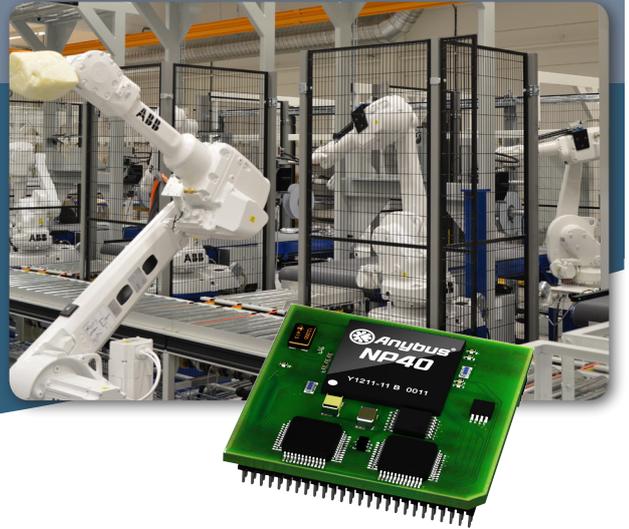


# CompactCom™ B40

The Anybus<sup>®</sup> CompactCom B40 is a high-performance network interface in Brick format — ready-made with software and hardware to enable communication between your device and any industrial network.

With the B40, you have the freedom to add your own connectors and peripherals. It is especially well-suited for demanding industrial applications requiring very fast data transfer.



## Networks:



## A ready-made network interface, just add your own connectors

The Anybus CompactCom B40 is a ready-made network interface where you have the flexibility to add your own connectors (DSUB, RJ45, M12 etc) and network isolation. An alternative is to use the ready-made connector board from HMS (AB6666). The brick is ideal for device manufacturers who are looking for a semi-integrated solution where connector flexibility, size and cost are key elements.

## Based on the Anybus NP40 network processor

The onboard network processor — Anybus NP40 — with integrated and optimized infrastructure solutions like high-performance Ethernet switches with on-the-fly processing and cut-through switching with very low latencies. The award-winning processor enables very fast data transfer between your machine and the network — the basis for features like profile support and synchronization.

## Features and benefits

- A ready-made multi-network connectivity solution.
- Easy mounting, pluggable and solderable male strip connector.
- New and future network updates and enhancements maintained by HMS.
- Fast data transfer: up to 1500 bytes of process data in each direction.
- Possibility to send a complete Ethernet frame via the socket interface (up to 1500 bytes). Support for more than 20 socket connections.
- Very low latency <15µs.
- Clock-synchronous operation.
- Event-based interface method enables easy to access input and output data at any time.
- Fast, event-based application hardware interfaces: 8/16-bit parallel and high speed SPI. I/O (shift register interface) is also available.
- Use the same brick for all Ethernet networks. Simply download new firmware to enable communication with another network.
- Firmware management tool enables easy download via FTP or serial connection.
- Flash-based file system with two-disc access (internal and external).
- Support for safety networks via the black channel to the IXXAT Safe T100.
- Solid security: Mandatory software signatures prevent unauthorized software to be downloaded to the module. Furthermore, encryption is used to prevent illicit copying.

## CompactCom 40-series

The B40 is part of the Anybus CompactCom 40-series — communication products in chip, brick and module formats. These are all built on the Anybus NP40 processor making them especially suitable for modern and demanding industrial applications.



## The brick:

- Software and hardware to make up a ready-made solution for network connectivity.
- Combines flexibility, performance and cost-efficiency.
- Based on the most reliable and secure programmable logic solution on the market.
- Equipped with the best network processor on the market according to independent analyst firm Frost & Sullivan.



## TECHNICAL SPECIFICATIONS

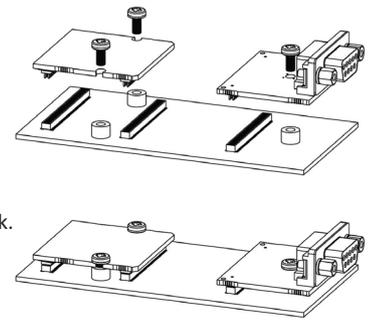
Technical Details: B40-1	
Dimensions	36 • 36 mm (Height = max 8 mm on host PCB)
RoHS Compliance	Yes
Application interfaces	Parallel Dual Port Ram (DPRAM): 8 and 16 bit data bus. High speed SPI. Shift register. Asynchronous serial interface with baud rate between 19.2 kbps - 625 kbps
Application drivers	Standard drivers available depending on host application requirements
Drive Profile support	On selected networks. (Also, the transparent channel makes it possible for users to build their own drive profiles)
Ethernet features	Transparent socket interface, integrated 2-port switch, IT functions (FTP server, E-mail, web server with SSI support)
Power consumption (including connector board and LEDs)	Ethernet versions: max 500 mA Fieldbus/Fiber versions: max 250 mA

Certifications (for the CompactCom 40 series)	
UL, cUL	Yes
Network conformance	Yes: Pre-certified for full fieldbus and Industrial Ethernet network conformance
CE - Declaration of Pre-Conformity	
Emission EN 61000-6-4	EN55016-2-3 Radiated emission EN55022 Conducted emission
Immunity EN 61000-6-2	EN61000-4-2 Electrostatic discharge EN61000-4-3 Radiated immunity EN61000-4-4 Fast transients/burst EN61000-4-5 Surge immunity EN61000-4-6 Conducted immunity
Environmental Characteristics	
Operating temp	-40 to 85 °C, -40-176 °F
Starter kit	
Available for the entire CompactCom 40-series (Chip, Brick and Module)	

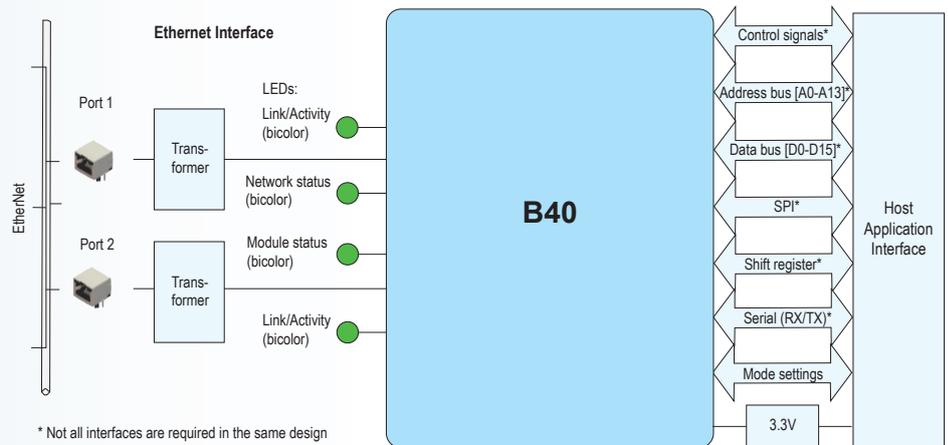
## Connector boards

The brick is mounted on the host PCB to enable communication with the chosen network. HMS offers connector boards for all supported networks to facilitate your design.

By switching to another connector board, you can get connected to other networks using the same Anybus Brick.



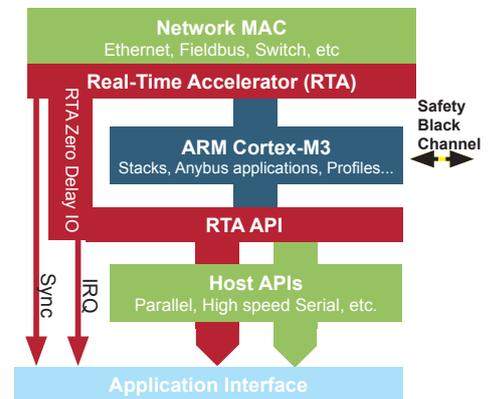
## B40 Ethernet 2-Port Block Diagram



## Real-Time-Accelerator for best-in-class latency

The NP40 network processor integrates HMS unique IP to provide best-in-class latency and deterministic real-time for demanding industrial applications like motion control. The Real-Time Accelerator (RTA) works on several levels from "on-the-fly" protocol pre-processing on the network controller level to a zero delay API which guarantees instant access to network control data.

The configurable RTA interrupt with several network event indications provides the means for an optimized integration with the host application.



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