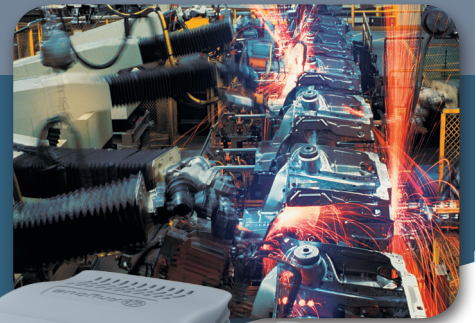


# CompactCom™ M40 for PROFINET

The Anybus CompactCom M40 for PROFINET is a complete communication module which enables your products to communicate on a PROFINET IRT network. The module supports very fast communication speeds, making it suitable also for high-end industrial devices.

By implementing the CompactCom concept into your product line, you will have instant access to any other industrial network by simply plugging in another Anybus module.



## Why worry about networking?

Once you have implemented the Anybus CompactCom concept, you don't have to worry about network upgrades or certifications. HMS takes care of the network maintenance, so you can focus on your products.

## If you need fast PROFINET communication

The Anybus CompactCom M40 enables very fast communication between your device and PROFINET IRT (process data latency is less than 15µs through the module). The module supports PROFINET RT Class 1 and 3 and comes with a PROFINET IRT Ethernet switch implemented in the module's processor (the Anybus NP40).

The CompactCom M40 is available in two different versions — one for fiber optics and one for copper cabling. Both versions include support for PROFIenergy, Media Redundancy Protocol, Synchronization and Fast Start Up.

Besides all standard Ethernet communication, M40 also provides isochronous real time connectivity for high-end applications like coordinated motion control.

## Features and benefits

- A complete, interchangeable communication module with connectors.
- Short in-design with free assistance from HMS ensures a fast time to market.
- Pre-certified for network compliance (enables faster network certification).
- Fast data transfer: up to 1440 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.
- One hardware platform for all Ethernet versions. Simply download new firmware to enable communication with another network such as EtherNet/IP or EtherCAT.
- Firmware management tool enables easy download via FTP or serial connection.
- Extended flash-based file system with two-disc access (internal and external).
- Support for PROFI-safe (via the black channel to the IXXAT Safe T100 Module).
- 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 M40 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.



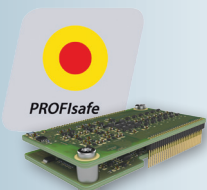
## Innovative mounting

The Anybus module plugs into a CompactFlash™ connector which is integrated onto the host PCB. HMS offers a CompactFlash connector specifically tailored for the CompactCom module.



## Best-in-class processor

The M40 is equipped with the best network processor on the market according to independent analyst firm Frost & Sullivan.

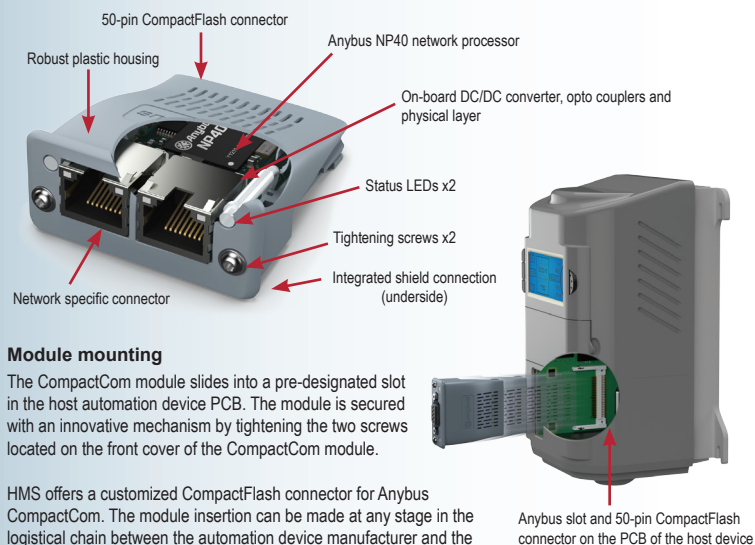


PROFI-safe connectivity via the IXXAT Safe T100.

# Technical specifications

Technical Details	
Dimensions (L • W • H)	52•50•22 mm, 2.04•1.97•0.86" 51•37•16 mm, 2.01•1.46•0.63" (modules without housing)
Protection class	IP20
RoHS Compliance	Yes
Galvanically isolated network interface	Yes
Application interfaces	- 8/16-bit parallel (30 ns access) - High speed SPI, baudrate configurable up to 20 MHz - I/O (shift register interface, cyclical update time 82 µs) - UART (for backwards compatibility with 30-series, max 625kbps)
Profile support	I/O, Drives, Energy, Safety (black channel)
Ethernet features	- Transparent socket interface (40-series technology enables higher throughput) - Support of HTTP forwarding via socket interface - Integrated 2-port switch - IT functions (FTP server, E-mail client, web server with SSI support)
Internal file system size	Configurable up to 28 MB. Two discs are available: One internal (28 MB capacity), and one reserved for accessing the application file system (capacity determined by application).
LED indicator	Integrated on front (with housing), via application interface (without housing). Indicates Module Status, Network Status.
Certifications	
UL, cUL	Yes
Network conformance	Yes
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.
Electrical Characteristics	
Power requirements	3.3 VDC, +/- 0.15 VDC
Environmental Characteristics	
Operating temp	-40 to 70 °C, -40-158 °F -40 to 85 °C, -40-176 °F (modules without housing)
Humidity	5-95 % non-condensing

PROFINET-specific technical highlights	
Conformance Class A, B and C	
PROFINET IRT switch implemented in the network processor (NP40)	
Copper and fiber optic interfaces (Plastic Optic Fiber support by AVAGO QFBR-5978AZ transceiver)	
Isochronous realtime communication (According to PROFINET spec. 2.3)	
PROFIsafe Black channel support	
PROFenergy version 1.1 standard	
PROFINET application and profile support: <ul style="list-style-type: none"> <li>I/O profile</li> <li>PROFenergy</li> <li>Clock-synchronous operation</li> </ul>	
Transparent data pass-through enables drive profile implementation	
Dual port Ethernet	
100 Mbit/s Full Duplex	
Real-time Ethernet	
Customized identity information	
FSU (fast start up) with start-up time below 500ms	
MRP (Media Redundancy Protocol) as a client	
POF Line diagnostic support	

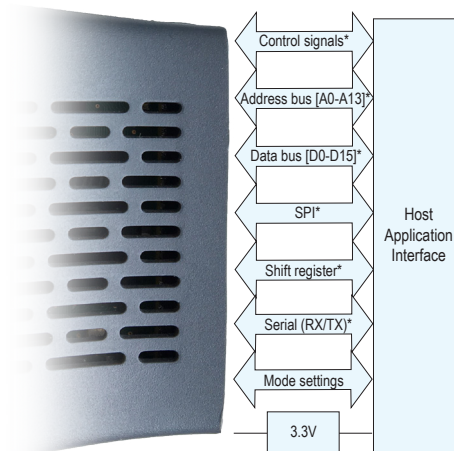


## Module mounting

The CompactCom module slides into a pre-designated slot in the host automation device PCB. The module is secured with an innovative mechanism by tightening the two screws located on the front cover of the CompactCom module.

HMS offers a customized CompactFlash connector for Anybus CompactCom. The module insertion can be made at any stage in the logistical chain between the automation device manufacturer and the end customer. CompactCom slot cover available on request from HMS.

## Block diagram



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