

 **Anybus**[®]**X-gateway**[™]

Industrial gateways/bridges designed to connect any TWO industrial networks

- ▶ Profibus
- ▶ Profinet IO
- ▶ DeviceNet
- ▶ EtherNet/IP
- ▶ ControlNet
- ▶ CANopen
- ▶ CC-Link
- ▶ EtherCAT
- ▶ AS-Interface
- ▶ Modbus Plus
- ▶ Modbus-RTU
- ▶ FIPIO
- ▶ Interbus

Connect between almost any TWO industrial networks. Take a closer look at the Anybus X-gateway family. More than 180 versions are available!

The Anybus X-gateway family is a product line consisting of over 180 different products aimed to connect almost every possible combination of two industrial networks. The product family supports 17 different fieldbus networks such as Profibus, DeviceNet, CANopen and CC-Link as well as many industrial Ethernet versions. The Anybus X-gateways are designed for use in industrial automation plants where increasingly many different industrial networks are used. The X-gateways help system integrators to easily interconnect between two networks enabling transparent information flow throughout the entire plant.

Easy setup without any programming!

The Anybus X-gateways are designed for use in harsh industrial environments featuring standard DIN rail mounting, IP 20 rating and 24 Volt DC power supply. The X-gateways are intelligent stand alone devices supporting fanless operation and industrial operating temperature range. The design is based upon two embedded Anybus communication modules and one additional gateway processor. Thanks to the wide range of Anybus-S slave and Anybus-M master modules, more than 180 X-gateway combinations are available. No programming is needed and the setup is done in a few minutes. Simply choose the gateway version that supports the two

networks you want to connect. For all possible network combinations, there is one separate gateway. This gives you a flexible and versatile solution that is based on proven Anybus technology.

I/O data transfer

The X-gateways primarily focus on the transfer of cyclic I/O data between two networks. This can either be a slave-slave combination or a master-slave combination. During the setup of the gateway, the user simply selects the amount of I/O to be transferred between network 1 and network 2. Since all industrial networks support a different amount of I/O data, the network with the least amount of I/O data determines how much data can be transferred in each case. The transfer time between the 2 networks is typically 10-15ms.

industrial Ethernet standards, the X-gateways are the perfect solution to integrate existing fieldbus installations into modern industrial Ethernet networks.

Easy Configuration

All X-gateways are pre-configured for 20 byte I/O. For this case, no additional configuration is necessary. For larger I/O sizes the X-gateway is configured through its serial configuration interface

Free included OPC Server

Included in the scope of supply of Anybus X-gateways is a free OPC server. The OPC server supports, data access (DA) v1.0, 2.05, 3.0 enabling access to cyclic process data and also includes a tag editor, online diagnostics and an online viewer/editor for monitoring and modification of process tag data.



Web and IT functionality for all Ethernet versions

The Anybus X-gateway family has support for the industrial Ethernet protocols Modbus-TCP, EtherNet/IP, Profinet & EtherCAT. Most Ethernet versions feature additional IT-functions such as, a dynamic web server with support for SSI-scripts, Flash file system and FTP-server.

Bridging between PLC brands

With over 180 gateways versions available the X-gateways can bring together the network worlds of Siemens, Rockwell, Schneider, Mitsubishi, Omron, GE-Fanuc, Hitachi, Bosch, Moeller, B&R, Beckhoff and many more.

Connecting fieldbusses with Ethernet

As HMS supports all major fieldbus and

WHY USE X-GATEWAYS?

- Simple way to transmit I/O data between any two industrial networks
- Instant connectivity - no programming
- Robust stand alone product for harsh industrial environments
- Over 180 possible combinations including master (scanner, client, controller), and slave (adapter, server, device) functionality
- Free included OPC enabling users to connect field devices to industrial or office PCs
- Tailor made for brand labelling and customization



Available combinations supporting:

- Profibus
- Profinet
- DeviceNet
- EtherNet/IP
- ControlNet
- CANopen
- CC-Link
- Interbus
- Lonworks
- AS-Interface
- EtherCAT
- Modbus-TCP
- Modbus Plus
- Modbus RTU
- FIPIO
- J1939



KEY FEATURES

- Transparent transfer of I/O data between two networks
- Fast I/O data exchange between networks, normal transfer time is 10-15 ms depending on network types
- Max 512 bytes of Input and 512 bytes of Output data
- Additional parameter data supported (Depending on network combination)
- Inbuilt simple configuration interface accessible via Windows Hyper Terminal
- IT functions such as dynamic Web server, supporting downloadable customer specific web pages
- Remote monitoring and diagnostic features for most Ethernet versions based on an integrated Web server
- Optional control status information added to I/O data for diagnostic purposes
- Free OPC server supporting, data access (DA) v1.0, 2.05, 3.0, tag editor, online diagnostics and online viewer/editor

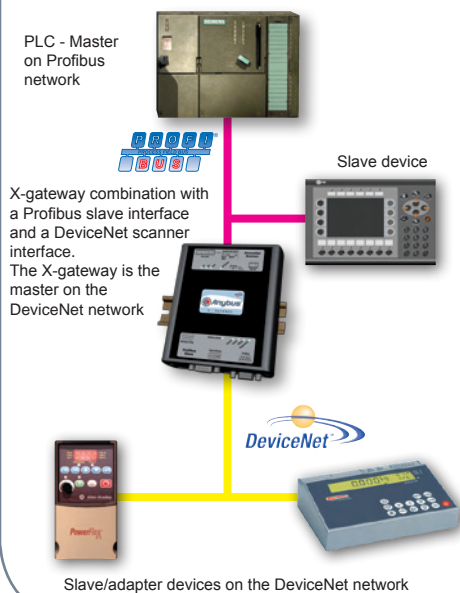
TECHNICAL SPECIFICATION

- Size: 126 x 110 x 42 mm (L x W x H)
4.96 x 4.33 x 1.65" (L x W x H)
- Weight: 500g or 1.102 lb
- DIN-rail mountable
- Protection class IP20
- Power supply: 24 VDC
- Operating temperature:
0 °C to + 65 °C
32 °F to + 149 °F
- EMC Compliance: CE Marked
Emission: EN 50081-2
Immunity: EN 50082-2
UL and cUL Compliance: E203225
Haz.Loc, ATEX Certification: 135419
- Fieldbus conformance: tested and verified Anybus technology
- RoHS compliance

Typical uses within a factory network

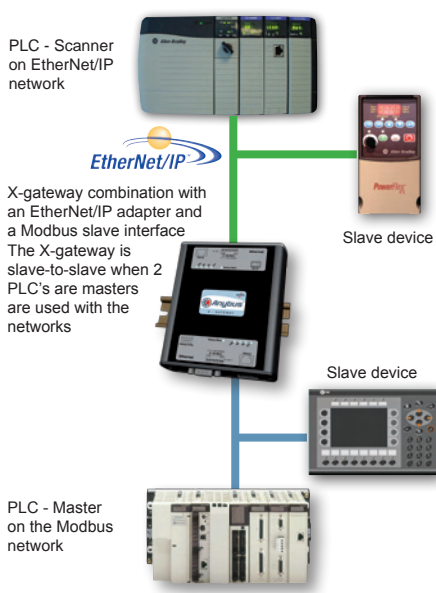
Master/Scanner to Slave/Adapter

A Siemens PLC running Profibus, the X-gateway is used to integrate a group of DeviceNet connected automation devices into the central control of the Siemens PLC. The X-gateway functions as a slave on the Profibus network and a scanner on the DeviceNet network.



Slave/Adapter to Slave/Adapter

An Allen Bradley PLC running EtherNet/IP as the top level network, shall be inter-connected with an existing part of the plant based on a Modicon PLC running Modbus. The X-gateway is used to transfer selected I/O data and parameters between the two parts of the plant for synchronization and control.



| | EtherNet/IP adapter | Modbus-TCP slave | Profinet IO device | EtherCAT slave | Profibus slave | DeviceNet adapter | ControlNet adapter | FIPIO slave | Interbus slave | Inletbus FO slave | CANopen slave | Modbus-RTU slave | Modbus Plus slave | CC-Link slave | Lonworks slave | Modbus-RTU master | J1939 |
|---------------------|---------------------|------------------|--------------------|----------------|----------------|-------------------|--------------------|-------------|----------------|-------------------|---------------|------------------|-------------------|---------------|----------------|-------------------|---------|
| | Part No | Part No | Part No | Part No | Part No | Part No | Part No | Part No | Part No | Part No | Part No | Part No | Part No | Part No | Part No | Part No | Part No |
| Profibus master | AB7800 | AB7629 | AB7646 | AB7696 | AB7801 | AB7802 | AB7803 | AB7804 | AB7805 | AB7806 | AB7807 | AB7808 | AB7809 | AB7810 | N/A | N/A | N/A |
| DeviceNet scanner | AB7607 | AB7630 | AB7647 | AB7697 | AB7663 | AB7811 | AB7812 | AB7813 | AB7814 | AB7815 | AB7816 | AB7817 | AB7818 | AB7819 | N/A | N/A | N/A |
| AS-Interface master | AB7820 | AB7631 | AB7648 | AB7698 | AB7821 | AB7822 | AB7823 | AB7824 | AB7825 | AB7826 | AB7827 | AB7828 | AB7829 | AB7830 | N/A | N/A | N/A |
| EtherNet/IP scanner | AB7668 | AB7669 | AB7670 | AB7699 | AB7671 | AB7672 | AB7673 | AB7674 | AB7675 | AB7676 | AB7677 | AB7678 | AB7679 | AB7680 | N/A | N/A | N/A |
| EtherNet/IP adapter | AB7831 | AB7632 | AB7649 | AB7682 | AB7832 | AB7833 | AB7834 | AB7835 | AB7836 | AB7837 | AB7838 | AB7839 | AB7840 | AB7841 | AB7842 | AB7007 | AB7665 |
| Modbus-TCP slave | AB7632 | AB7633 | AB7650 | AB7901 | AB7634 | AB7635 | AB7636 | AB7637 | AB7638 | AB7639 | AB7640 | AB7641 | AB7642 | AB7643 | AB7644 | AB7702 | AB7665 |
| Profinet IO device | AB7649 | AB7650 | AB7651 | AB7684 | AB7652 | AB7653 | AB7654 | AB7655 | AB7656 | AB7657 | AB7658 | AB7659 | AB7660 | AB7661 | AB7662 | AB7013 | N/A |
| EtherCAT slave | AB7682 | AB7901 | AB7684 | AB7900 | AB7685 | AB7686 | AB7687 | AB7688 | AB7689 | AB7690 | AB7691 | AB7692 | AB7693 | AB7694 | AB7695 | AB7061 | N/A |
| Profibus slave | AB7832 | AB7634 | AB7652 | AB7685 | AB7843 | AB7844 | AB7845 | AB7846 | AB7847 | AB7848 | AB7849 | AB7850 | AB7851 | AB7852 | AB7853 | AB7000 | N/A |
| DeviceNet adapter | AB7833 | AB7635 | AB7653 | AB7686 | AB7844 | AB7854 | AB7855 | AB7856 | AB7857 | AB7858 | AB7859 | AB7860 | AB7861 | AB7862 | AB7863 | AB7001 | N/A |
| ControlNet adapter | AB7834 | AB7636 | AB7654 | AB7687 | AB7845 | AB7855 | AB7864 | AB7865 | AB7866 | AB7867 | AB7868 | AB7869 | AB7870 | AB7871 | AB7872 | AB7006 | N/A |
| FIPIO slave | AB7835 | AB7637 | AB7655 | AB7688 | AB7846 | AB7856 | AB7865 | AB7873 | AB7874 | AB7875 | AB7876 | AB7877 | AB7878 | AB7879 | AB7880 | AB7011 | N/A |
| Interbus slave | AB7836 | AB7638 | AB7656 | AB7689 | AB7847 | AB7857 | AB7866 | AB7874 | AB7881 | AB7882 | AB7883 | AB7884 | AB7885 | AB7886 | AB7887 | AB7012 | N/A |
| Interbus F.O slave | AB7837 | AB7639 | AB7657 | AB7690 | AB7848 | AB7858 | AB7867 | AB7875 | AB7882 | AB7888 | AB7889 | AB7890 | AB7891 | AB7892 | AB7893 | N/A | N/A |
| CANopen slave | AB7838 | AB7640 | AB7658 | AB7691 | AB7849 | AB7859 | AB7868 | AB7876 | AB7883 | AB7889 | AB7894 | AB7895 | AB7896 | AB7897 | AB7898 | AB7003 | N/A |
| Modbus-RTU Slave | AB7839 | AB7641 | AB7659 | AB7692 | AB7850 | AB7860 | AB7869 | AB7877 | AB7884 | AB7890 | AB7895 | AB7899 | AB7620 | AB7621 | AB7009 | AB7010 | AB7612 |
| Modbus Plus slave | AB7840 | AB7642 | AB7660 | AB7693 | AB7851 | AB7861 | AB7870 | AB7878 | AB7885 | AB7891 | AB7896 | AB7620 | AB7623 | AB7624 | AB7625 | AB7002 | N/A |
| CC-Link slave | AB7841 | AB7643 | AB7661 | AB7694 | AB7852 | AB7862 | AB7871 | AB7879 | AB7886 | AB7892 | AB7897 | AB7621 | AB7624 | AB7626 | AB7627 | AB7008 | N/A |
| Lonworks slave | AB7842 | AB7644 | AB7662 | AB7695 | AB7853 | AB7863 | AB7872 | AB7880 | AB7887 | AB7893 | AB7898 | AB7009 | AB7625 | AB7627 | AB7628 | N/A | N/A |
| Modbus-RTU master | AB7007 | AB7702 | AB7013 | AB7061 | AB7000 | AB7001 | AB7006 | AB7011 | AB7012 | N/A | AB7003 | AB7010 | AB7002 | AB7008 | N/A | N/A | N/A |
| J1939 | AB7665 | AB7665 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | AB7612 | N/A | N/A | N/A | N/A | N/A |

Customized versions for specific requirements possible - Contact your nearest HMS office



About HMS

HMS Industrial Networks is the leading independent supplier of network technology for automation devices. HMS develops and manufactures solutions for interfacing automation devices to industrial networks.

Development and manufacturing takes place at the head office in Halmstad, Sweden. Local sales, support and training is provided by the branch offices in Chicago, Beijing, Karlsruhe, Milan, Mulhouse and Tokyo and by a global distribution network spanning 30 countries. HMS employs over 150 people and is reporting sales of over €30 million. HMS is a public listed company on the NASDAQ OMX Nordic exchange in Stockholm, ISIN-code: SE0002136242

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