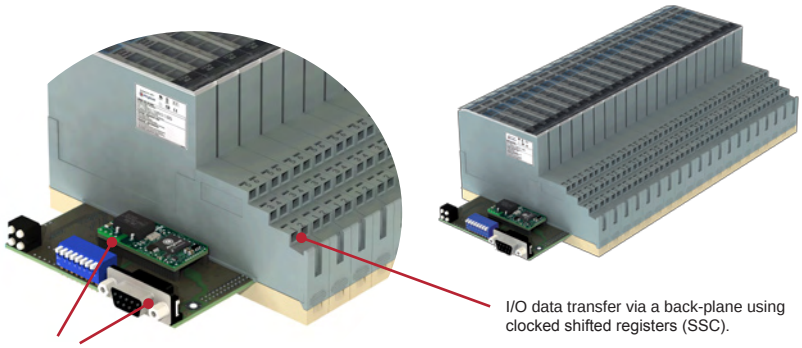
IC - CHIP

Available for:
Profibus
DeviceNet
CANopen
EtherNet/IP
Modbus-TCP
Profinet

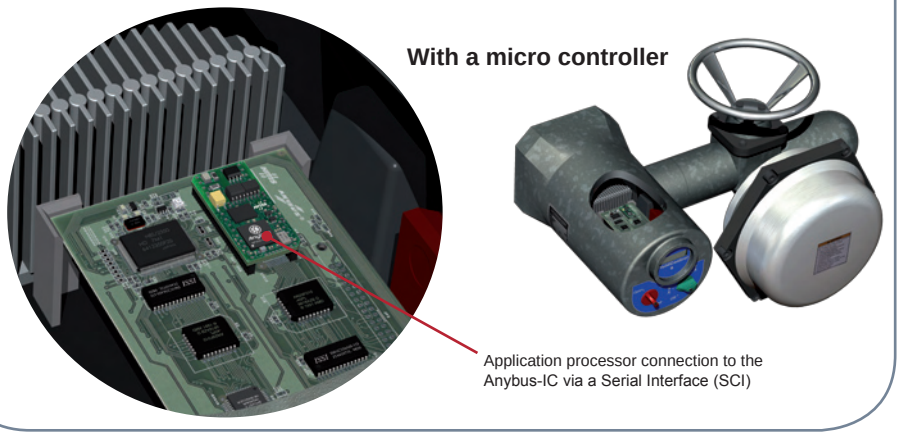


Interface options - Anybus-IC

Without micro-controller



With a micro controller



KEY FEATURES

- Very small size - ideal for small to medium-sized industrial applications
- Works as a stand-alone controller or together with another micro controller
- Contains all analog and digital components for full network connectivity
- DC/DC converter and optocouplers on-board
- Powered by the new Anybus NP30 processor
- Max data on SCI serial interface: 128 byte Input & 128 byte Output
- SSC Shift register interface for data exchange of max 16 byte Input and 16 byte Output data
- Configuration and monitoring via a PC configuration port
- DIL-32 chip socket
- Very low power consumption
- Flash upgradable

TECHNICAL SPECIFICATION

- Size: 42 x 21 x 15 mm (L x W x H)
  1.65” x 0.83” x 0.59” (L x W x H)
- Power supply: +5 Volt
- Operating temperature
  -10 °C to + 70 °C
  14 °F to + 158 °F
- Humidity: 5 to 95% non-condensing
- Emission: EN 50081-2: 1993
  Immunity: EN 61000-6-2: 1999
  UL and cUL Compliance: Pending
  CE-mark: CE-marked (all versions)
- Application connector: DIL-32
- Tested and verified for fieldbus and network conformance
- RoHS compliance

Network specific supported features - Anybus-IC

Profibus-DP AB6000

- Complete Profibus-DP slave
- Max. data size via serial interface (SCI): 128 byte Input and 128 byte Output
- Max. data size via Synchronous Serial I/O Channel (SSC): 16 byte Input and 16 byte Output
- Automatic baud rate detection (9600 bit/s - 12 Mbit/s)
- RS-485 galvanic isolated Profibus interface with on-board DC/DC converter
- Up to 237 byte of user parameter data
- Up to 200 byte of extended diagnostic data
- Generic GSD-file provided

DeviceNet AB6001

- Complete DeviceNet adapter
- Max. data size via serial interface (SCI): 128 byte Input and 128 byte Output
- Max. data size via Synchronous Serial I/O Channel (SSC): 16 byte Input and 16 byte Output
- DeviceNet baud rate: 125-500 kbit/s
- Gavanic isolated DeviceNet interface
- I/O slave messaging: bit strobe, polling, cyclic & change of state (COS) and explicit messaging
- Acyclic data and parameter data mapping
- Generic EDS-file provided

CANopen AB6004

- Complete CANopen slave
- Max. data size via serial interface (SCI): 128 byte Input and 128 byte Output
- Max. data size via Synchronous Serial I/O Channel (SSC): 16 byte Input and 16 byte Output
- Auto baud rate: 20kbps to 1Mbps
- Gavanic isolated CANopen interface
- Supports PDO message types: COS, Cyclic Synchronous and Acyclic Synchronous
- Supports the Layer Setting Service (LSS)
- Generic EDS-file provided

EtherNet/IP / Modbus/TCP AB6003

- Complete EtherNet/IP adapter
- Support also for Modbus-TCP V1.0 server
- Ethernet baud rate 10/100 Mbit/s
- Supports UDP/IP and TCP/IP via a transparent socket interface
- Integrated FTP server provides easy file management using standard FTP clients
- Dynamic web server with SSI script capability and support for Java applets and scripts
- E-mail client capability with SSI script support

Profinet / Modbus/TCP AB6005

- Profinet IO Real Time (RT) communications
- Support also for Modbus-TCP V1.0 server
- Ethernet baud rate 10/100 Mbit/s
- Supports UDP/IP and TCP/IP via a transparent socket interface
- Integrated FTP server provides easy file management using standard FTP clients
- Dynamic web server with SSI script capability and support for Java applets and scripts
- E-mail client capability with SSI script support

Evaluation Board 017499

Anybus-IC Evaluation Board makes it possible to initialize the Anybus-IC and monitor the data exchange directly from a terminal program on a PC. The EVB is complete with all hardware to be able to set address, baud rate and monitor the fieldbus status LEDs. It is also possible to read out (2 byte) and set data (2 byte) to the fieldbus master directly on the board.

The SCI channel can be connected via the RS-232 interface, for direct access from a PC. Serial cabling is included in the kit for the SCI channel and the monitoring channel. Also included in the Anybus-IC EVB: manuals for the modules and an easy startup guide, manual for the Evaluation Board, example software and schematics of a carrier board to the Anybus-IC.

Customized versions for specific requirements possible - Contact your nearest HMS office

About HMS

HMS Industrial Networks is the leading independent supplier of network technology for automation devices. HMS develops and manufactures solutions for interfacing automation devices to industrial networks.

Development and manufacturing takes place at the head office in Halmstad, Sweden. Local sales, support and training is provided by the branch offices in Chicago, Beijing, Karlsruhe, Milan, Mulhouse and Tokyo and by a global distribution network spanning 30 countries. HMS employs over 150 people and is reporting sales of over €30 million. HMS is a public listed company on the NASDAQ OMX Nordic exchange in Stockholm, ISIN-code: SE0002136242

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