



 **Anybus<sup>®</sup>** Gateways

Industrial networking made easy<sup>™</sup>





## Anybus gateways: *Industrial networking made easy™*



### Connecting devices to fieldbus and industrial Ethernet networks

In the world of industrial automation, there are many different networks available. This is challenging for device manufacturers, machine builders, system integrators and end users who need to connect different machines and networks which do not speak the same language.

Anybus gateways offer quick and easy network integration by acting as translators between industrial networks and industrial devices.

With more than 300 unique gateway versions to choose from, the Anybus X-gateway™ and Communicator™ families offer solutions for any type of connectivity issue, whether it is a network-to-network or device-to-network situation.



### Connect. Configure. Done!

With Anybus gateways, you connect between industrial devices and networks within minutes.

### Why Anybus gateways?

#### Quick and easy

Anybus gateways are by far the quickest way to achieve connectivity between networks and devices. All gateways include fully implemented fieldbus and Industrial Ethernet interfaces making them ready to connect your equipment to any desired network.

You easily set up the network connection with the included software (Anybus Configuration Manager). No programming is needed and you are up and running within minutes.

#### Proven and trusted

Millions of devices are connected to fieldbus and industrial Ethernet networks via Anybus technology.

Anybus gateways have successfully connected devices, machines and networks for more than 20 years, opening up new applications and business possibilities for industrial companies in all areas.

Users include Rockwell Automation, Siemens, Schneider Electric, Mitsubishi etc.





## 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 two PLC systems from different brands such as 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. Anybus gateways are included in most of the major PLC manufacturers' system building software making it easy for you to integrate them into your network design.

### One gateway family — any network



### ANYBUS COMMUNICATOR™



#### Device-to-network connectivity

#### 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.

#### Enter new segments

Anybus gateways are suitable for a wide range of applications within factories, building, power & energy and infrastructure. For example, you can make building automation devices such as temperature sensors, energy meters, gas gauges and water meters part of your industrial network. This gives you better control and helps you reduce energy consumption.

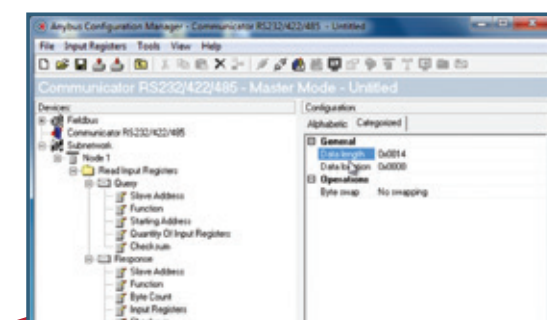
HMS Academy:  
Solutions, trainings,  
how-to videos, case  
studies, webinars related to  
Anybus gateways on  
[www.anybus.com/training](http://www.anybus.com/training).



#### 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







## Connect any two industrial networks — fieldbus or industrial Ethernet

Anybus X-gateways help you to easily connect any two networks, enabling a consistent information flow throughout the entire plant. You get fast transfer of cyclic I/O data between two networks, offloading the PLC from working with additional complex calculations.

X-gateways are tested and proven with all leading manufacturers of PLCs such as, Siemens, Allen Bradley, Schneider Electric, Mitsubishi, ABB, Omron, Hitachi, Beckhoff, Phoenix Contact, Bosch Rexroth and more.

### Easy configuration

The connection between the two networks is quickly set up in the Anybus Configuration Manager software which means that no programming is required. Just connect, configure, and you're done.



HMS' Anybus products are very sound, functional and simple to use compared to other similar devices that we tried.

Marino Gobita  
SPAMI, Italy

The Anybus X-gateway is economical, robust, and proven technology.

Jeffrey Moore  
Sytech, USA



### X-gateway

- Gateways for conversion between any two networks
- Over 250 versions covering most network combinations
- Easy configuration via the Anybus Configuration Manager software
- Master/slave or slave/slave versions available

### X-gateway CANopen

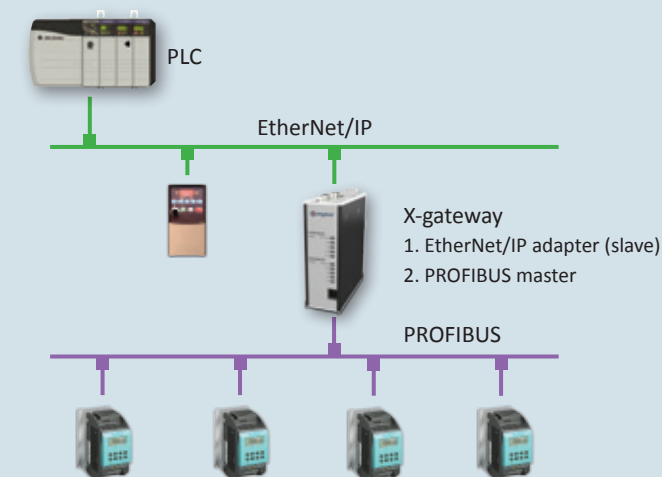
- Specialized X-gateway for CANopen connectivity
- CANopen master/client to 10 other networks
- Full CANopen master functionality
- Easy configuration via the Anybus Configuration Manager software

### X-gateway Modbus-TCP

- Modbus-TCP master/client to 10 other networks
- Easy, web-based configuration through the Anybus Configuration Manager software
- SD card backup for easy module replacement and project backup

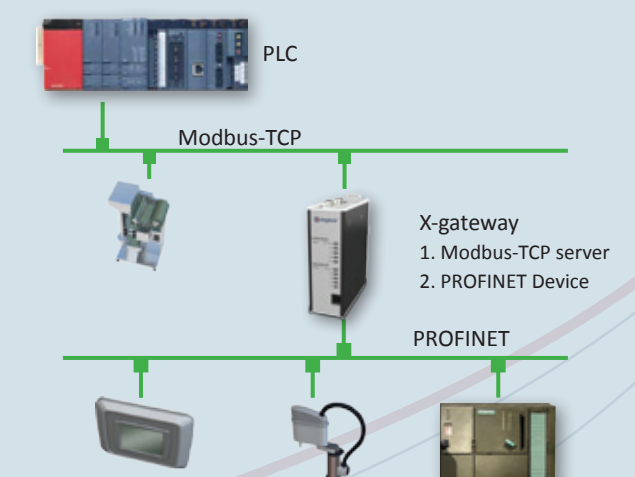
#### Example: Distributed network master (master/slave gateway)

##### EtherNet/IP to PROFIBUS



#### Example: PLC to PLC communication (slave/slave gateway)

##### Modbus-TCP to PROFINET







## Connect any device to a fieldbus or industrial Ethernet network

Anybus Communicator is a family of protocol converters that connect devices to all major industrial networks. The Communicator is capable of converting almost any standard or user specific (proprietary) protocol. This means that you do not have to worry about making any hardware or software changes to your device. Simply connect a Communicator and you will be able to connect to any network.

### Easy configuration

You configure your device through the Anybus Configuration Manager software. No programming is required. Just connect, configure, and you're done.



### Communicator RTU

- Protocol converters for devices with Modbus RTU
- Connectivity to 13 different networks
- Modbus RTU master functionality on the serial side
- Easy 6-step visual configuration wizard within the Anybus Configuration Manager software



### Communicator RS232/422/485

- Protocol converters that offer flexible serial frame building
- Connectivity to 13 different networks
- Supports ASCII or vendor-specific protocols
- For Request/Response or Produce/Consume protocols



### Communicator CAN

- Protocol converters with flexible CAN frame building
- Connectivity to 11 different networks
- For devices with CAN 2.0A and B based protocols

No other company has standard solutions available to return data from a very mixed set of equipment.

Alexis Ducancel  
Genzyme, France



We wanted something that was solid and easy to use. The Anybus Communicator CAN was just that.

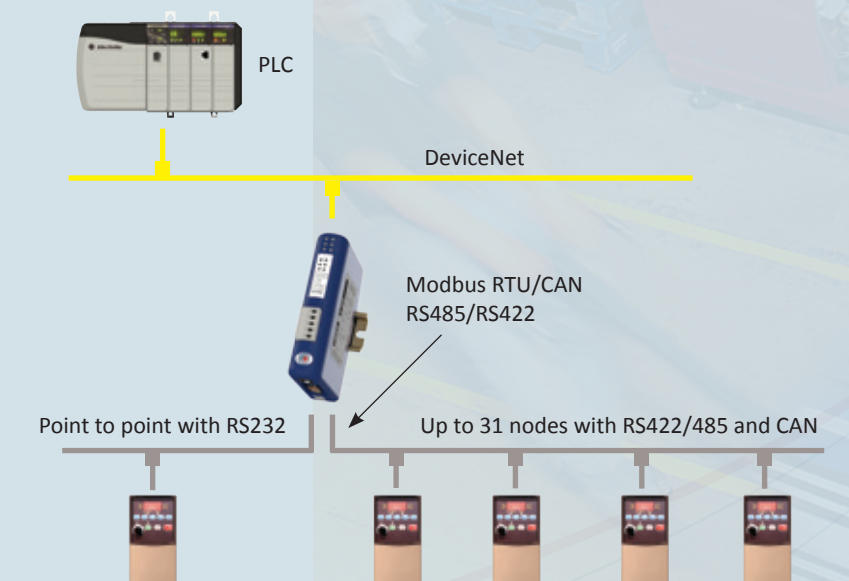
Tomas Holmquist,  
Berg Propulsion, Sweden



### Communicator DF1

- Protocol converters for devices with Rockwell DF1
- Connectivity to 13 different networks
- Includes an easy visual DF1 configuration method
- Supports PLC5/SLC500, Guard and many more

#### Example: Single and multi-drop connectivity to DeviceNet





# **Anybus®** - Use case examples

## Proven and trusted by the world's leading industrial companies

### “These things just have to work”

Anybus technology gives network access to more than two million devices all around the world. It is used by industrial giants such as ABB, Bosch, Mitsubishi, Siemens, Schneider Electric and Rockwell Automation and incorporates technology from the network founders. This ensures that you get a fast and reliable communication link that will last a long time.

Anybus gateways are high-quality products which come with 3-year guarantees. In addition, HMS offers free and global technical support.



### Honing machines can connect to any network with Anybus X-gateways

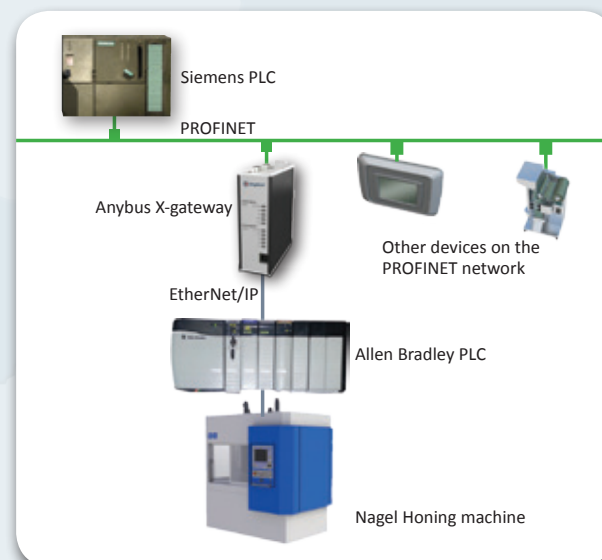
Nagel Precision Inc. in Ann Arbor, Michigan create machines for honing, superfinishing, and deep hole drilling which are used to manufacture engine blocks, transmissions, pinion gears, valves and other metal artifacts which require a very smooth surface. Their machinery is built on an EtherNet/IP-based control system with an Allen Bradley PLC.

Since the honing machines are exported to factories all over the world, Nagel was faced with the problem of how to communicate with other networks – especially PROFINET which is frequently used in car manufacturing plants.

If the honing machine is to be installed in a factory that runs EtherNet/IP, it can be connected directly and communicate with the network. But if the factory runs another network (for example PROFINET), an Anybus X-gateway is needed. The gateway works as a translator between EtherNet/IP and the factory system and “translates” parameters such as positioning data, status of the drives, start/stop commands etc.

The communication stream is transparent on both sides of the gateway making the honing machine a separate node on the factory floor, fully able to communicate with the plant-wide network.

“We’ve been using the Anybus X-gateway for more than two years now and it has been flawless,” says Jim Saule at Nagel Precision. “I have been designing these types of systems for more than 20 years and really appreciate the fact that we can support several different networks with the Anybus X-gateway. This enables us focus on our core business – building honing machinery – rather than working with compliance for different networks.”



### System integration made easy for Chinese subway

The Guangzhou Metro Line 5 in China spans 40 kilometers, east to west through Guangzhou City. The subway’s “BAS System”



connects a substantial amount of monitoring devices and sub-systems for ventilation, air conditioning, water supply, drainage, elevators etc. Since many of these devices and subsystems are based on different protocols, Guangzhou Metro needed to find a solution to allow communication between these different devices and the BAS system.

“Anybus Gateways do 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,” says Zhao Feng, project manager for the implementation.

## Communicator

### Connecting robots

C.I.A. Automation and Robotics in Italy has extensive experience in the field of system integration, especially when it comes to robotics. As most of C.I.A. Automation and Robotics applications are specific, they have to interface different kinds of devices in their automation systems that use different communication protocols. They have chosen HMS’ Anybus X-gateway which enables them to connect to any industrial network easily.



“HMS products are particularly comprehensive and can be used to interface different kinds of machines, even pre-existing machinery,” say Angelo Galimberti, Director of C.I.A. Automation and Robotics.

## X-gateway



### HMS Partner Program

The global HMS partner program covers system partners that provide solutions and services around Anybus gateways.

To find a system partner or to join, visit [www.anybus.com/partner](http://www.anybus.com/partner)

*“HMS takes full responsibility for the entire supply chain including manufacturing and delivery. With our focus on quality and a widespread international distribution network, you can rest assured that you get solid connectivity solutions on time.”*

*We currently have an on-time delivery rate above 98 %. Field returns are less than 0,02 %. These are good numbers, but we always aim to improve.*

Katarina Lekander  
Quality Manager



## HMS Industrial Networks

HMS develops and manufactures products under the brands Anybus®, IXXAT® and Netbiter®. These products enable industrial devices to connect to different industrial networks and also be monitored and controlled remotely.

Development and manufacturing take place at the headquarters in Halmstad, Sweden and in Weingarten, Germany. Local sales and support are handled by branch offices in China, Denmark, France, Germany, Italy, India, Japan, UK and USA, plus distributors in more than 50 countries.



[www.anybus.com](http://www.anybus.com)

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