The Anybus .NET Bridge enables factory-floor data from PROFINET, PROFBUS, 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.

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 needs 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.

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.

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 251 bytes x 65,535).
- DIN-rail or wall mount options.

Typical Industries

Availability

PROFIBUS
Order number AB9071

PROFINET
Order number AB9077

EtherNet/IP
Order number AB9078

EtherCAT
Order number AB9079

HMS provides a full 3 year product guarantee

The Anybus .NET Bridge Code Generator
### TECHNICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Technical Details</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>160 g, 0.35 lb</td>
</tr>
<tr>
<td>Dimensions</td>
<td>110•35•101 mm, 4.33•1.38•3.98”</td>
</tr>
<tr>
<td>Protection class</td>
<td>IP20, NEMA rating 1</td>
</tr>
<tr>
<td>Enclosure material</td>
<td>PC ABS, UL 94 V0</td>
</tr>
<tr>
<td>Installation position</td>
<td>Horizontal</td>
</tr>
<tr>
<td>Mounting</td>
<td>DIN rail (35•7,5/15) or Wall Mount</td>
</tr>
</tbody>
</table>

**Certifications**
- UL: File number: E203225
- CE: 2004/108/EC

### 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
- Storage temp: -40 to 85 °C, -40 to 185 °F
- Relative Humidity: 5-95 % non condensing
- Installation altitude: Up to 2 000 m

### Immunity and Emission for Industrial Environment
- Electrostatic discharge: +/- 4 kV
- 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
- Fast Transients: +/- 1 kV
- Surge protection: +/- 1 kV
- RF conducted interference: 10 V/m
- Emission (at 10 m):
  - 40 dB 38 MHz - 230 MHz
  - 41 dB 30 MHz - 1 GHz

### Insulation, transient voltage (not for personal safety)
- Power to PE: 1 500 V
- Power to X1: 2 500 V
- Power to X2: 1 500 V
- X2 to PE: 500 V
- X2 to X2 Shells to PE: 500 V
- X2.1 to X2.2: 500 V

### Security

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**NETWORK SPECIFIC FEATURES**

<table>
<thead>
<tr>
<th>1 = Network connector, 2 = Baud rate, 3 = I/O data.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PROFIBUS</strong></td>
</tr>
<tr>
<td>1 = DSUB9F</td>
</tr>
<tr>
<td>2 = Up to 12 Mbit/s</td>
</tr>
<tr>
<td>3 = 251 bytes x 65,535</td>
</tr>
<tr>
<td><strong>PROFINET</strong></td>
</tr>
<tr>
<td>1 = 2xRJ45</td>
</tr>
<tr>
<td>2 = 100 Mbit/s</td>
</tr>
<tr>
<td>3 = 251 bytes x 65,535</td>
</tr>
<tr>
<td><strong>EtherNet/IP</strong></td>
</tr>
<tr>
<td>1 = 2xRJ45</td>
</tr>
<tr>
<td>2 = 100 Mbit/s</td>
</tr>
<tr>
<td>3 = 251 bytes x 65,535</td>
</tr>
<tr>
<td><strong>EtherCAT</strong></td>
</tr>
<tr>
<td>1 = 2xRJ45</td>
</tr>
<tr>
<td>2 = 100 Mbit/s</td>
</tr>
<tr>
<td>3 = 251 bytes x 65,535</td>
</tr>
</tbody>
</table>

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