

## X-gateway™

The Anybus X-gateway family consists of over 200 proven, robust and ready-to-use gateways aimed to connect almost every possible combination of two industrial networks.

Anybus X-gateway allows system integrators to easily transfer I/O data between devices on two different PLC systems and networks, enabling a consistent information flow throughout the entire plant.



### Typical Industries



### In-short

Anybus X-gateways enable connectivity between almost any two industrial networks or PLC systems.

### Master versions supporting:

AS-Interface  
DeviceNet  
EtherNet/IP  
PROFIBUS

### Slave versions supporting:

CANopen  
CC-Link  
CC-Link IE Field  
ControlNet  
DeviceNet  
EtherCAT  
EtherNet/IP  
FIPIO  
Interbus RS485 + Fiber Optic  
J1939\*  
LonWorks  
Modbus Plus  
Modbus RTU  
Modbus-TCP  
PROFIBUS  
PROFINET IO  
PROFINET IRT Copper + Fibre Optic

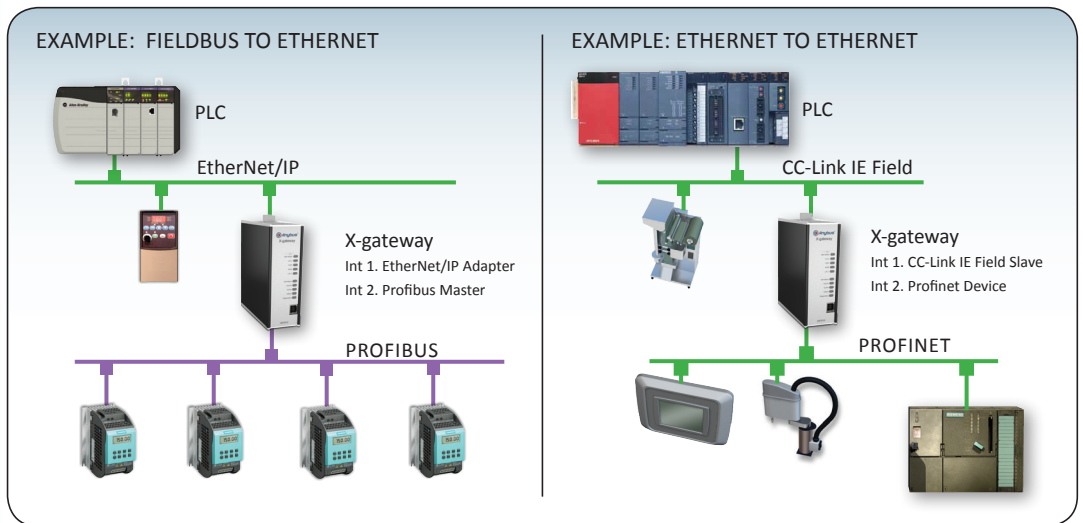
### Accessories:

Extra Wide DIN-clip for flat mounting  
- order number SP1784

\*available in a different formfactor housing



HMS provides a full 3 year product guarantee



### Features and Benefits

- Simple way to transmit I/O data between any two industrial networks
- Over 200 different network combinations (master, scanner, slave, adapter, I/O device, server)
- Connects different PLC systems (Siemens, Rockwell, Schneider, Mitsubishi, Omron, Beckhoff etc)
- I/O data transfer with average throughput between networks of 10 - 15 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 with Ethernet versions
- Anybus master configuration tool included free of charge with a Profibus, DeviceNet or EtherNet/IP Master/Scanner
- Robust stand-alone housing with CE and UL certifications
- Global free technical support and consultancy
- See [www.anybus.com](http://www.anybus.com) for application notes and instruction videos on how to configure the X-gateways

### Easy Configuration

No programming skills are needed to set up the X-gateway.

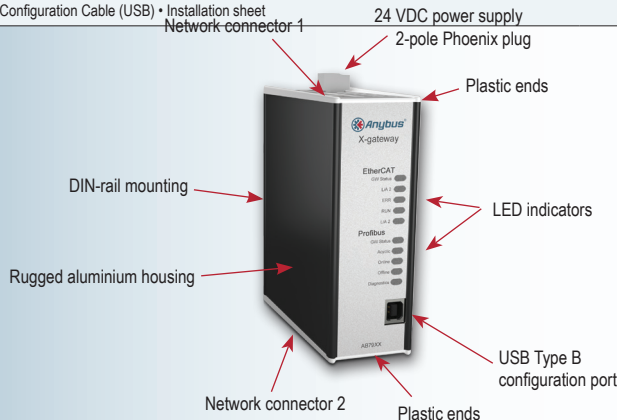
The configuration of the X-gateway is made using the "Anybus Configuration Manager X-gateway" which is included in the price (Windows™ Tool). You install this on your PC, and connect the included USB cable to the configuration port of the X-gateway. The Anybus Configuration Manager X-gateway is available at [www.anybus.com](http://www.anybus.com)

The easy-to-use 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.



## TECHNICAL SPECIFICATIONS

| Technical Details                                |   | Standard                   |
|--|---|----------------------------|
| Weight   | 400 g, 0,880 lb   |                            |
| Dimensions (L-W-H)                               | 114*44*127 mm, 4,49*1,73*5,00"  |                            |
| Protection class                                 | IP20, NEMA rating 1   |                            |
| Enclosure material                               | Aluminium and plastic   |                            |
| Installation position                            | Vertical position   |                            |
| Mounting   | DIN rail (35*7,5/15)  | EN 50022                   |
| Certifications                                   |   |                            |
| UL   | File number: E214107  | UL 508 Ind. Cont. Eq.      |
| Hazardous Locations                              | CLASS 1, DIVISION 2, GROUPS A, B, C AND D, T4   | ANSI/ISA-12.12.01-2000     |
| ATEX   | Zone 2, Cat 2   | EN 60079-15<br>EN 60079-11 |
| CE   | 2004/108/EC   | EN61000-6-4<br>EN61000-6-2 |
| Electrical Characteristics                       |   |                            |
| Power  | 24 VDC +/- 20 %   |                            |
| Current consumption                              | Max 400mA at 24VDC, Typical 200 mA at 24VDC   |                            |
| Hardware Characteristics                         |   |                            |
| Reverse voltage protection                       | Yes   |                            |
| Short circuit protection                         | Yes   |                            |
| Environmental Characteristics                    |   |                            |
| Operating temp                                   | -25 to 65 °C, -13 to 149 °F (for all other networks)<br>-25 to 50 °C, -13 to 122 °F (only for Profinet IRT Fibre Optic) | IEC 68-2-1, IEC 68-2-2     |
| Storage temp                                     | -40 to 85 °C, -40 to 185 °F   | IEC 68-2-1, IEC 68-2-2     |
| Relative Humidity                                | 5-95 % non condensing   | IEC 68-2-30                |
| 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<br>3 V/m 1,4 GHz - 2,0 GHz<br>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/rms  | EN 61000-4-6               |
| Emission (at 3 m)                                | 50 dB 30 MHz - 230 MHz<br>57 dB 30 MHz - 1 GHz  | EN 55016-2-3               |
| Single Pack Accessories                          |   |                            |
| • Configuration Cable (USB) • Installation sheet |   |                            |



## NETWORK SPECIFIC FEATURES

1 = Network connector, 2 = Baud rate,  
3 = I/O data, 4 = Other, 5 = Amount of slaves / adapters

| MASTER                           |  |
|----------------------------------|--|
| <b>ASI</b>                       | 1 = 2*2p; 5,08 Phoenix Plug 2 = 167 kbit/s 3 = 248/186 (digital input/output)<br>4 = ASI version 3.0 5 = 62  |
| <b>DeviceNet</b>                 | 1 = 5*5p; 5,08 Phoenix Plug 2 = 125-500 kbit/s<br>3 = 512 byte IN/OUT 4 = DeviceNet 2.0 scanner 5 = 63   |
| <b>EtherNet/IP</b>               | 1 = RJ45 2 = 10/100 Mbit/s 3 = 509/505 byte IN/OUT<br>4 = FTP Server, Web Server, SMTP Client 5 = 64   |
| <b>PROFIBUS</b>                  | 1 = DSUB9F 2 = Up to 12 Mb<br>3 = 512 byte IN/OUT 4 = Profibus DP (IEC 61158) 5 = 125  |
| SLAVE                            |  |
| <b>CANopen</b>                   | 1 = DSUB9M 2 = Up to 1 Mbit/s<br>3 = 512 byte IN/OUT 4 = Supports profile CIA DS301 V4.02  |
| <b>CC-Link</b>                   | 1 = 1*5p; 5,08 Phoenix Plug 2 = Up to 10 Mbit/s<br>3 = 896 IO points, 128 word IN/OUT 4 = Up to 4 occupied stations  |
| <b>CC-Link IE Field</b>          | 1 = 2*RJ45 2 = Up to 1 Gbp/s<br>3 = 512 byte IN/OUT 4 = CC-Link IE Field Network intelligent device station  |
| <b>ControlNet</b>                | 1 = 2*BNC Coax + RJ45 (NAP) 2 = 5 Mbit/s<br>3 = 450 byte IN/OUT 4 = Communications adapter, profile n. 12  |
| <b>DeviceNet</b>                 | 1 = 1*5p; 5,08 Phoenix Plug 2 = 125-500 kbit/s<br>3 = 512 byte IN/OUT 4 = Communications adapter, profile n. 12  |
| <b>EtherCAT</b>                  | 1 = 2*RJ45 2 = 100 Mbit/s<br>3 = 512 byte IN/OUT 4 = DS301 V4.02 compliant, 4 FMMU Channels  |
| <b>EtherNet/IP</b>               | 1 = 2*RJ45 2 = 10/100 Mbit/s 3 = 509/505 byte IN/OUT<br>4 = EtherNet/IP group 2 and 3 server, Modbus TCP slave functionality   |
| <b>FIPIO</b>                     | 1 = DSUB9M 2 = 1 Mbit/s 3 = 32 words IN/OUT<br>4 = Data exchange according to FIPIO Extended Device Profile, Class 0   |
| <b>Interbus RS485</b>            | 1 = DSUB9F + DSUB9M 2 = 500 kbit/s, 2 Mbit/s<br>3 = 20 byte IN/OUT (process data), 512 bytes IN/OUT (with PCP)<br>4 = PCP V.2.0 (0 or 1 word)  |
| <b>Interbus Fibre Optic</b>      | 1 = HFBR-2505C, HFBR-1505C 2 = 500 kbit/s, 2 Mbit/s<br>3 = 20 byte IN/OUT (process data), 512 bytes IN/OUT (with PCP)<br>4 = IEC874-2 and DIN47258   |
| <b>J1939</b>                     | 1 = 1*5p; 5,08 Phoenix Plug (Profibus / EtherNet/IP / Modbus-TCP) DSUB15M (Modbus RTU) 2 = - 3 = 2048 bytes IN/OUT (Modbus RTU), 248-500 (EtherNet/IP), Modbus TCP 499/495 bytes Profibus 4 = SAEJ1939 |
| <b>LonWorks</b>                  | 1 = 1*5p; 5,08 Phoenix Plug 2 = 78 kbit/s 3 = 256 network variables in/out<br>4 = Lonmark objects handling   |
| <b>Modbus Plus</b>               | 1 = DSUB9F 2 = 1 Mbit/s 3 = 32 words IN/OUT (global data)<br>4 = Modbus Plus Host Firmware Rev. 77   |
| <b>Modbus RTU</b>                | 1 = DSUB9F 2 = 1,2-57,6 kbit/s 3 = 256 registers in each direction<br>4 = RS232 and RS485  |
| <b>Modbus TCP</b>                | 1 = 2*RJ45 2 = 10/100 Mbit/s 3 = 512 byte IN/OUT<br>4 = Supports EtherNet/IP   |
| <b>PROFIBUS</b>                  | 1 = DSUB9F 2 = Up to 12 Mbit/s<br>3 = Up to 244 bytes data using DP / Up to 512 bytes using DPV1 (Max 344 bytes in-out) 4 = Profibus DP (IEC 61158)  |
| <b>PROFINET-IO</b>               | 1 = RJ45 2 = 10/100 Mbit/s 3 = 512 byte IN/OUT<br>4 = RT Communication and Cyclic data exchange  |
| <b>PROFINET IRT</b>              | 1 = 2*RJ45 2 = 100 Mbit/s 3 = 220 byte IN/OUT<br>4 = RT Communication and integrated IRT switch functionality  |
| <b>PROFINET IRT Fibre Optics</b> | 1 = 2*SC-RJ FO connectors 2 = 100 Mbit/s 3 = 220 byte IN/OUT<br>4 = RT Communication and integrated IRT switch functionality   |



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# Anybus X-gateway INTERFACE #1

| Anybus X-gateway Part number and price group Selection Matrix | Ethernet/rtu slave | Ethernet MBTCP slave | PROFINET-IO slave | EtherCAT slave | CC-Link IE Field slave** | PROFINET Slave | Devicenet Slave | CANopen Slave | Modbus RTU slave | CC Link | J1939*** | LonWorks   | Controlnet Slave | FIP Slave | Intrabus Slave Cu | Intrabus Slave Fo | Modbus Plus Slave | PROFINET IRT slave Cu | PROFINET IRT Slave Fo |
|---|--------------------|----------------------|-------------------|----------------|--------------------------|----------------|-----------------|---------------|------------------|---------|----------|------------|------------------|-----------|-------------------|-------------------|-------------------|-----------------------|-----------------------|
| PROFINET Master   | AB7900             | AB7929               | AB7946            | AB7998         | AB7953                   | AB7901         | AB7902          | AB7907        | AB7908           | AB7910  | n.a.     | n.a.       | AB7903           | AB7904    | AB7905            | AB7906            | AB7909            | n.a.                  | n.a.                  |
| Devicenet Master  | AB7915             | AB7930               | AB7947            | AB7997         | AB7955                   | AB7963         | AB7911          | AB7916        | AB7917           | AB7919  | n.a.     | n.a.       | AB7912           | AB7913    | AB7914            | AB7915            | AB7918            | n.a.                  | n.a.                  |
| ASI Master  | AB7920             | AB7931               | AB7948            | AB7998         | n.a.                     | AB7921         | AB7922          | AB7927        | AB7928           | AB7930  | n.a.     | n.a.       | AB7923           | AB7924    | AB7925            | AB7926            | AB7929            | n.a.                  | n.a.                  |
| Ethernet Master   | AB7968             | AB7969               | AB7970            | AB7999         | n.a.                     | AB7971         | AB7972          | AB7977        | AB7978           | AB7980  | n.a.     | n.a.       | AB7973           | AB7974    | AB7975            | AB7976            | AB7979            | n.a.                  | n.a.                  |
| CANopen Master  | AB7906             | AB7908               | AB7907            | AB7900         | n.a.                     | AB7901         | AB7902          | AB7904        | AB7905           | n.a.    | n.a.     | n.a.       | AB7903           | n.a.      | n.a.              | n.a.              | n.a.              | AB7909                | n.a.                  |
| Modbus MBTCP Master   | AB9006             | AB9008               | AB9007            | AB9000         | n.a.                     | AB9001         | AB9002          | AB9004        | AB9005           | AB9009  | n.a.     | n.a.       | AB9003           | n.a.      | n.a.              | n.a.              | n.a.              | AB9009                | n.a.                  |
| Ethernet/rtu slave  | AB7931             | AB7932               | AB7949            | AB7982         | AB7956                   | AB7932         | AB7933          | AB7939        | AB7939           | AB7941  | AB7965   | AB7942     | AB7934           | AB7935    | AB7936            | AB7937            | AB7940            | AB7942                | n.a.                  |
| Ethernet MBTCP slave  | AB7932             | AB7933               | AB7950            | AB7901         | AB7956                   | AB7934         | AB7935          | AB7940        | AB7941           | AB7943  | AB7965   | AB7944     | AB7936           | AB7937    | AB7938            | AB7939            | AB7942            | n.a.                  | n.a.                  |
| PROFINET IO slave   | AB7949             | AB7950               | AB7951            | AB7904         | AB7954                   | AB7952         | AB7953          | AB7958        | AB7959           | AB7961  | n.a.     | AB7944     | AB7954           | AB7955    | AB7956            | AB7957            | AB7960            | AB7940                | n.a.                  |
| EtherCAT slave  | AB7982             | AB7901               | AB7984            | AB7900         | AB7961                   | AB7982         | AB7988          | AB7991        | AB7992           | AB7984  | n.a.     | AB7983     | AB7988           | AB7989    | AB7988            | AB7989            | AB7990            | AB7913                | n.a.                  |
| CC-Link IE Field slave**                                      | AB7956             | AB7958               | AB7954            | AB7981         | n.a.                     | AB7959         | AB7960          | AB7963        | AB7964           | n.a.    | AB7965   | AB7962     | n.a.             | n.a.      | n.a.              | n.a.              | AB7963            | n.a.                  | n.a.                  |
| PROFINET Slave  | AB7932             | AB7934               | AB7952            | AB7958         | AB7959                   | AB7943         | AB7944          | AB7949        | AB7950           | AB7952  | AB7915   | AB7953     | AB7945           | AB7946    | AB7947            | AB7948            | AB7951            | AB7913                | AB7944                |
| Devicenet Slave   | AB7933             | AB7935               | AB7953            | AB7989         | AB7960                   | AB7944         | AB7954          | AB7959        | AB7960           | AB7962  | n.a.     | AB7963     | AB7955           | AB7956    | AB7957            | AB7958            | AB7961            | AB7940                | n.a.                  |
| CANopen Slave   | AB7938             | AB7940               | AB7958            | AB7991         | AB7963                   | AB7948         | AB7959          | AB7964        | AB7965           | AB7967  | n.a.     | AB7968     | AB7968           | AB7976    | AB7984            | AB7989            | AB7989            | AB7915                | AB7943                |
| Modbus RTU slave  | AB7939             | AB7941               | AB7959            | AB7992         | AB7964                   | AB7950         | AB7960          | AB7965        | AB7969           | AB7971  | AB7912   | See AB7009 | AB7969           | AB7977    | AB7984            | AB7990            | AB7990            | AB7940                | n.a.                  |
| CC Link slave   | AB7941             | AB7943               | AB7961            | AB7994         | n.a.                     | AB7952         | AB7962          | AB7967        | AB7968           | AB7968  | n.a.     | AB7927     | AB7971           | AB7979    | AB7986            | AB7982            | AB7924            | n.a.                  | n.a.                  |
| LonWorks  | AB7942             | AB7944               | AB7962            | AB7995         | n.a.                     | AB7953         | n.a.            | n.a.          | AB7912           | n.a.    | n.a.     | n.a.       | AB7971           | n.a.      | n.a.              | n.a.              | n.a.              | n.a.                  | n.a.                  |
| Controlnet Slave  | AB7934             | AB7936               | AB7954            | AB7987         | n.a.                     | AB7945         | AB7955          | See AB7009    | AB7912           | AB7927  | n.a.     | n.a.       | AB7912           | n.a.      | n.a.              | n.a.              | n.a.              | n.a.                  | n.a.                  |
| FIP Slave   | AB7935             | AB7937               | AB7955            | AB7988         | n.a.                     | AB7946         | AB7956          | AB7961        | AB7962           | AB7971  | n.a.     | AB7972     | AB7982           | AB7980    | AB7985            | AB7987            | AB7990            | AB7941                | n.a.                  |
| Intrabus Slave Cu   | AB7936             | AB7938               | AB7956            | AB7989         | n.a.                     | AB7947         | AB7957          | AB7962        | AB7963           | AB7968  | n.a.     | AB7987     | AB7986           | AB7974    | AB7981            | AB7982            | AB7985            | AB7914                | n.a.                  |
| Intrabus Slave Fo   | AB7937             | AB7939               | AB7957            | AB7990         | n.a.                     | AB7948         | AB7958          | AB7963        | AB7969           | AB7972  | n.a.     | AB7988     | AB7987           | AB7975    | AB7982            | AB7988            | AB7991            | n.a.                  | n.a.                  |
| Modbus Plus   | AB7940             | AB7942               | AB7960            | AB7993         | n.a.                     | AB7951         | AB7961          | AB7966        | AB7960           | AB7964  | n.a.     | AB7925     | AB7970           | AB7978    | AB7985            | AB7991            | AB7923            | n.a.                  | n.a.                  |
| PROFINET IRT slave Fo   | AB7942             | n.a.                 | n.a.              | n.a.           | n.a.                     | AB7943         | AB7944          | AB7945        | n.a.             | n.a.    | n.a.     | n.a.       | AB7941           | n.a.      | AB7914            | n.a.              | n.a.              | AB7922**              | n.a.                  |

## Anybus X-gateway INTERFACE #2

Please note: There are three price groups for Anybus X-gateways. The correct price group is indicated on the right of each part number. (price group A, B and C). Go to the Networking Products Pricelist to get the prices A, B and C.

The abbreviation "n.a." indicates that the product is currently not available in the standard Anybus product offer from HMS.

\*\* X-gateway CANopen and Modbus TCP have a different pricelist.

\*\*\* X-gateway CC-Link IE Field and other new combinations are only available in the new X-gateway release with revision F from Q2-2014.

\*\*\*\* X-gateway J1939 and AB7967 are not included in the new X-gateway release and will remain unchanged.