Connectivity Solutions for Rockwell Automation

Fieldbus and Ethernet gateways - Embedded connectivity

Remote management - Remote PLC access - CAN Interfaces and gateways
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Our brands

Multi-network connectivity within fieldbus and industrial Ethernet
Anybus gateways and embedded interfaces connect automation devices such as drives, robot controllers and PLCs to any industrial network. This widens the market for device manufacturers and system integrators and substantially reduces costs for network connectivity.

IXXAT solutions are especially tailored for communication within machines, safety systems and the automotive sector. The IXXAT offering includes both products and services needed to solve advanced communication issues.

Remote Management of industrial equipment
Netbiter is a complete solution for remote management enabling supervision and control of field equipment from any location. The effects are substantially lower maintenance costs, less travelling, and better control.

Flexible solutions for your industrial market
The industrial design of Anybus gateways matches all industrial networking needs, regardless of industrial market.

Automotive, factory automation, building automation, food and beverage, mining, oil and gas, water treatment and marine are just some of the industrial segments where Anybus gateways are used in conjunction with many Rockwell Automation customer applications today.
Anybus®
Gateways
Solving connectivity problems on the factory floor

ANYBUS X-GATEWAY™
Network-to-network connectivity

1. Extend a production line
   Extend an existing production segment by connecting new machines that communicate on other networks.

2. Upgrade to industrial Ethernet
   The easy way to migrate from fieldbus to industrial Ethernet. Retrofit an old PLC system, and connect it to a newer system, keeping existing I/O modules and wiring infrastructure.

3. Make PLCs talk to each other
   Connect Rockwell PLC systems to PLCs from Siemens, Rockwell, Schneider, Mitsubishi, Beckhoff, ABB etc.

4. Create network segments
   Divide a network topology into logical segments. Create clear cuts between different parts of the plant, both logical and electrical.

5. Connect enterprise systems
   Integrate factory floor data with enterprise level systems such as SCADA, SAP, OPC etc.

6. Connect any industrial device
   Anybus Communicator enables you to connect any device to fieldbus or industrial Ethernet networks.

   If you are system integrator or plant owner, you can choose the best automation device for your needs, regardless of manufacturer.

   If you are a machine builder or device manufacturer, you can make your machines compatible with any network — the fastest and easiest way to enter a new market.

7. Connect devices wirelessly
   Create a robust wireless connection to an industrial device via WLAN or Bluetooth. Ideal for communication through hazardous areas or hard-to-reach locations where cables are not desirable.

---

Anybus Configuration Manager: Connect. Configure. Done!

No matter which gateway you choose, you configure the network connection in the easy-to-use Anybus Configuration Manager. Simply connect the gateway via USB or Ethernet, create the configuration and you’re done!

Markus Bladh
Product Manager, Gateways

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One gateway family — any network
Anybus Communicator™ - Protocol converter gateways

**Anybus Communicator RTU**

Converting from Modbus RTU protocols to ControlNet, DeviceNet and EtherNet/IP

With the Anybus Communicator RTU you can connect a non-networked device to any major fieldbus or industrial Ethernet network. The Communicator handles the complete Modbus RTU serial protocol without the need for extensive PLC function blocks.

The Communicator RTU has a selectable serial RS-232/422/485 interface making it possible to connect one or multiple devices using just one Communicator. This compact gateway consumes very little space in a cabinet and is easily mounted on a standard DIN rail.

**Features and benefits**
- When converting the Modbus RTU protocol, the Communicator acts as Master on the serial network
- Prefixed 6-step Modbus RTU configuration wizard
- Enables any automation device with a serial RS-232-422/485 Modbus RTU Slave interface to participate on a network
- No hardware or software changes are required for the connected automation device
- Compatible with all Allen Bradley and Guard PLCs
- Complete protocol conversion performed by the Communicator, no PLC function blocks required
- Load function means a completed configuration can be reused for many other installations
- CE, UL, and Hacpac certifications
- Global free technical support and consultancy
- Configuration video available on www.anybus.com

Using the Rockwell Automation Integrated Architecture Builder (IAS), engineers can integrate the Communicator making it easy to include in your network system design.

**Network specific features**
- 1 = Network connector, 2 = Baud rate, 3 = I/O data, 4 = Other
- ControlNet
  - 1 = 10/100/1000 Base-T
  - 2 = 25-50 Mbit/s
  - 3 = 125-500 Kbit/s
  - 4 = 125-1000 Kbit/s
- DeviceNet
  - 1 = DF1
  - 2 = 500-900 bytes
  - 3 = 125-500 Kbit/s
  - 4 = 125-1000 Kbit/s
- EtherNet/IP
  - 1 = 9,504 bytes
  - 2 = 10/100 Mbit/s
  - 3 = 10/100/1000 Mbit/s
- EtherCAT
  - 1 = DF1
  - 2 = 10/100 Mbit/s
- Optional accessories
  - USB-8323 configuration adapter
    - Part No: 019970

**Order information**
- Network: PartNo:
  - ControlNet: AB7006
  - DeviceNet: AB7001
  - EtherNet/IP 2-port: AB7072

*See page 55 for mechanical and technical specifications*

**Optional accessories**
- USB-8323 configuration adapter
  - Part No: 019970

**Anybus Communicator DF1**

Converting from DF1 protocols to ControlNet, DeviceNet and EtherNet/IP

The Communicator DF1 is used to enable non-networked automation devices to participate on DeviceNet, ControlNet and EtherNet/IP.

With its selectable serial RS-232/422/485 interface, the Communicator converts the DF1 protocol and enables devices such as Rockwell Automation Allen Bradley PLC-5 and SLC-500 among others, to participate on the network without the need for extensive PLC function blocks.

**Features and benefits**
- When converting the DF1 protocol the Communicator acts as a DF1 Half Duplex Master on the serial network
- Enables any automation device with a serial RS-232-422/485 DF1 interface to participate on a network
- No hardware or software changes are required for the connected automation device
- Compatible with all Allen Bradley and Guard PLCs
- Complete protocol conversion performed by the Communicator, no PLC function blocks required
- Load function means a completed configuration can be reused for many other installations
- CE, UL, and Hacpac certifications
- Global free technical support and consultancy
- Configuration video available on www.anybus.com

Using the Rockwell Automation Integrated Architecture Builder (IAS), engineers can integrate the Communicator making it easy to include in your network system design.

**Network specific features**
- 1 = Network connector, 2 = Baud rate, 3 = I/O data, 4 = Other
- ControlNet
  - 1 = 10/100/1000 Base-T
  - 2 = 25-50 Mbit/s
  - 3 = 125-500 Kbit/s
  - 4 = 125-1000 Kbit/s
- DeviceNet
  - 1 = DF1
  - 2 = 500-900 bytes
  - 3 = 125-500 Kbit/s
  - 4 = 125-1000 Kbit/s
- EtherNet/IP
  - 1 = DF1
  - 2 = 10/100 Mbit/s
  - 3 = 125-1000 Kbit/s
- EtherCAT
  - 1 = DF1
  - 2 = 10/100 Mbit/s
- Optional accessories
  - USB-8323 configuration adapter
    - Part No: 019970

**Order information**
- Network: PartNo:
  - ControlNet: AB7006
  - DeviceNet: AB7001
  - EtherNet/IP 2-port: AB7072

*See page 55 for mechanical and technical specifications*

**Optional accessories**
- USB-8323 configuration adapter
  - Part No: 019970
**Anybus Communicator RS-232/422/485**

Converting from RS-232/422/485 protocols to ControlNet, DeviceNet and EtherNet/IP

With the Anybus Communicator RS-232/422/485 you can connect your non-networked device to any major fieldbus or industrial Ethernet network. The Communicator handles the complete serial protocol without the need for extensive PLC function blocks. It supports RS-232/422/485 making it possible to connect one or multiple devices using one Communicator. This compact gateway consumes very little space in a switching cabinet and is easily mounted on a standard DIN rail.

**When to use**
Integrate non-networked devices and machines using a configurable serial RS-232/422/485 interface to a DeviceNet/ControlNet or EtherNet/IP PLC control system.

**Protocol configuration**
For industrial devices with a serial RS-232/422/485 interface, HMS makes it possible to configure almost any Produc/Consume, Request/Response or simple ASCII protocols with its flexible serial frame building method.

**Did you know?**
Using the Anybus Communicator together with the HMS M-Bus converter allows data from measuring devices onto DeviceNet, ControlNet or EtherNet/IP.

M-Bus (Meter-Bus) is a standard for remote reading of measuring devices. It is predominately used in buildings, for example in electricity meters, gas meters, water meters or other types of consumption meters.

**Optional accessories**
USB-85232 configuration adapter
Part No: 031970

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**Anybus Communicator CAN**

Converting from CAN-based protocols to ControlNet, DeviceNet and EtherNet/IP

The Anybus Communicator CAN allows almost any CAN device supporting an 11-bit or 29-bit identifier to be easily integrated into a Rockwell Automation control system. The Anybus Communicator CAN performs an intelligent conversion between a CAN-based protocol of an automation device and the chosen DeviceNet, ControlNet or EtherNet/IP network. The Communicator CAN is a compact gateway that consumes very little space in a switching cabinet and is easily mounted onto a standard DIN rail.

**When to use**
Generic CAN has traditionally been used with sensors, barcode readers and drivers within the European car manufacturing industry.

Many of these devices have fieldbus support for PROFIBUS or CANopen. In addition they also have a generic CAN port. Through this port these devices can be integrated with a DeviceNet/ControlNet or EtherNet/IP PLC control system.

**Protocol configuration**
Converting CAN-based protocols can be quite tricky. With the Anybus Configuration Manager CAN, HMS provides you with a flexible and easy-to-use CAN frame building environment with several built-in CAN functions.

The configuration manager allows for a mixture of both Query/Response and/or Produce/Consume protocols to be configured.

**Did you know?**
With Anybus Communicator CAN it is possible to configure the CAN protocol SAE J1939. J1939 is often used in the marine industry.

**Network specific features**
- 1 = Network connector
- 2 = Baud rate
- 3 = I/O data
- 4 = Other

**Order information**
Network: Part No:
ControlNet: AB7006
DeviceNet: AB7001
EtherNet/IP 2-port: AB7072

*See page 55 for mechanical and technical specifications

**Optional accessories**
USB-85232 configuration adapter
Part No: 031970
The X-gateway consists of two communication interfaces. The first interface provider Scanner functionality controlling up to 63 DeviceNet and EtherNet/IP adapters. The second Adapter/Slave interface can support any one of 12 other industrial networks.

When to use: Integrating Rockwell Automation devices (eg. drives) on DeviceNet or EtherNet/IP to another network and PLC system.

Utilizing the Scanner interface on the X-gateway means a Rockwell Automation PLC and RSNetworks is not required. This can be of benefit when retro-fitting an existing (non-CIP) installation with Rockwell Automation devices.

Order information: DeviceNet/EP Adapter setup via an on-board web interface and DeviceNet Adapter setup via the included NetTool-DN config tool.

Configuration: EtherNet/IP Adapter setup via an on-board web interface and DeviceNet adapter. Part.No: 021370

Network specific features:
- CANopen-to-USB configuration adapter.
- CANopen Configuration Manager available for download at www.anybus.com
- *See page 55 for mechanical and technical specifications

Using the Rockwell Automation Integrated Architecture Builder (IAB), engineers can integrate the X-gateway making it easy to include in your network system design.

The X-gateway CANopen Master to CANopen Slave connectivity to a Rockwell Automation PLC system

Using the Rockwell Automation Integrated Architecture Builder (IAB), engineers can integrate the X-gateway making it easy to include in your network system design.

When to use: Integrating Rockwell Automation devices to other PLC systems with a CANopen network.

Coupling/Decoupling different parts of a machine or extending the physical network distance within an installation.

Order information: CANopen-to-USB configuration adapter. Part.No: 021370

Optional accessories: CANopen Configuration Manager available for download at www.anybus.com

The X-gateway consists of two communication interfaces. The first interface provides CANopen Master or Slave functionality. The second interface provides ControlNet, DeviceNet or EtherNet/IP Adapter functionality.

- Allows transparent transfer of I/O data between CANopen and another network
- CANopen master functionality allows connection of up to 12 CANopen Slaves
- Dual port Ethernet with switch functionality for EtherNet/IP with DLR support
- Ethernet versions with IT functions such as dynamic web server, supporting downloadable customer specific web pages
- CANopen MFT Master and Configuration Functionality
- DIN-rail mountable slimline plastic housing with Hiazco, ATEX and CE certifications

*See page 55 for mechanical and technical specifications

Using the Rockwell Automation Integrated Architecture Builder (IAB), engineers can integrate the X-gateway making it easy to include in your network system design.
Connecting a Modbus-TCP network to a Rockwell Automation PLC system

The Anybus X-gateway Modbus-TCP series is bridges between a Modbus-TCP network and a Rockwell Automation PLC system with ControlNet, DeviceNet or EtherNet/IP.

Configuration

Configuration is made over Ethernet via a built-in web page. It is used to configure TCP/IP settings, Modbus TCP client configuration and I/O data register mapping between Modbus-TCP and the chosen CIP network.

Tech tip

The X-gateway is equipped with a SD memory card slot for backup, configuration and Easy Replacement™.

Network specific features

<table>
<thead>
<tr>
<th>1 = Network connector</th>
<th>2 = Baud rate</th>
<th>3 = I/O data</th>
<th>4 = Other</th>
<th>5 = Amount of slaves / adapters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modbus-TCP</td>
<td>1 = TCP/IP</td>
<td>2 = 10/100 Mbit/s</td>
<td>3 = 256 byte IN/OUT</td>
<td>4 = Modbus TCP function:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Data:</td>
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<tr>
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</table>

Order information

Network: Part No: A89003
DeviceNet: A89002
EtherNet/IP 3-Port: A89006

Accessories

SD memory card, industrial grade
Part No: 021530

The X-gateway consists of two communication interfaces. The first interface provides Modbus-TCP Client (Master) functionality controlling up to 126 Modbus-TCP Slaves. The second interface provides ControlNet, DeviceNet or EtherNet/IP Adapter functionality.

- Allows for fast transparent transfer of I/O data between two networks
- High performance and short throughput delay, approximately 5 ms
- SD memory card slot for backup, configuration and Easy Replacement™
- Dual port switched Ethernet allows easy chaining on the Modbus-TCP and EtherNet/IP network
- Robust design for optimized cabling, DIN-rail or wall mount options
- Easy web-based configuration tool. No programming or scripting required
- Live list which provides information to the uplink PLC about the status of connected Modbus-TCP server devices and configured transactions

Using the Rockwell Automation Integrated Architecture Builder (IAB), engineers can integrate the X-gateway making it easy to include in your network system design.

Connecting a PROFIBUS network to a Rockwell Automation PLC system

The Anybus X-gateway PROFIBUS Master to ControlNet, DeviceNet and EtherNet/IP is a bridge between a PROFIBUS network and a Rockwell Automation PLC system with ControlNet, DeviceNet or EtherNet/IP.

Configuration

PROFIBUS configuration is defined with NetTool-PB, a Windows based configuration software for PROFIBUS. HMS NetTool-PB is included free of charge with all CIP versions using a PROFIBUS Master.

Tech tip

The X-gateway is equipped with a powerful PROFIBUS DP-V1 Master interface. No additional PROFIBUS PLC or software is required.

Network specific features

<table>
<thead>
<tr>
<th>1 = Network connector</th>
<th>2 = Baud rate</th>
<th>3 = I/O data</th>
<th>4 = Other</th>
<th>5 = Amount of slaves / adapters</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROFIBUS</td>
<td>1 = TCP/IP</td>
<td>2 = 10/100 Mbit/s</td>
<td>3 = 256 byte IN/OUT</td>
<td>4 = PROFIBUS function:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Data:</td>
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</tbody>
</table>

Order information

Network: Part No: A87800
DeviceNet: A87802
EtherNet/IP: A87800

Optional accessories

USB RS232/485 configuration adapter
Part No: 019970

The X-gateway consists of two communication interfaces. The first interface provides PROFIBUS DP-V1 Master functionality controlling up to 125 PROFIBUS Slaves. The second interface, ControlNet, DeviceNet or EtherNet/IP Adapter functionality.

- An easy way to transmit I/O data between a PROFIBUS network and ControlNet, DeviceNet or EtherNet/IP
- Allows for cyclic I/O data exchange between networks
- Fast I/O data transfer with average timing between networks: 10-55 ms
- Additional parameter data supported (depending on network combination)
- Optional control and status information added to the I/O data for diagnostic purposes
- Included Anybus OPC server for extended functionality available with the EtherNet/IP version
- Robust stand-alone metal housing with CE / UL certifications

Using the Rockwell Automation Integrated Architecture Builder (IAB), engineers can integrate the X-gateway making it easy to include in your network system design.
Anybus X-gateway CANopen Slave to ControlNet, DeviceNet and EtherNet/IP

Connecting a CANopen network to a Rockwell Automation PLC system

This Anybus X-gateway is a bridge between a CANopen network and a Rockwell Automation PLC system with ControlNet, DeviceNet or EtherNet/IP. The X-gateway copies cyclic I/O data in both directions enabling data exchange between networks. This ensures a consistent information flow throughout the entire plant.

Configuration

The included Anybus Configuration Manager X-gateway allows you to define the I/O data sizes on each network side and to define the data mapping and separation between cyclic I/O data and parameter data.

Order information

<table>
<thead>
<tr>
<th>Network</th>
<th>Part No:</th>
<th>USB-RS232 configuration adapter Part No:</th>
</tr>
</thead>
<tbody>
<tr>
<td>ControlNet</td>
<td>A87686</td>
<td>019570</td>
</tr>
<tr>
<td>DeviceNet</td>
<td>A87687</td>
<td>019570</td>
</tr>
<tr>
<td>EtherNet/IP</td>
<td>A87688</td>
<td>019570</td>
</tr>
</tbody>
</table>

Optional accessories

USB-RS232 configuration adapter

Part No: 019570

The X-gateway consists of two communication interfaces. The first interface provides CANopen Slave functionality. The second interface provides ControlNet, DeviceNet or EtherNet/IP Adapter functionality.

- An easy way to transmit I/O data between a CANopen network and ControlNet, DeviceNet or EtherNet/IP
- Allows for cyclic I/O data exchange between networks
- Fast I/O data transfer with average timing between networks: 10-15 ms
- CANopen PDO and SDO data objects supported
- Optional control and status information added to the I/O data for diagnostic purposes
- Included Anybus OPC server for extended functionality available with the EtherNet/IP version
- EtherNet/IP version with IT functions such as dynamic web server, supporting downloadable customer specific web pages
- Robust stand-alone metal housing with CE and ULc certifications

Using the Rockwell Automation Integrated Architecture Builder (IAB), engineers can integrate the X-gateway making it easy to include in your network system design.

<table>
<thead>
<tr>
<th>Network specific features</th>
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</thead>
<tbody>
<tr>
<td>CANopen</td>
</tr>
<tr>
<td>1 = Network connector, 2 = Baud rate, 3 = I/O data, 4 = Other</td>
</tr>
<tr>
<td>Network specific features</td>
</tr>
<tr>
<td>---------------------------</td>
</tr>
<tr>
<td>ControlNet</td>
</tr>
<tr>
<td>1 = 2-MC/CO, 2 = I/O data, 3 = 400, 4 = Other</td>
</tr>
<tr>
<td>DeviceNet</td>
</tr>
<tr>
<td>1 = 512 byte IN/OUT, 2 = 128 byte IN/OUT, 3 = 450 byte IN/OUT, 4 = Other</td>
</tr>
<tr>
<td>EtherNet/IP</td>
</tr>
<tr>
<td>1 = 512 byte IN/OUT, 2 = 10 Kbits to 1 Mbit/s, 3 = 512 byte IN/OUT, 4 = 512 byte IN/OUT</td>
</tr>
</tbody>
</table>

*See page 55 for mechanical and technical specifications

Anybus X-gateway CC-Link Slave to ControlNet, DeviceNet and EtherNet/IP

Connecting a CC-Link network to a Rockwell Automation PLC system

This Anybus X-gateway is a bridge between a CC-Link network and a Rockwell Automation PLC system with ControlNet, DeviceNet or EtherNet/IP. The X-gateway copies cyclic I/O data in both directions enabling data exchange between networks. This ensures a consistent information flow throughout the entire plant.

Configuration

The included Anybus Configuration Manager X-gateway allows you to define the I/O data sizes on each network side and to define the data mapping and separation between cyclic I/O data and parameter data.

Order information

<table>
<thead>
<tr>
<th>Network</th>
<th>Part No:</th>
</tr>
</thead>
<tbody>
<tr>
<td>ControlNet</td>
<td>A87671</td>
</tr>
<tr>
<td>DeviceNet</td>
<td>A87662</td>
</tr>
<tr>
<td>EtherNet/IP</td>
<td>A87641</td>
</tr>
</tbody>
</table>

Optional accessories

USB-RS232 configuration adapter

Part No: 019570

The X-gateway consists of two communication interfaces. The first interface provides CC-Link Slave functionality. The second interface provides ControlNet, DeviceNet or EtherNet/IP Adapter functionality.

- An easy way to transmit I/O data between a CC-Link network and ControlNet, DeviceNet or EtherNet/IP
- Allows for cyclic I/O data exchange between networks
- Fast I/O data transfer with average timing between networks: 10-15 ms
- Optional control and status information added to the I/O data for diagnostic purposes
- Uses the CC-Link PLC profile for data exchange
- Included Anybus OPC server for extended functionality available with the EtherNet/IP version
- EtherNet/IP version with IT functions such as dynamic web server, supporting downloadable customer specific web pages
- Robust stand-alone metal housing with CE and ULc certifications

Using the Rockwell Automation Integrated Architecture Builder (IAB), engineers can integrate the X-gateway making it easy to include in your network system design.

<table>
<thead>
<tr>
<th>Network specific features</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC-Link</td>
</tr>
<tr>
<td>1 = Network connector, 2 = Baud rate, 3 = I/O data, 4 = Other</td>
</tr>
<tr>
<td>Network specific features</td>
</tr>
<tr>
<td>---------------------------</td>
</tr>
<tr>
<td>ControlNet</td>
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<tr>
<td>1 = 2-MC/CO, 2 = I/O data, 3 = 400, 4 = Other</td>
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<tr>
<td>1 = 512 byte IN/OUT, 2 = 128 byte IN/OUT, 3 = 450 byte IN/OUT, 4 = Other</td>
</tr>
<tr>
<td>EtherNet/IP</td>
</tr>
<tr>
<td>1 = 512 byte IN/OUT, 2 = 10 Kbits to 1 Mbit/s, 3 = 512 byte IN/OUT, 4 = 5 Mbit/s, 5 = Other</td>
</tr>
</tbody>
</table>

*See page 55 for mechanical and technical specifications
Anybus X-gateway® - Network to network gateways

Connecting a ControlNet network to any other fieldbus or Industrial Ethernet network

When to use
Integrating different fieldbuses and networks from similar or different vendors.

Order information
Order information is required within an installation.

Order information specifications
Network features
- Interconnects Rockwell Automation devices with a ControlNet interface to participate on other PLC systems and networks.

Network specific features
- ControlNet I/O data size and other network configurations can be made in various ways depending on the X-gateway version selected.

Network specific features specifications
- An easy way to transmit I/O data between a ControlNet network and any other industrial network
- Interconnects Rockwell PLC systems with other PLC types
- Fast I/O data transfer with average timing between networks: 10-15 ms (approx 5 ms Modbus-TCP Master versions)
- Included Anybus OPC server and IT functions such as web browser, e-mail and FTP client for versions supporting PROFINET and Modbus-TCP
- I/O data configuration via on-board interface or via the free and included Anybus Configuration Manager
- Get up-and-running quickly, no programming skills required
- Robust stand-alone metal housing with CE and UL certifications

When to use
Integrating different fieldbuses and networks from similar or different vendors.

Order information
Order information is required within an installation.

Order information specifications
Network features
- Interconnects Rockwell Automation devices with a DeviceNet interface to participate on other PLC systems and networks.

Network specific features
- ControlNet I/O data size and other network configurations can be made in various ways depending on the X-gateway version selected.

Network specific features specifications
- An easy way to transmit I/O data between a DeviceNet network and any other industrial network
- Interconnects Rockwell PLC systems with other PLC types
- Fast I/O data transfer with average timing between networks: 10-15 ms (approx 5 ms Modbus-TCP Master versions)
- Included Anybus OPC server and IT functions such as web browser, e-mail and FTP client for versions supporting PROFINET and Modbus-TCP
- I/O data configuration via on-board interface or via the free and included Anybus Configuration Manager
- Get up-and-running quickly, no programming skills required
- Robust stand-alone metal housing with CE and UL certifications

When to use
Integrating different fieldbuses and networks from similar or different vendors.

Order information
Order information is required within an installation.

Order information specifications
Network features
- Interconnects Rockwell Automation devices with a DeviceNet interface to participate on other PLC systems and networks.

Network specific features
- ControlNet I/O data size and other network configurations can be made in various ways depending on the X-gateway version selected.

Network specific features specifications
- An easy way to transmit I/O data between a DeviceNet network and any other industrial network
- Interconnects Rockwell PLC systems with other PLC types
- Fast I/O data transfer with average timing between networks: 10-15 ms (approx 5 ms Modbus-TCP Master versions)
- Included Anybus OPC server and IT functions such as web browser, e-mail and FTP client for versions supporting PROFINET and Modbus-TCP
- I/O data configuration via on-board interface or via the free and included Anybus Configuration Manager
- Get up-and-running quickly, no programming skills required
- Robust stand-alone metal housing with CE and UL certifications

When to use
Integrating different fieldbuses and networks from similar or different vendors.

Order information
Order information is required within an installation.

Order information specifications
Network features
- Interconnects Rockwell Automation devices with a DeviceNet interface to participate on other PLC systems and networks.

Network specific features
- ControlNet I/O data size and other network configurations can be made in various ways depending on the X-gateway version selected.

Network specific features specifications
- An easy way to transmit I/O data between a DeviceNet network and any other industrial network
- Interconnects Rockwell PLC systems with other PLC types
- Fast I/O data transfer with average timing between networks: 10-15 ms (approx 5 ms Modbus-TCP Master versions)
- Included Anybus OPC server and IT functions such as web browser, e-mail and FTP client for versions supporting PROFINET and Modbus-TCP
- I/O data configuration via on-board interface or via the free and included Anybus Configuration Manager
- Get up-and-running quickly, no programming skills required
- Robust stand-alone metal housing with CE and UL certifications
**Anybus X-gateway™ - Network to network gateways**

### Connecting an EtherNet/IP Adapter to fieldbus and Industrial Ethernet network

This Anybus X-gateway is a bridge between an EtherNet/IP network and any other network from another PLC vendor. X-gateways are designed for use in industrial automation plants where many different networks are used. They copy cyclic I/O data in both directions, enabling a consistent information flow throughout the entire plant.

**When to use**
- Interconnecting PLC systems and networks from similar or different vendors.
- Enabling older fieldbus network migration to the EtherNet/IP network.
- Coupling/Decoupling different parts of a machine or extending the physical network distance within an installation.

**Order information**

<table>
<thead>
<tr>
<th>Network</th>
<th>Part No</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS-Interface Master</td>
<td>A87820</td>
<td>CANopen, Modbus, PROFINET, EtherCAT and more.</td>
</tr>
<tr>
<td>CANopen Slave</td>
<td>A87306</td>
<td>EtherCAT and more.</td>
</tr>
<tr>
<td>Modbus TCP Master</td>
<td>A87006</td>
<td>EtherCAT and more.</td>
</tr>
<tr>
<td>PROFIBUS Master</td>
<td>A87000</td>
<td>EtherCAT and more.</td>
</tr>
<tr>
<td>CANopen Slave</td>
<td>A87388</td>
<td>EtherCAT and more.</td>
</tr>
<tr>
<td>CC-Link Slave</td>
<td>A87841</td>
<td>EtherCAT and more.</td>
</tr>
<tr>
<td>ControlNet Adapter</td>
<td>A87834</td>
<td>EtherCAT and more.</td>
</tr>
<tr>
<td>DeviceNet Adapter</td>
<td>A87833</td>
<td>EtherCAT and more.</td>
</tr>
<tr>
<td>EtherCAT Slave</td>
<td>A87686</td>
<td>EtherCAT and more.</td>
</tr>
<tr>
<td>Interbus Slave</td>
<td>A87396</td>
<td>EtherCAT and more.</td>
</tr>
<tr>
<td>Interbus Fiber Optic</td>
<td>A87377</td>
<td>EtherCAT and more.</td>
</tr>
<tr>
<td>11939</td>
<td>A87376</td>
<td>EtherCAT and more.</td>
</tr>
<tr>
<td>LonMark</td>
<td>A87842</td>
<td>EtherCAT and more.</td>
</tr>
<tr>
<td>Modbus Plus Slave</td>
<td>A87840</td>
<td>EtherCAT and more.</td>
</tr>
<tr>
<td>Modbus RTU Slave</td>
<td>A87389</td>
<td>EtherCAT and more.</td>
</tr>
<tr>
<td>Modbus TCP Slave</td>
<td>A87382</td>
<td>EtherCAT and more.</td>
</tr>
<tr>
<td>PROFIBUS Slave</td>
<td>A87382</td>
<td>EtherCAT and more.</td>
</tr>
<tr>
<td>PROFIBUS 10 Device</td>
<td>A87649</td>
<td>EtherCAT and more.</td>
</tr>
<tr>
<td>PROFIBUS RT Device</td>
<td>A87942</td>
<td>EtherCAT and more.</td>
</tr>
</tbody>
</table>

**Configuration**

EtherNet/IP I/O data size and other network configurations can be made in various ways depending on the X-gateway version selected.

**Network Features**

- An easy way to transmit I/O data between an EtherNet/IP network and any other industrial network.
- Intercovers Rockwell PLC systems with other PLC types.
- Fast I/O data transfer with average timing between networks: 10-15 ms (approx 5 ms with CANopen and Modbus-TCP Master versions).
- Includes Anybus OPC server for extended functionality.
- EtherNet/IP interface with IT functions such as dynamic web server, supporting downloadable customer web pages.
- I/O data configuration via on-board interface or via the free and included Anybus Configuration Manager.
- Get up-and-running quickly, no programming skills required.
- Robust stand-alone metal housing with CE and UL certifications.

**Optional accessories**

- USB-RS232 configuration adapter

---

**Anybus X-gateway EtherCAT Slave to ControlNet, DeviceNet and EtherNet/IP**

Connecting an EtherCAT network to a Rockwell Automation PLC system

This Anybus X-gateway is a bridge between an EtherCAT network and a Rockwell Automation PLC system with ControlNet, DeviceNet or EtherNet/IP.

**When to use**
- Integrating Rockwell Automation devices and PLC systems to EtherCAT installations.
- Coupling/Decoupling different parts of a machine or extending the physical network distance within an installation.

**Configuration**

The included Anybus Configuration Manager X-gateway allows you to define the I/O data sizes on each network side and to define the data mapping and separation between cyclic I/O data and parameter data.

**Order information**

<table>
<thead>
<tr>
<th>Network</th>
<th>Part No</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>ControlNet</td>
<td>A87847</td>
<td>EtherCAT and more.</td>
</tr>
<tr>
<td>DeviceNet</td>
<td>A87846</td>
<td>EtherCAT and more.</td>
</tr>
<tr>
<td>EtherNet/IP</td>
<td>A87842</td>
<td>EtherCAT and more.</td>
</tr>
</tbody>
</table>

**Network specific features**

- CANopen PDO and SDO data objects supported.
- Optional control and status information added to the I/O data for diagnostic purposes.
- Included Anybus OPC server for extended functionality with the EtherCAT version only.
- Robust stand-alone metal housing with CE and UL certifications.

---

**Example: EtherCAT Network**

**Example: Modbus RTU Network**

---

**Using the Rockwell Automation Integrated Architecture Builder (IAB), engineers can integrate the X-gateway making it easy to include in your network system design.**
**Anybus X-gateway J1939 network to EtherNet/IP**

**Connecting a CAN-based SAE J1939 protocol to a Rockwell Automation PLC system using EtherNet/IP**

This Anybus X-gateway is a bridge between the CAN-based SAE J1939 network and a Rockwell Automation PLC system with EtherNet/IP. The X-gateway copies cyclic I/O data in both directions enabling data exchange between networks. This ensures for a consistent information flow throughout the entire plant.

**When to use**

As a low-cost stand-alone gateway used on oil and gas equipment, marine vessels, locomotives, pumping stations, generators, engine test cells and other mobile and stationary equipment.

**Use to access engine parameters from a Programmable Logic Controller (PLC), HMI or PC and send data to the J1939 network for control and management.**

**Configuration**

**Configuration of the X-gateway J1939** is simple using the free and included Wireless™ based BWConfig software. It enables the setting up of an I/O table containing selected J1939 PGNs and the rate that each will be read or written from the J1939 network. BWConfig will then automatically map the I/O table to a range of addresses accessible from the X-gateway EtherNet/IP interface. The configuration is downloaded from the PC to the X-gateway via an RJ-232 connection and is saved in the Flash memory.

**Order information**

| Network: Part No: | EtherNet/IP | AB7665 |

**Network specific features**

- Network: Part No: EtherNet/IP AB7665

**Network specific features**

- Ethernet/IP Adapter functionality.
- Fast I/O data transfer with average timing between networks: 10-15 ms
- Transmission and reception of all types of J1939 messages: 125-500 kbit/s
- Support for Modbus RTU functions: 1, 2, 3, 4, 5, 6, 8, 15, 16, 23
- Modbus RTU Slave

**Did you know?**

- Anybus Communicator RTU with RTU Master functionality could be used instead if there is no existing Modbus RTU PLC Master within the installation.

**Configuration**

The included Anybus Configuration Manager X-gateway allows you to define the I/O data sizes on each network side and to define the data mapping and separation between cyclic I/O data and parameter data.

**Order information**

<table>
<thead>
<tr>
<th>Network: Part No:</th>
<th>ControlNet</th>
<th>AB7869</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part No:</td>
<td>DeviceNet</td>
<td>AB7860</td>
</tr>
<tr>
<td>Part No:</td>
<td>EtherNet/IP</td>
<td>AB7839</td>
</tr>
</tbody>
</table>

**Optional accessories**

USB RS-232 configuration adapter Part No: 019570

**When to use**

As a low-cost stand-alone gateway used on oil and gas equipment, marine vessels, locomotives, pumping stations, generators, engine test cells and other mobile and stationary equipment.

**Use to access engine parameters from a Programmable Logic Controller (PLC), HMI or PC and send data to the J1939 network for control and management.**

**Configuration**

**Configuration of the X-gateway J1939** is simple using the free and included Wireless™ based BWConfig software. It enables the setting up of an I/O table containing selected J1939 PGNs and the rate that each will be read or written from the J1939 network. BWConfig will then automatically map the I/O table to a range of addresses accessible from the X-gateway EtherNet/IP interface. The configuration is downloaded from the PC to the X-gateway via an RJ-232 connection and is saved in the Flash memory.

**Order information**

| Network: Part No: | EtherNet/IP | AB7665 |

**Network specific features**

- Ethernet/IP Adapter functionality.
- Fast I/O data transfer with average timing between networks: 10-15 ms
- Transmission and reception of all types of J1939 messages: 125-500 kbit/s
- Support for Modbus RTU functions: 1, 2, 3, 4, 5, 6, 8, 15, 16, 23
- Modbus RTU Slave

**Did you know?**

- Anybus Communicator RTU with RTU Master functionality could be used instead if there is no existing Modbus RTU PLC Master within the installation.

**Configuration**

The included Anybus Configuration Manager X-gateway allows you to define the I/O data sizes on each network side and to define the data mapping and separation between cyclic I/O data and parameter data.

**Order information**

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<tr>
<td>Part No:</td>
<td>EtherNet/IP</td>
<td>AB7839</td>
</tr>
</tbody>
</table>

**Optional accessories**

USB RS-232 configuration adapter Part No: 019570

**When to use**

As a low-cost stand-alone gateway used on oil and gas equipment, marine vessels, locomotives, pumping stations, generators, engine test cells and other mobile and stationary equipment.

**Use to access engine parameters from a Programmable Logic Controller (PLC), HMI or PC and send data to the J1939 network for control and management.**

**Configuration**

**Configuration of the X-gateway J1939** is simple using the free and included Wireless™ based BWConfig software. It enables the setting up of an I/O table containing selected J1939 PGNs and the rate that each will be read or written from the J1939 network. BWConfig will then automatically map the I/O table to a range of addresses accessible from the X-gateway EtherNet/IP interface. The configuration is downloaded from the PC to the X-gateway via an RJ-232 connection and is saved in the Flash memory.

**Order information**

| Network: Part No: | EtherNet/IP | AB7665 |

**Network specific features**

- Ethernet/IP Adapter functionality.
- Fast I/O data transfer with average timing between networks: 10-15 ms
- Transmission and reception of all types of J1939 messages: 125-500 kbit/s
- Support for Modbus RTU functions: 1, 2, 3, 4, 5, 6, 8, 15, 16, 23
- Modbus RTU Slave

**Did you know?**

- Anybus Communicator RTU with RTU Master functionality could be used instead if there is no existing Modbus RTU PLC Master within the installation.

**Configuration**

The included Anybus Configuration Manager X-gateway allows you to define the I/O data sizes on each network side and to define the data mapping and separation between cyclic I/O data and parameter data.

**Order information**

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<tr>
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</tr>
<tr>
<td>Part No:</td>
<td>EtherNet/IP</td>
<td>AB7839</td>
</tr>
</tbody>
</table>

**Optional accessories**

USB RS-232 configuration adapter Part No: 019570

**When to use**

As a low-cost stand-alone gateway used on oil and gas equipment, marine vessels, locomotives, pumping stations, generators, engine test cells and other mobile and stationary equipment.

**Use to access engine parameters from a Programmable Logic Controller (PLC), HMI or PC and send data to the J1939 network for control and management.**

**Configuration**

**Configuration of the X-gateway J1939** is simple using the free and included Wireless™ based BWConfig software. It enables the setting up of an I/O table containing selected J1939 PGNs and the rate that each will be read or written from the J1939 network. BWConfig will then automatically map the I/O table to a range of addresses accessible from the X-gateway EtherNet/IP interface. The configuration is downloaded from the PC to the X-gateway via an RJ-232 connection and is saved in the Flash memory.

**Order information**

| Network: Part No: | EtherNet/IP | AB7665 |

**Network specific features**

- Ethernet/IP Adapter functionality.
- Fast I/O data transfer with average timing between networks: 10-15 ms
- Transmission and reception of all types of J1939 messages: 125-500 kbit/s
- Support for Modbus RTU functions: 1, 2, 3, 4, 5, 6, 8, 15, 16, 23
- Modbus RTU Slave

**Did you know?**

- Anybus Communicator RTU with RTU Master functionality could be used instead if there is no existing Modbus RTU PLC Master within the installation.

**Configuration**

The included Anybus Configuration Manager X-gateway allows you to define the I/O data sizes on each network side and to define the data mapping and separation between cyclic I/O data and parameter data.

**Order information**

<table>
<thead>
<tr>
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<th>ControlNet</th>
<th>AB7869</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part No:</td>
<td>DeviceNet</td>
<td>AB7860</td>
</tr>
<tr>
<td>Part No:</td>
<td>EtherNet/IP</td>
<td>AB7839</td>
</tr>
</tbody>
</table>

**Optional accessories**

USB RS-232 configuration adapter Part No: 019570
Anybus® X-gateway™ - Network to network gateways

Connecting a Modbus-TCP network to a Rockwell Automation PLC system

This Anybus X-gateway is a bridge between a Modbus-TCP network and a Rockwell Automation PLC system with ControlNet, DeviceNet or EtherNet/IP.

The X-gateway copies cyclic I/O data in both directions enabling data exchange between networks. This ensures for a consistent information flow throughout the entire plant.

When to use
Integrating Rockwell Automation devices and PLC systems to Modbus-TCP networks.

Coupling/Decoupling different parts of a machine or extending the physical network distance within an installation.

Configuration
The included Anybus Configuration Manager X-gateway allows you to define the I/O data sizes on each network side and to define the data mapping and separation between cyclic I/O data and parameter data.

Order information
Network: Part No:
ControlNet   AB7866
DeviceNet   AB7865
EtherNet/IP   AB7862

Optional accessories
USB RS232 configuration adapter
Part No: 019570

The X-gateway consists of two communication interfaces. The first interface provides Modbus-TCP Slave functionality. The second interface provides ControlNet, DeviceNet or EtherNet/IP Adapter functionality.

Network specific features
- An easy way to transmit I/O data between a Modbus TCP network to ControlNet, DeviceNet or EtherNet/IP Adapter functionality.
- Allows for cyclic I/O data exchange between networks
- Fast I/O data transfer with average timing between networks: 10-35 ms
- Modbus-TCP class 0, class 1 and partially class 2 slave functionality
- Included Anybus OPC server for extended functionality available with the EtherNet/IP version
- EtherNet/IP side with IT functions such as dynamic web server, for downloadable customer specific web pages
- Robust stand-alone metal housing with CE and UL certifications

Using the Rockwell Automation Integrated Architecture Builder (IAB), engineers can integrate the X-gateway making it easy to include in your network system design.

Network specific features
- 1 = Network connector, 2 = Baud rate, 3 = I/O data, 4 = Other

When to use
Integrating Rockwell Automation devices and PLC systems to PROFIBUS installations.

Retro-fitting an existing installation and migrating from PROFIBUS to Industrial Ethernet (EtherNet/IP).

Coupling/Decoupling different parts of a machine or extending the physical network distance.

Configuration
The included Anybus Configuration Manager X-gateway allows you to define the I/O data sizes on each network side and to define the data mapping and separation between cyclic I/O data and parameter data.

Order information
Network: Part No:
ControlNet AB7845
DeviceNet AB7844
EtherNet/IP AB7832

Optional accessories
USB RS232 configuration adapter
Part No: 019570

The X-gateway consists of two communication interfaces. The first interface provides PROFIBUS DP-V1 Slave functionality. The second interface provides ControlNet, DeviceNet or EtherNet/IP Adapter functionality.

- An easy way to transmit I/O data between a PROFIBUS network to ControlNet, DeviceNet or EtherNet/IP Adapter functionality.
- Allows for cyclic I/O data exchange between networks
- Fast I/O data transfer with average timing between networks: 10-35 ms
- Additional parameter data supported (depending on network combination)
- Optional control and status information added to the I/O data for diagnostic purposes
- PROFIBUS functionality such as Watchdog, Sync and Freeze and diagnostics, Standard DP as well as DP-V1 acyclic data services (Class 0/Class 2)
- Included Anybus OPC server for extended functionality available with the EtherNet/IP version
- Robust stand-alone metal housing with CE and UL certifications

Using the Rockwell Automation Integrated Architecture Builder (IAB), engineers can integrate the X-gateway making it easy to include in your network system design.

Network specific features
- 1 = Network connector, 2 = Baud rate, 3 = I/O data, 4 = Other
**Connecting a PROFINET network to a Rockwell Automation PLC system**

This Anybus X-gateway is a bridge between a PROFINET I/O network and a Rockwell Automation PLC system with ControlNet, DeviceNet or EtherNet/IP. The X-gateway copies cyclic I/O data in both directions enabling data exchange between networks. This ensures a consistent information flow throughout the entire plant.

**When to use**
- Integrating Rockwell Automation devices and PLC systems to PROFINET installations.
- Coupling/Decoupling different parts of a machine or extending the physical network distance within an installation.

**Configuration**
- The included Anybus Configuration Manager X-gateway allows you to define the I/O data sizes on each network side and to define the data mapping and separation between cyclic I/O data and parameter data.

**Order information**
- Network: Part No: ControlNet AB7654 DeviceNet AB7653 EtherNet/IP AB7649

**Optional accessories**
- USB-RS232 configuration adapter Part No: 019570

**Using the Rockwell Automation Integrated Architecture Builder (IAB), engineers can integrate the X-gateway making it easy to include in your network system design.**

**Network specific features**
- I = Network connector 2 = Baud rate 3 = I/O data 4 = Other

- **PROFINET**: 1 = 10/100 Mbit/s 2 = 10/100 Mbit/s 3 = 125-500 kbit/s 4 = 512 byte IN/OUT 5 = Communications adapter profile n.10
- **DeviceNet**: 1 = 10/100 Mbit/s 2 = 1204 byte IN/OUT 3 = DeviceNet or Cyclic I/O
- **EtherNet/IP**: 1 = 10/100 Mbit/s 2 = 512 byte IN/OUT 3 = 100 Mbit/s 4 = IRT Communication and Cyclic data exchange, IO Device, Class A

- **Additional parameter data supported (depending on network combination)**
- **PROFINET IO device functionality Conformance Class A**
- **Included Anybus OPC server for extended functionality available with the EtherNet/IP version**
- **Robust stand-alone metal housing with CE and UL listing certifications**

---

**Connecting a PROFINET IRT network to a Rockwell Automation PLC system**

This Anybus X-gateway is a bridge between a PROFINET IRT network and a Rockwell Automation PLC system with ControlNet, DeviceNet or EtherNet/IP. The X-gateway copies cyclic I/O data in both directions enabling data exchange between networks. This ensures a consistent information flow throughout the entire plant.

**When to use**
- Integrating Rockwell Automation devices and PLC systems to PROFINET IRT installations.

**Configuration**
- The included Anybus Configuration Manager X-gateway allows you to define the I/O data sizes on each network side and to define the data mapping and separation between cyclic I/O data and parameter data.

**Order information**
- Network: Part No: ControlNet AB7941 DeviceNet AB7940 EtherNet/IP AB7942

**Optional accessories**
- USB-RS232 configuration adapter Part No: 019570

**Using the Rockwell Automation Integrated Architecture Builder (IAB), engineers can integrate the X-gateway making it easy to include in your network system design.**

**Network specific features**
- I = Network connector 2 = Baud rate 3 = I/O data 4 = Other

- **PROFINET IRT**: 1 = 10/100 Mbit/s 2 = 512 byte IN/OUT 3 = 1204 byte IN/OUT 4 = RT Communication and Cyclic data exchange, IO Device, Class A
- **DeviceNet**: 1 = 10/100 Mbit/s 2 = 512 byte IN/OUT 3 = 1204 byte IN/OUT 4 = 512 byte IN/OUT 5 = Communications adapter profile n.10
- **EtherNet/IP**: 1 = 10/100 Mbit/s 2 = 512 byte IN/OUT 3 = 1204 byte IN/OUT 4 = IRT Communication and Cyclic data exchange, IO Device, Class A

- **Optional accessories**

- **Using the Rockwell Automation Integrated Architecture Builder (IAB), engineers can integrate the X-gateway making it easy to include in your network system design.**
Anybus Wireless Bridge

Replace serial or Ethernet cabling with a robust wireless connection

Anybus Wireless Bridge enables you to create a robust wireless connection to an industrial device. The solution is ideal for communication through hazardous areas or hard-to-reach locations where cables are not desirable.

Wireless transmission is made via Bluetooth or WLAN technology and there are several versions available for both serial and industrial Ethernet communication.

Serial or industrial Ethernet

Anybus Wireless Bridge comes in different versions for serial communication (RS232/422/485) or industrial Ethernet (for example EtherCAT/IP or Modbus-TCP).

Point-to-point or multipoint

Wireless Bridge is often used as a cable replacement in point-to-point communication (serial or Ethernet). But it can also be used as an access point for several Bluetooth nodes within range.

Features and benefits

- Range-up to 400 meters.
- Rugged design with IP65-classed housing.
- Unique method to handle interference disturbances without consequences to the Bluetooth conformity or the interoperability with other devices.
- Support for redundant wireless networks for critical applications.
- Easy configuration via push button or via web configuration pages.

WLAN or Bluetooth?

- Provides higher bandwidth (wider frequency range).
- Point-to-point.
- Wireless LAN client adapter in an infrastructure setup.

Bluetooth

- Even more reliable and noise immune wireless link since Bluetooth switches between different frequencies.
- Point-to-point or multipoint

**ELECTRICAL CHARACTERISTICS**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Header/End of line</td>
<td>RJ45 (M)</td>
</tr>
<tr>
<td>Console</td>
<td>RJ45 (M)</td>
</tr>
<tr>
<td>Power supply</td>
<td>10 mA @ 36V (max.)</td>
</tr>
<tr>
<td>Voltage</td>
<td>36 V (max.)</td>
</tr>
<tr>
<td>Current</td>
<td>30 mA @ 36V (average)</td>
</tr>
</tbody>
</table>

**WIFI COMMUNICATION**

Connectivity types:

- Ethernet bridge via WLAN 2.4 GHz
- Ethernet bridge via WLAN 5 GHz
- Ethernet bridge via WLAN Dual-band (2.4/5 GHz)
- Ethernet bridge via Bluetooth
- Ethernet bridge via Bluetooth
- Wireless access point

Supported Ethernet protocols:

- Client/Server, DNS
- IP, TCP, UDP, HTTP
- LLDP, ARP, DHCP network and management and access control
- WEP64, WEP128, WPA-PSK, WPA2-PSK, TKIP, CCMP (AES), LEAP, EAP
- PEAP

Supported Bluetooth profiles:

- Generic Attribute Profile (GATT), Personal Area Networking Profile (PAN), PANU and NAP roles (one connection)
- Generic Attribute Profile (GATT), Personal Area Networking Profile (PAN), PANU and NAP roles (one connection)
- Generic Attribute Profile (GATT), Personal Area Networking Profile (PAN), PANU and NAP roles (one connection)

**CERTIFICATIONS**

- FCC/CIRF 47 part 15
- CE/CIRF 47 part 15
- ANATEL
- IC
- FCC/CIRF 47 part 15
- CE/CIRF 47 part 15
- ANATEL
- IC
- FCC/CIRF 47 part 15
- CE/CIRF 47 part 15
- ANATEL
- IC
- FCC/CIRF 47 part 15
- CE/CIRF 47 part 15
- ANATEL
- IC
- FCC/CIRF 47 part 15
- CE/CIRF 47 part 15
- ANATEL
- IC
Remotely connect to your Rockwell equipment in less than 10 minutes with Remote Access

Use your Rockwell software tools remotely just as if you were on site. With a Netbiter gateway connected to your Rockwell PLC or machine, you can do programming or debugging from any location using RSLogix Designer, RSNetworx or RSLinx.

Just like being on site!
“Remote Access” is a feature within the Netbiter Remote Management solution which allows you to open up a secure connection to remote machinery and devices. Through this connection, it is possible to do remote configuration, programming or debugging of your own device from any location. Once the communication tunnel is open, you use your standard configuration software to configure the PLC or device.

How it works
On your computer, you run the Netbiter QuickConnect software and a secure tunnel is created to the Netbiter gateway which is connected to the remote device. You can then simply open RSLogix or RSLinx and configure or debug just as if you were on site.

The connection is established via Netbiter Argos in the cloud (www.netbiter.net) which acts as a routing portal. A Netbiter gateway registers at the Netbiter Argos cloud portal at power-up and establishes a remote connection without the need for opening inbound ports in firewalls or setting up VPN connections on site. The result is a secure connection which is set up a matter of minutes.

Solid security
Security together with ease-of-use are the two main traits of Netbiter Remote Access. Data is encrypted both to and from Netbiter Argos and you can also choose a two-step verification method (you log in with a password and also get an SMS to verify your identity). This ensures secure data connection to your remote equipment.

Is your device ready for Remote Access?
Almost any device can be connected to Netbiter Remote Access. A list of verified devices can be found on netbiter.com and HMS can assist you in testing and verifying your particular device.

View video: See how to connect within minutes: http://netbiter.com/netbiter-services/remote-access/rockwell
The Netbiter Argos service “View and Control” enables you to monitor and control your field equipment in a fast and efficient way.

Solution for all industries

Netbiter offers complete end-to-end solutions for power generators, renewable energy, telecom base stations, tank monitoring, building and HVAC, industrial automation and much more.

Connect and go!

Simply connect any of the Netbiter EasyConnect™ communication gateways to your equipment in the field and you will have an instant connection to the cloud-based Netbiter Argos™ data center, hosted by HMS.

Cloud management features through Netbiter Argos™

Netbiter Argos is a web service for monitoring and controlling your field equipment. By logging on to Netbiter Argos at www.netbiter.net, you are presented with a host of “cloud management services” that enable you to monitor and control your equipment in a fast, efficient and professional way.

Multi-language support

The Netbiter Argos data center is securely hosted by HMS with redundant servers in several locations. Netbiter Argos is available in 9 languages: English, German, French, Italian, Portuguese, Spanish, Swedish, Japanese and Chinese.

Manage and Analyze provides functions such as

• A Netbiter Argos account with the ability to organize and manage multiple sites
• The ability to administrate users and individual access right
• Account administrator and free additional users (admin manages users, system configuration and deployment, user levels available for project manager and regular users)
• Google Map view for account view (all sites), project view and individual sites
• Reports (manually generated or scheduled data reports)
• API for enterprise and third party software integration, functions such as
  • Project & device information
  • Data Export services
  • Alarm states / history
  • Parameter read/write
• For Remote Access users Manage and Analyze provides the ability to consolidate and manage access to multiple sites

View and Control: Features in Netbiter Argos

Manage and Analyze: Features in Netbiter Argos

Visualization dashboards
Alarm management
Data trends / reporting
Remote access - configuration

User and project management
Netbiter API integration

Data trends / reporting
Remote access - configuration
## TECHNICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Description</th>
<th>EC350</th>
<th>EC310</th>
<th>EC220</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Order code</strong></td>
<td>NB1005</td>
<td>NB1007</td>
<td>NB1000</td>
</tr>
<tr>
<td><strong>Ethernet</strong></td>
<td>10/100 Mbit/s</td>
<td>10/100 Mbit/s</td>
<td>-</td>
</tr>
<tr>
<td><strong>3G/GSM/GPRS</strong></td>
<td>3G: Five Band UMTS/HSPA+ (WCDMA/FDD) (850/800, 1900 and 2100 MHz)</td>
<td>GPRS: Quad Band GPRS Class 12 (850/900/1800/1900 MHz)</td>
<td>-</td>
</tr>
<tr>
<td><strong>Relay output</strong></td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Digital inputs</strong></td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Analog inputs</strong></td>
<td>4, all supporting 0-10 V or 0-20 mA and 2 supporting PT100</td>
<td>4, all supporting 0-10 V or 0-20 mA and 2 supporting PT100</td>
<td>2</td>
</tr>
<tr>
<td><strong>Analog output</strong></td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Serial port #1</strong></td>
<td>RS-232, 1.2 kbit/s to 115.2 kbit/s</td>
<td>RS-232, 1.2 kbit/s to 115.2 kbit/s</td>
<td>RS-232 up to 115.2 kbit/s</td>
</tr>
<tr>
<td><strong>Serial port #2</strong></td>
<td>RS-485, 1.2 kbit/s to 115.2 kbit/s</td>
<td>RS-485, 1.2 kbit/s to 115.2 kbit/s</td>
<td>RS-485, 1.2 kbit/s to 115.2 kbit/s</td>
</tr>
<tr>
<td><strong>GPS</strong></td>
<td>Built-in antenna via SMA female</td>
<td>-</td>
<td>External GPS via RS232</td>
</tr>
<tr>
<td><strong>Antenna connector</strong></td>
<td>SMA female</td>
<td>-</td>
<td>SMA female</td>
</tr>
<tr>
<td><strong>Protocols</strong></td>
<td>Modbus-RTU, Modbus TCP, Ethernet/IP</td>
<td>Modbus-RTU, Modbus TCP, Ethernet/IP</td>
<td>Modbus-RTU</td>
</tr>
<tr>
<td><strong>Wall mounting / DIN rail</strong></td>
<td>YES/YES</td>
<td>YES/YES</td>
<td>YES / YES</td>
</tr>
<tr>
<td><strong>Mechanical dimensions</strong></td>
<td>92 x 135 x 27 mm</td>
<td>92 x 135 x 27 mm</td>
<td>92 x 115 x 25 mm</td>
</tr>
<tr>
<td><strong>Operating temperature</strong></td>
<td>-40 to +65 °C</td>
<td>-40 to +65 °C</td>
<td>-30 to +65 °C</td>
</tr>
<tr>
<td><strong>Power supply</strong></td>
<td>12-48 VDC</td>
<td>12-48 VDC</td>
<td>9-24 V DC</td>
</tr>
<tr>
<td><strong>Power consumption</strong></td>
<td>6.5 W</td>
<td>2.5 W</td>
<td>2 W</td>
</tr>
<tr>
<td><strong>Certifications</strong></td>
<td>CE, UL (C)</td>
<td>CE, UL (C)</td>
<td>CE, UL (C)</td>
</tr>
<tr>
<td><strong>Housing</strong></td>
<td>Metal (Plastic version to come)</td>
<td>Metal (Plastic version to come)</td>
<td>Metal</td>
</tr>
<tr>
<td><strong>Remote access functionality</strong></td>
<td>YES</td>
<td>YES</td>
<td>-</td>
</tr>
</tbody>
</table>

### Netbiter® EasyConnect communication gateways

**Netbiter EC350**

Connects to field equipment via serial, Ethernet or I/O connection. Integrated support for EtherNet/IP. Sends data to Netbiter Argos via the cellular network (3G/GSM/GPRS) or Ethernet.

**Netbiter EC310**

Connects to field equipment via serial, Ethernet or I/O connection. Integrated support for EtherNet/IP. Sends data to Netbiter Argos via Ethernet.

**Netbiter EC220**

Connects to field equipment via serial or I/O connection. Sends data to Netbiter Argos via the cellular network (GSM/GPRS).
Communication solutions for machines, safety and automotive
canAnalyser for DeviceNet and CAN Layer-2 based networks

The canAnalyser is a powerful tool for analyzing and stimulating CAN and DeviceNet systems and devices. Using the DeviceNet module extension received CAN messages can be interpreted according to the ODVA DeviceNet standard and received parameters are displayed according to Message Group, MAC ID and Message ID.

The canAnalyser offers functions covering many areas of application, such as:

- Online monitoring of bus traffic
- Message transmission (one-off, cyclic sequences)
- Parallel monitoring of several CAN buses
- Recording of CAN messages with various trigger conditions
- Recording and display of bus load
- Graphic display of message contents over the time axis
- Creation of command controlled message sequences

Customer specific functions can be easily integrated via an open .NET programming interface in the form of individual modules. The canAnalyser is based on a modular concept. Based on the software version different functionality is provided:

- Functionality varies accordingly to the software version.
- The canAnalyser is a very versatile tool for the development, testing and maintenance of Controller Area Network systems. The software package is based on a modular concept and employs special features that offer exceptional openness and extendibility.

DeviceNet Module

Using the DeviceNet module the functionality can be extended by an interpretation of all received messages according to the ODVA DeviceNet standard and the display of received parameters according to Message Group, MAC ID and Message ID.

Incoming information is divided into:

- Unconnected Messages
- I/O Message
- DeviceHeartbeat Message
- Device Shutdown Message
- Offline Connection Set
- Reserved and invalid DeviceNet messages

Their content is decoded depending on their type (Explicit Messages, I/O Messages, Unconnected).

When to use

For the development of customized PC-based applications as well as for analyzing and test of DeviceNet systems.

Order information

Version | Order number
--- | ---
canAnalyser | 1.02.0133.30000
canAnalyser Lite | 1.02.0156.00000
DeviceNet Module for canAnalyser | 1.02.0148.00000
canAnalyser Lite for DeviceNet | 1.03.0133.30002

The canAnalyser is based on the VCI driver from IXXAT and can therefore be used with all IXXAT PC interfaces.

CAN-Interfaces - CAN-Interfaces and gateways

PC Interfaces for DeviceNet and CAN Layer-2

For customized PC based applications and conformance testing

IXXAT PC interfaces are offered in a large number of variants for all areas of application and for the most common PC interface standards. Each interface is delivered with a large driver package enabling the easy development of customer specific applications and also is supported by our analyzing and test tools.

When to use

For the development of customized PC-based applications as well as for analyzing and test of DeviceNet systems.

Order information

Version | Order number
--- | ---
USB-to-CAN V2 compact one CAN channel | 1.01.0281.12001
USB-to-CAN V2 compact one CAN channel galvanic isolation | 1.01.0281.12002
CAN-B100/Pcie one CAN channel | 1.01.0331.11000
CAN-B200/Pcie two CAN channels galvanic isolation | 1.01.0333.22001
Driver for ODVA DeviceNet Protocol Conformance Test Software | 1.02.0261.00000

For further interface variants please see www.ixxat.de

Selected Interfaces

USB-to-CAN V2

Cost-effective CAN interface family for the USB port

The USB-to-CAN V2 is the ideal interface for analysis and mobile service of CAN and DeviceNet systems. It is available in different variants with either one or two CAN interfaces based on ISO 11898-2. Additional options include galvanically isolated CAN interfaces, sub-D 9 plug or alternatively RJ45, an embedded version and bulk variants.

CAN-B100/Pcie and CAN-B200/Pcie

Flexible PC-based CAN interface family

With the CAN-B100/Pcie (passive) and CAN-B200/Pcie (with 32 bit µc) IXXAT offers two interface boards based on a modern and highly modular concept. The interfaces are available with a standard or an optional low-profile slot bracket and ideally suited for PC based control or analyzing applications. The boards can be equipped with up to four CAN channels (Expansion Board) and an optional galvanic isolation. Besides the Pcie-Versions, the board family also includes variants for Pcie Mini and Pcie 104.

Driver Support

Drivers for Windows (VCI) and real-time operating systems (VCI) or Windows, RTX and QNX are included in the scope of delivery for each interface and enable the easy and fast development of customer specific applications. The drivers have an identical programming interface for all CAN interfaces allowing to switch between the interfaces without adapting the application at any time.

Quality you can rely on

All IXXAT CAN interfaces are developed and produced in accordance with the highest quality standards and 100 % tested before delivery.

Customized applications

In addition to customized applications, the CAN interfaces also form the basis for our comprehensive tool chain consisting of analysis and test tools.

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The VCI CAN driver is available for 32/64 bit Windows operating systems and also includes a simple CAN bus monitor “miniMon”, which enables the transmission and reception of CAN messages.

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In addition to customized applications, the CAN interfaces also form the basis for our comprehensive tool chain consisting of analysis and test tools.
CAN Repeaters

Easy set-up of tree and star topologies for CAN and DeviceNet systems

CAN Repeaters enable the physical coupling of CAN and DeviceNet network segments. They can be used to easily change the topology of DeviceNet systems to set-up tree or star networks. The integrated galvanic isolation provides a built-in protection against over voltage and the anti-noise circuit eliminates the effects of EMI.

When to use
CAN Repeaters are used to improve the system reliability, for the galvanic protection of system segments or devices as well as for reducing wiring costs.

Order information
On page 41

Highlights
- Cost savings due to simple wiring
- Increased system reliability
- Line protection up to 4 kV
- Almost no influence on real-time behavior
- DIN-Rail backbone bus to line up and connect the devices easily
- Fiber optic enables transmission in areas with high electromagnetic disturbances
- OEM versions and design in solutions available

Increased system reliability and protection
CAN and DeviceNet lines coupled with IXXAT repeaters are independent electric segments that can be optimally terminated in terms of signals. This substantially increases the system’s reliability.

The implemented monitoring function detects lines disturbed by permanent dominant levels. These lines are disconnected automatically, thus allowing the remaining network to continue functioning normally. After the fault has been eliminated, the disconnected segment is automatically reconnected to the network.

Depending on the type of repeater, the CAN lines are protected among each other and against the power supply up to 4 kV. In addition, the built-in CAN bus choke provides protection against signal peaks.

System extension and increased number of nodes
The freedom of using drop-lines and star topologies simplifies the wiring and allows system layouts which could not be realised using the common line structure (Picture 1).

Furthermore, according to the transceiver output capacities, the division of a CAN system into several subsystems, connected via CAN repeaters, increases the maximum number of bus nodes.

Fast and transparent
Using repeaters does not influence the real-time behavior of a system because in terms of transmission behavior, it corresponds to a network that consists only of lines.

Depending on Repeater version or physical layer, typical signal delay is between 150-300 ns, which is equal to a 30-60 m line length. Data transmission is transparent, so it can be used with any higher layer protocol (e.g., DeviceNet, CANopen) or customer-specific protocols.

Conventional bus structure
The distance between the two nodes furthest apart (1 & 6) is 220 meters

Extended structure with drop line
The distance between the two nodes furthest apart (1 & 6) is 150 meters

Picture 1
CAN Bridges and Gateways

Easy system extension and remote access for CAN and DeviceNet systems

The use of bridges and gateways opens up a large number of configuration possibilities. For example, CAN and DeviceNet systems can be implemented over a larger area, devices without CAN interfaces can be connected to CAN systems, or CAN and DeviceNet systems can be coupled using different technologies, such as Bluetooth or Ethernet.

Order information
On page 41

When to use
CAN bridges are used for increasing the system extension, to increase the system reliability and to couple systems over larger distances using Ethernet or Bluetooth.

Specifications
- CAN Bridges
  - CAN bridges can link networks of different bit rates or protocols with each other. They are based on the store-modify-forward principle where CAN or DeviceNet messages are received by a sub-network and then transmitted to the other sub-network. Translation and filter rules can also be used, allowing a protocol adaptation to be carried out. A bridge can, therefore, provide simple gateway functions. CAN bridges are appropriate for creating hierarchical networks by transferring only the information to the connected sub-networks via bridges which are relevant to the sub-network.
  - The bridge function can also be executed with the aid of other transmission systems. For example, the CAN-Ethernet-CAN bridge is set up by two CAN@net II gateways which enable connection to remote CAN networks.

Gateways
- As an extension to the CAN bridges, CAN gateways allow access to CAN networks via other communication systems. In each case, the protocols of the connected bus systems are mapped to the other communication model.
  - Besides a PC interface and bridge mode, the CAN@net II and CANblue II provide a gateway mode enabling easy remote access to CAN and DeviceNet networks for e.g. mobile devices by using a standard ASCII protocol.

Customized solutions
IXXAT also offers OEM versions of its products and develops highly customized hardware and software solutions for its customers.

Application scenario in wind turbine
Three pitch control drives shall communicate with the master controller via CAN. IXXAT CAN Repeaters enable star connection of the individual blades and enable stable communication by eliminating EMI effects and re-build signals for transmission via sliprings.

IXXAT® CAN Bridges and Gateways - CAN-Interfaces and gateways

**IXXAT® Can Repeaters, CAN Bridges and Gateways - CAN-Interfaces and gateways**

**TECHNICAL SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Product</th>
<th>CAN-CR200</th>
<th>CAN-CR210/FD</th>
<th>CAN-CR220</th>
<th>CAN-Repeater</th>
<th>FO-Repeater</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Stackable ISO 11898-2 CAN repeater</td>
<td>Stackable ISO 11898-2 CAN repeater &amp; fiber optic converter</td>
<td>ISO 11898-2 CAN repeater with 4 kV isolated galvanic isolation</td>
<td>ISO 11898-2 CAN repeater with low speed option</td>
<td>ISO 11898-2 to fiber optic converter</td>
</tr>
<tr>
<td>CAN bus interface</td>
<td>2 x ISO 11898-2</td>
<td>1 x ISO 11898-2</td>
<td>1 x ISO 11898-2</td>
<td>2 x ISO 11898-2</td>
<td>1 x ISO 11898-2</td>
</tr>
<tr>
<td>Integrated CAN bus termination</td>
<td>Switchable</td>
<td>Switchable</td>
<td>2 x ISO 11898-2</td>
<td>2 x ISO 11898-2</td>
<td>1 x ISO 11898-2</td>
</tr>
<tr>
<td>CAN Repeater</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAN network connection</td>
<td>Fiber optic, Fiber Optic ST plug</td>
<td>Fiber optic, Fiber Optic ST plug</td>
<td>Fiber optic, Fiber Optic ST plug</td>
<td>Fiber optic, Fiber Optic ST plug</td>
<td>Fiber optic, Fiber Optic ST plug</td>
</tr>
<tr>
<td>Power supply</td>
<td>9-32 V DC, 1.5 W typ., via screw terminals</td>
<td>9-32 V DC, 1.5 W typ., via screw terminals</td>
<td>9-32 V DC, 1.5 W typ., via screw terminals</td>
<td>9-32 V DC, 1.5 W typ., via screw terminals</td>
<td>9-32 V DC, 1.5 W typ., via screw terminals</td>
</tr>
<tr>
<td>Housing dimensions</td>
<td>Plastic DIN rail housing, approx. 22.5 x 100 x 115 mm</td>
<td>Plastic DIN rail housing, approx. 22.5 x 100 x 115 mm</td>
<td>Plastic DIN rail housing, approx. 22.5 x 100 x 115 mm</td>
<td>Plastic DIN rail housing, approx. 110 x 75 x 22 mm</td>
<td>Plastic DIN rail housing, approx. 110 x 75 x 22 mm</td>
</tr>
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</table>

**Order number**
1.01.0076.44010
ST plug: 1.01.0068.44010
1.01.0063.01020

**Accessories**
- Bus connector, Order no. 1.04.0373.00000

**Application scenario in wind turbine**
Three pitch control drives shall communicate with the master controller via CAN. IXXAT CAN Repeaters enable star connection of the individual blades and enable stable communication by eliminating EMI effects and re-build signals for transmission via sliprings.

IXXAT® solutions available
OEM versions and design in Bluetooth, Ethernet...
CAN-Bus-Tester 2 (CBT 2)

Easy and powerful analysis of the CAN bus physics and the CAN protocol

The CAN-Bus-Tester 2 is a universal diagnosis tool for maintenance of CAN and DeviceNet systems.

When to use
Measuring instrument for the commissioning, analysis, monitoring, troubleshooting and maintenance of CAN and DeviceNet systems.

Order information
Version | Order number
---|---
CBT 2 | 1.04.0402.00000

Optional extensions
• CAN Monitoring Tool Add-on 1.04.0402.00011
• DeviceNet Add-on 1.04.0402.00002

Features
• Analysis of the signal-to-noise ratio of all telegrams (level, Turbo, faults)
• Integrated oscilloscope with data interpretation for telegram analysis
• Comprehensive trigger conditions for fault localisation (logical and physical errors)
• Monitoring of bus status, bus load, error telegrams

Content of delivery
• CAN-Bus-Tester (CBT 2)
• CAN bus accessories
  - 6 adapter cables (SUB-D, Open style, M12, 7/8”, SAE J1939-11, SAE J1939-13)
  - Shorting plug (SUB-D, Open style, M12, 7/8”, SAE J1939-11)
  - Termination resistor (SUB-D, M12, 7/8”, SAE J1939-11)
  - 5- or 9-adapter (M12, 7/8”, SAE J1939-11)
  - Adapter PCB for simple connection of an oscilloscope
• Power unit (100 V - 240 V / 50-60 Hz) with power cable (EU, UK, USA/Japan)
• BNC cable, USB cable
• User’s manual incl. CD with USB driver and application software
• Robust, lockable case

CIP Safety Protocol Stack

For the development of customized CIP Safety target and originator devices (Master/Slave)

The CIP Safety protocol software, developed by IXXAT on behalf of SI and a consortium of companies, allows the implementation of CIP Safety targets (slaves) and CIP Safety originator (master) devices based on sercos or EtherNet/IP. The software is operating system independent (runs with and without an operating system) and can be implemented on various microcontroller systems.

When to use
Fast and easy implementation of the CIP Safety functionality into own devices according to the CIP Safety specification Edition 2.5.

Order information
Version | Order number
---|---
EtherNet/IP Target | 1.03.0301.0xxxx
EtherNet/IP Originator | On request

Features
• Operating system independent - Runs with and without an operating system
• Supports CIP Safety on EtherNet/IP and sercos
• Support of multiple CIP Safety instances
• Designed according to IEC 61508 for applications
• up to SIL-3 with support of redundant processor architectures
• Interfaces enable easy porting to different hardware and software platforms
• Simplified integration and re-certification on any target systems via included unit test suites and Safety Manual
• TÜV pre-certification and included unit tests simplify the required re-certification after porting to the safe target platform significantly
• Suitable for different processor architectures and families with Little and Big Endian support, such as TMS320, ColdFire and ARM
• Also pre-certified by ODVA CIP Safety conformance test

Also Available
DeviceNet Slave Protocol stack

The DeviceNet Slave Protocol Software allows an easy and quick development of DeviceNet devices. All communication mechanisms defined in the DeviceNet Specification are supported, allowing the developer to concentrate entirely on the actual application.

The DeviceNet Slave Protocol software is delivered as C source code.

For further information please visit the IXXAT webpage: www.ixxat.de
Proven and trusted network interfaces installed in millions of industrial devices worldwide

Anybus® Embedded modules
For over 20 years, Anybus® embedded modules have provided ControlNet, DeviceNet and EtherNet/IP connectivity capabilities for all types of industrial devices.

Instant CIP and other network connectivity with just one development
It doesn’t matter if you manufacture robots, drives, weight scales, barcode scanners or any other industrial device. Anybus modules will seamlessly integrate into your device and enable you to connect to over 20 different industrial networks.

You choose the solution that meets your demands regarding size, physical interfaces, performance, power consumption, interchangeability and so on.

With Anybus, you will get:
• Global connectivity which will open up new markets for your product.
• A faster ROI and shorter time to market.
• A future-proof solution. Avoid worrying about new networks, network upgrades, maintenance costs and conformance issues.

One CompactCom integration — access to all networks!

“Anybus users estimate that they have saved up to 70% of the development costs compared to in-house development”

One development project gives you access to all networks
During the development project, you design the Anybus module into your product.

You implement the Anybus driver in your processor which enables your product to exchange data with the Anybus module. Your product can now participate on the chosen network.

Once you have implemented the Anybus module, your device has full network interchangeability. Simply plug in another Anybus module to offer your product to any market or business segment.

Why Anybus?
“By choosing Anybus, you make sure that you have the latest industrial connectivity technology inside your product. Anybus embedded solutions are built on HMS’s own network processors and combine low costs, flexibility and low power consumption with the performance you need.

Since Anybus incorporates expertise gathered from thousands of device implementations, plus original technology from the network founders, you can rest assured that you get a fast and easy design project, and that there is proven technology inside your product.”

Leif Malmberg, Product Line Manager, Embedded Solutions, HMS
Anybus® Embedded - Interchangeable fieldbus and Ethernet connectivity solutions

Ethernet/IP®

We know EtherNet/IP®

‘No Header’, we take pride in providing the highest levels of network functionality and performance within our Anybus products.

Technology such as dual port EtherNet/IP® with integrated switch and with support for announcements and beacon-based DLR (Device Level Ring) are some of the latest EtherNet/IP® technology that HMS integrates into our Anybus product Series.

Joakim Wiberg

EtherNet/IP® Specialist at HMS and member of ODVA’s Technical Review Board

Anybus CompactCom overview

Quick implementation that covers many networks and flexible form factor make Anybus CompactCom a safe choice. CompactCom’s unique generic interface knits together I/O, parameters, and diagnostics functionality which creates total transparency when it comes to the data exchange between the network and the device.

• Cost, size and performance optimized family of communication interfaces for a wide range of industrial automation devices.
• Provides instant connectivity to all CIP networks as well as any other network through only one device.
• Switch networks or form factors and keep the same driver and configuration.
• All new and future network updates and enhancements maintained by HMS.
• Short in-design with free assistance from HMS ensures a fast time to market.
• Pre-certified at ODVA for full interoperability and network compliance.
• 3.3 V design with low power consumption and high data throughput.
• EtherCAT/IP versions available with an integrated 2-port switch.
• Beacon Based DLR (Device Level Ring) and linear network topology supported on EtherCAT/IP.
• All modules available with or without plastic housing.
• M12 connectors for IP65/67 available for DeviceNet & EtherCAT/IP.

Anybus CompactCom 40-series

Next generation high speed communication with the Embedded 40-series

The Anybus CompactCom M40 for EtherCAT/IP is a complete communication module which enables your products to communicate on an EtherCAT/IP network. The module supports 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.

Anybus CompactCom 40-series

Features

• Fast data transfer: - Up to 1448 bytes of process data in each direction. - Up to 1550 bytes of explicit messaging.
• Very low latency <30µs.
• 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.
• A complete, interchangeable communication module with connectors.
• One hardware platform for all EtherCAT/IP versions. Simply download new firmware to enable communication with another network for example PROFINET 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).
• 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.
• Profile enabling functionality (add selected profile).
• Short in-design with free assistance from HMS ensures a fast time to market.
• Pre-certified for network compliance (enables faster network certification).

Used with automation devices such as:

• HMI
• Servo drives
• Micro PLCs
• Weigh scales
• Bar-code scanners
• I/O blocks
• Welding controllers
• Temperature controllers
• RFID applications
• Valve manifolds

Network specific features

| EtherCAT/IP | 1 x RJ-45, 2 x Field, 3 x 250 kbps OUT | 1 x RJ-45, 2 x 10/100 Mbit/s | Galvanic isolated bus electronics. CIP forwarding support. |
| DeviceNet | 1 x RJ-45, 3 x 250 kbps OUT | 1 x RJ-45, 3 x 10/100 Mbit/s | Automatic baud rate support. UCMM capable. CIP forwarding support. |

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<tr>
<td>EtherCAT/IP 2-port 40 series (no housing)</td>
<td>AB6704</td>
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Available on request.

*See page 54 for mechanical and technical specifications.

Anybus CompactCom overview

Quick implementation that covers many networks and flexible form factor make Anybus CompactCom a safe choice. CompactCom’s unique generic interface knits together I/O, parameters, and diagnostics functionality which creates total transparency when it comes to the data exchange between the network and the device.

• Cost, size and performance optimized family of communication interfaces for a wide range of industrial automation devices.
• Provides instant connectivity to all CIP networks as well as any other network through only one development.
• Switch networks or form factors and keep the same driver and configuration.
• All new and future network updates and enhancements maintained by HMS.
• Short in-design with free assistance from HMS ensures a fast time to market.
• Pre-certified at ODVA for full interoperability and network compliance.
• 3.3 V design with low power consumption and high data throughput.
• EtherCAT/IP versions available with an integrated 2-port switch.
• Beacon Based DLR (Device Level Ring) and linear network topology supported on EtherCAT/IP.
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*See page 54 for mechanical and technical specifications.
### Technical Details - CompactCom M30 Modules

- **Dimensions**: 51•37•16 mm, 2.01•4.46•0.63” (modules without housing)
- **Enclosure material**: Aluminum
- **Protection class**: IP20 (M12 connectors enable protection rating up to IP67)
- **Mounting**: DIN rail (35•7,5/15) or Wall Mount

### Technical Details - CompactCom M40 Modules for EtherNet/IP

- **Dimensions**: 120•75•27 mm, 4.72•2.95•1.06”
- **Enclosure material**: PC ABS, UL 94
- **RoHS Compliance**: Yes
- **Weight**: 150 g, 0.33 lb

### Environmental Characteristics

- **Relative Humidity**: 0 to 95 % non-condensing
- **Operating temp**: -25 to 55 °C, -13 to 131 °F
- **Storage temp**: -40 to 85 °C, -40 to 185 °F

### Power requirements

- **24 VDC +/- 10 %
- **EN55011 Radiated emission, EN55011 Conducted emission

### Certifications

- **IEC 60068-2-1, IEC 60068-2-2
- **EN60079-11
- **EN61000-6-4 Conducted immunity
- **EN61000-4-4 Fast transients/burst, EN61000-4-5 Surge immunity,
- **EN60950-1
- **EN 50022
- **EN60079-15
- **24 VDC +/- 10 %

### Technical Details - CompactCom 30-series

- **Dimensions**: 52•50•22 mm, 2.04•1.97•0.86”
- **Enclosure material**: PC ABS, UL 94
- **RoHS Compliance**: Yes
- **Weight**: 126•110•42 mm, 4,96•4,33•1,65”

### Technical Details - CompactCom 40-series

- **Dimensions**: 120•75•27 mm, 4.72•2.95•1.06”
- **Enclosure material**: PC ABS, UL 94
- **RoHS Compliance**: Yes
- **Weight**: 150 g, 0.33 lb

### Environmental Characteristics

- **Relative Humidity**: 0 to 95 % non-condensing
- **Operating temp**: -25 to 55 °C, -13 to 131 °F
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### Technical Details - Communicator RTU, Communicator DP1, Communicator RS-232/485

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### Technical Details - Communicator CAN

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Work with the world’s number one choice for industrial communication

Network connectivity expertise at your service
With millions of communication modules installed globally, HMS Industrial Networks is indisputably the world’s number one provider of industrial connectivity solutions.

Customers include most major industrial automation companies such as Rockwell Automation, Siemens, Mitsubishi, Yaskawa, Schneider Electric, Toshiba, Panasonic, ABB and Hitachi.

Focus on what you do best
By partnering with HMS, you get access to the knowledge of some of the world’s leading experts on industrial connectivity — experts who are with you all the way from the design project and throughout the product life cycle.

With HMS as your communication partner, you will not have to worry about network upgrades, new technologies or conformance testing. HMS handles all connectivity issues, so you can focus on your core business.

Facts about HMS
- Operations in 10 countries: Sweden, Germany, USA, Japan, Denmark, China, Italy, France, UK and India.
- Customers in more than 50 countries.
- Head office in Halmstad, Sweden.
- More than 350 employees.
- Listed on NASDAQ OMX Nordic Exchange in Stockholm.

Partnership with HMS is for the long-term
We work closely with our customers to offer expertise and know-how. We help you broaden your market and stay up-to-date when it comes to network connectivity. Indeed, many of our customers regard HMS as their internal development department for industrial communication.

Get in touch with us, and we’ll tell you more about how to get connected.

Staffan Dahlström
Chief Executive Officer, HMS

HMS Case studies

Rockwell Automation and HMS provides connectivity solution for the Guangzhou Metro system

“The Anybus Serial Gateway does not require programming and can be configured to use a uniform method to access subsystems thereby saving us a great deal of time in the project implementation stage.”

Zhao Feng, HollySys’ project manager of the Guangzhou Metro Line 5 project.

Micro Motion connects flow and density meters to EtherNet/IP using Anybus gateway technology

“It benefited Micro Motion to collaborate with HMS, who has substantial expertise in digital protocols like EtherNet/IP, in order to optimize our final product for our customers.”

Dave Kapolneck, Product Marketing Director

Netbiter improves VRTX’s offering to customers

“Remote monitoring has increased the value of our treatment skids. It has enabled us to change system settings without the need to call the customer or send out a technician. It has enabled us to troubleshoot failures and have the appropriate repair parts on site as our technicians arrive.”

Carl Steffen, Engineering Services Manager VRTX Technologies

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Always Free Tech Support
At HMS, technical support for standard products is FREE of charge and available from all HMS offices and distributors around the world. HMS has CIP specialized development engineers, global technical support teams, and CIP-trained sales, all dedicated to increasing your automation performance, raising productivity, decreasing product downtime and reducing your costs and efforts.

Rockwell Automation Knowledge Base Program
In addition to HMS online technical support, HMS’s products can also be found via Rockwell’s own Knowledge Base Support Program. For more information visit: https://rockwellautomation.custhelp.com/

The first line of support
The HMS Academy is an umbrella for all HMS training and e-learning activities. Through our Academy trainings, videos and other materials, you can learn more about industrial communication and get a better insight into HMS products and solutions.

Webinars
Spend an hour with an industrial communication specialist to learn how to connect different fieldbus, industrial Ethernet and wireless networks. HMS webinars are held free of charge via Webex in various languages and at different locations and timezones.

How-to application notes
Step-by-step instructions on how to carry out specific actions using the different Anybus products.

How-to videos
Screen recordings of how to configure Anybus and Netbiter gateways. Follow these to get up and running in a few minutes.

Hands-on training
Get hands-on training on HMS products and technologies. The trainings are run at an HMS office or at your location if you prefer!

Stay connected!
We regularly send out information specific to an HMS product line via both e-mail and social media. Sign up on our websites and stay informed about the latest HMS product developments, industry news, case studies, tips and tricks and much more.
HMS Industrial Networks

Through the Anybus®, IXXAT® and Netbiter® brands and products, HMS Industrial Networks provides reliable solutions for industrial communication and remote management. HMS’s knowledgeable staff along with distributors and partners in over 50 countries worldwide, are there to help you and your business increase productivity and performance while lowering cost and time to market.

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