Anybus®

CompactCom™ M40 for Modbus®-TCP

The Anybus CompactCom M40 for Modbus-TCP is a complete communication module which enables your products to communicate on a Modbus-TCP network.

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.

If you need fast Modbus-TCP communication

The Anybus CompactCom M40 enables fast communication between your device and Modbus-TCP. The module supports generic device profiles and comes with a dual port switch implemented in the network processor — the Anybus NP40.

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 1536 bytes of process data in each direction.
  - Up to 1536 bytes of explicit messaging
- Very low latency <300µs.
- Event-based interface method enables easy access to 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.
- Firmware management tool enables easy download via FTP or serial connection.
- Extended flash-based file system with two-disc access (internal and external).
- Socket interface handling the complete Ethernet frame (support for 20 socket connections).
- 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

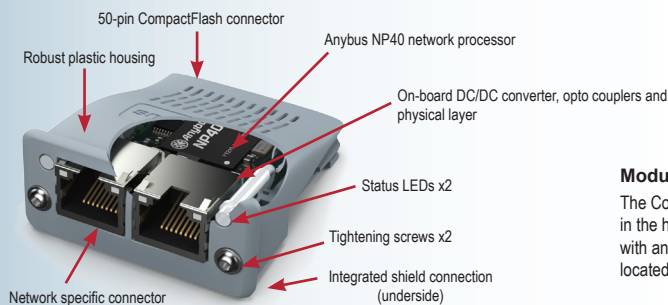The M40 is equipped with the best network processor on the market according to independent analyst firm Frost & Sullivan.

Technical specifications

Technical Details

Dimensions (L • W • H)	52•50•22 mm, 2.04•1.97•0.86" 51•37•16 mm, 2.01•4.46•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	Generic device
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 and Network Status.

Certifications

UL, cUL	Yes
Network conformance	Yes (Interoperability tested)

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

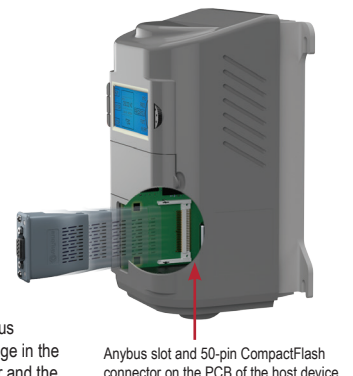|	
Operating temp	-40 to 70 ℃, -40-158 ºF -40 to 85 ℃, -40-176 ºF (modules without housing)
Humidity	5-95 % non-condensing

Modbus-TCP-specific features

Modbus-TCP server/slave

Dual port cut-through switch implemented in the Anybus NP40 network processor

Dual-port Ethernet

10/100 Mbit, full/half duplex

Web server w. customizable content

Customizable Identity Information

Supported Modbus-TCP function codes:

01	Read coils
02	Read discrete inputs
03	Read holding registers
04	Read input registers
05	Write single coil
06	Write single register
15	Write multiple coils
16	Write multiple registers
23	Read/write multiple registers
43/14	Read device identification

SE-V3.0
Modbus ORGANIZATION
CONFORMANCE TESTED

50-pin CompactFlash connector
Robust plastic housing
Anybus NP40 network processor
On-board DC/DC converter, opto couplers and physical layer
Status LEDs x2
Tightening screws x2
Network specific connector
Integrated shield connection (underside)

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.

Anybus slot and 50-pin CompactFlash connector on the PCB of the host device

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