

The Anybus .NET Bridge enables factory-floor data from PROFINET, PROFIBUS, EtherNet/IP or EtherCAT to be presented to .NET applications.

As a .NET programmer, you can send and receive messages to and from a PLC system that could be used to control a process. You can also collect data for statistics, analyses and maintenance.



Typical Industries



Availability

PROFIBUS
Order number AB9071

PROFINET
Order number AB9077

EtherNet/IP
Order number AB9078

EtherCAT
Order number AB9079

The Anybus .NET Bridge acts as a translator between a function block in a PLC and a .NET object in a computer. The product is an external interface that may be mounted in a cabinet, close to the industrial network. It uses a separate standard (TCP/IP UDP/IP) Ethernet connection to the computer. No additional hardware is needed.

How it works

The information exchange between the Operational Technology (OT) side and the Information Technology (IT) side is made with messages defined in a spreadsheet template (Excel). Using the spreadsheet, the Anybus .NET Bridge Code Generator creates C# files for the .NET programmer and PLC files for the PLC programmer.

The configuration software also includes two simulators — a PLC simulator for the .NET programmer and a .NET simulator for the PLC programmer. A function block (provided by HMS) manages the handshake on the PLC side and provides an easy-to-use interface for the PLC programmer.

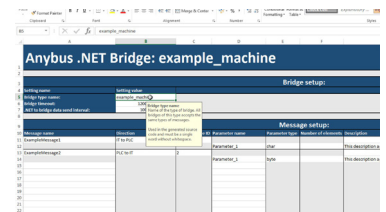
For applications where minimum delay and maximum performance is required, the .NET Bridge can be used in streamer mode where data streams are exchanged directly without any handshake. In this mode, data need to be mapped manually in the PLC and in the .NET application.

Example use cases:

- An ordering system in a computer needs to tell a robot to fetch something in a warehouse.
- An on demand production unit need the custom settings defined by a user (maybe on the web) in order to produce the custom defined product.
- Communicate simulated data from a computer to a PLC during testing and commissioning.
- Collecting KPIs from a PLC for analyses and reports.
- Collecting sensor data as base for maintenance.
- Send KPI and sensor data from a PLC to a computer for advanced calculation and then receive the result.

Features and benefits

- Bridges between the logic in a PLC and the logic in a computer with .NET.
- Two-way communication.
- Configurable send/receive frequency.
- PLC simulator mode to make it easy for the .NET programmer during development and commissioning.
- .NET simulator mode to make it easy for the PLC programmer during development and commissioning.
- Defining the configuration is isolated to one single spreadsheet (requires excel).
- Possible to send messages in sequence (up to 251bytes x 65,535).
- DIN-rail or wall mount options.



The Anybus .NET Bridge Code Generator



HMS provides a full 3 year product guarantee



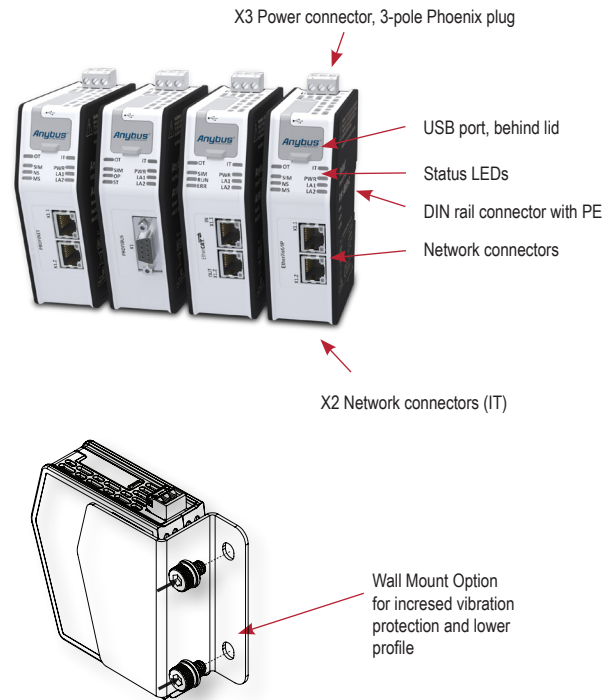
TECHNICAL SPECIFICATIONS

Technical Details		Standard
Weight	160 g, 0,35 lb	
Dimensions (L*W*H)	110*35*101 mm, 4,33*1,38*3,98"	
Protection class	IP20, NEMA rating 1	
Enclosure material	PC ABS, UL 94 VO	
Installation position	Horizontal	
Mounting	DIN rail (35*7,5/15) or Wall Mount	EN 50022
Certifications		
UL	File number: E203225	UL 508 Ind. Cont. Eq.
Hazardous Locations	CLASS 1, DIVISION 2, GROUPS A, B, C AND D	ANSI/ISA 12.12.01 CAN/CSA C22.2
CE	2004/108/EC	EN 61000-6-4 EN 61000-6-2
Electrical Characteristics		
Power	24 VDC +/- 10 %	
Current consumption	Typical 150 mA @ 24 V	
Hardware Characteristics		
Reverse voltage protection	Yes	
Short circuit protection	Yes	
Galvanic isolation on subnetwork	Yes	
Environmental Characteristics		
Operating temp	-25 to 70 °C, -13 to 158 °F	IEC 60068-2-1 IEC 60068-2-2
Storage temp	-40 to 85 °C, -40 to 185 °F	IEC 60068-2-1 IEC 60068-2-2
Relative Humidity	5-95 % non condensing	IEC 60068-2-30
Installation altitude	Up to 2 000 m	
Immunity and Emission for Industrial Environment		
Electrostatic discharge	+/- 4 kV	EN 61000-4-2
Electromagnetic RF fields	10 V/m 80 MHz - 1 GHz 3 V/m 1,4 GHz - 2,0 GHz 1 V/m 2,0 GHz - 2,7 GHz	EN 61000-4-3
Fast Transients	+/- 1 kV	EN 61000-4-4
Surge protection	+/- 1 kV	EN 61000-4-5
RF conducted interference	10 V/m	EN 61000-4-6
Emission (at 10 m)	40 dB 30 MHz - 230 MHz 47 dB 30 MHz - 1 GHz	EN 55016-2-3
Insulation, transient voltage (not for personal safety)		
Power to PE	1 500 V	EN 60950-1
Power to X1	2 500 V	EN 60950-1
Power to X2	1 500 V	EN 60950-1
X2 to PE	500 V	EN 60950-1
X2 Shields to PE	500 V	EN 60950-1
X2 to X2 Shields	500 V	EN 60950-1
X2.1 to X2.2	500 V	EN 60950-1
Security		

NETWORK SPECIFIC FEATURES

1 = Network connector, 2 = Baud rate,
3 = I/O data,

SLAVE / ADAPTER / SERVER / DEVICE			
PROFIBUS	1 = DSUB9F	2 = Up to 12 Mbit/s	3 = 239bytes x 65,535
PROFINET IRT - 2 port	1 = 2xRJ45	2 = 100 Mbit/s	3 = 251bytes x 65,535
EtherNet/IP	1 = 2xRJ45	2 = 100 Mbit/s	3 = 251bytes x 65,535
EtherCAT	1 = 2xRJ45	2 = 100 Mbit/s	3 = 251bytes x 65,535



X2 Network connectors (IT)

Wall Mount Option
for increased vibration
protection and lower
profile

HMS Industrial Networks – worldwide

HMS - Sweden (HQ)

Tel : +46 35 17 29 00 (Halmstad HQ)
Tel: +46 35 17 29 24 (Västerås office)
E-mail: sales@hms-networks.com

HMS - Germany

Tel: +49 721 989777-000
E-mail: ge-sales@hms-networks.com

HMS - Japan

Tel: +81 45 478 5340
E-mail: jp-sales@hms-networks.com

HMS - United States

Tel: +1 312 829 0601
E-mail: us-sales@hms-networks.com

HMS - China

Tel : +86 010 8532 3183
E-mail: cn-sales@hms-networks.com

HMS - India

Tel: +91 83800 66578
E-mail: in-sales@hms-networks.com

HMS - Switzerland

Tel: +41 61 511342-0
E-mail: sales@hms-networks.ch

HMS - France

Tel: +33 368 368 034 (Mulhouse office)
E-mail: fr-sales@hms-networks.com

HMS - Italy

Tel : +39 039 59662 27
E-mail: it-sales@hms-networks.com

HMS - UK

Tel: +44 1926 405599
E-mail: uk-sales@hms-networks.com

Anybus® is a registered trademark of HMS Industrial Networks AB, Sweden, USA, Germany and other countries. Other marks and words belong to their respective companies. All other product or service names mentioned in this document are trademarks of their respective companies.

Part No: MMA208 Version 3 03/2019 - © HMS Industrial Networks - All rights reserved - HMS reserves the right to make modifications without prior notice.

