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# X-gateway™ Modbus-TCP

The Anybus X-gateway for Modbus-TCP makes it possible to connect Modbus-TCP devices to almost any other PLC system.

The X-gateway provides Modbus-TCP client (master) connectivity to all major fieldbus and industrial Ethernet networks and is easily configured and installed. No programming required!



## Typical Industries



## In-short

Every product in the Anybus X-gateway Modbus-TCP family is equipped with a Modbus-TCP Client interface. The second network can be selected from the list below:

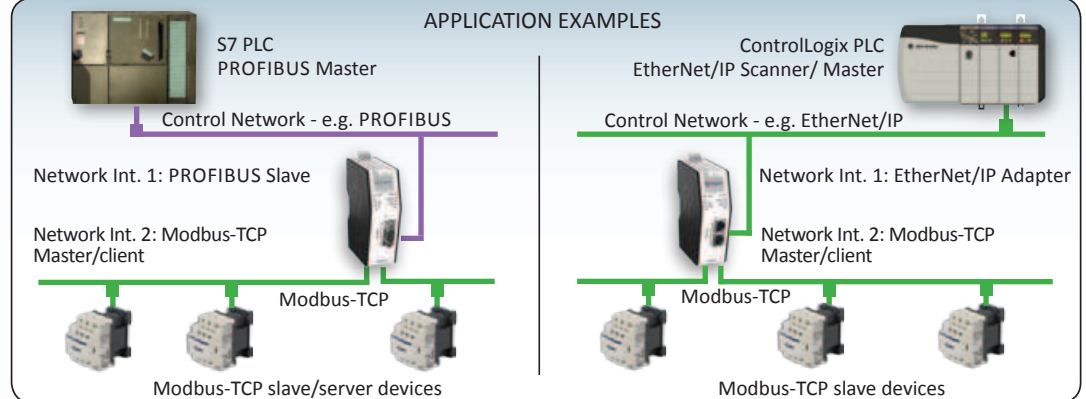
Network:	PartNo:
CANopen Slave	AB9004
CC-Link Slave	AB9009
ControlNet Adapter	AB9003
DeviceNet Adapter	AB9002
EtherCAT Slave	AB9000
EtherNet/IP Adapter	AB9006
Modbus RTU Slave	AB9005
Modbus-TCP Server	AB9008
PROFIBUS Slave	AB9001
PROFINET-IO Device	AB9007

Accessories:	PartNo:
SD memory card Industrial grade	021530
Wall Mount Option for increased vibration protection	021520



HMS provides a full 3 year product guarantee

## APPLICATION EXAMPLES



Anybus X-gateway Modbus-TCP acts as translator between a Modbus-TCP network and another industrial network. The primary focus is the fast transfer of cyclic I/O data between Modbus-TCP and the other chosen network. The new X-gateway design meets the industrial demands for functionality, robustness, size, durability and most importantly ease of use.

## Features and benefits

- Connects Modbus-TCP slave devices to other fieldbus and Industrial Ethernet networks
- Provides Modbus-TCP client/master functionality on one side, and fieldbus/Ethernet slave functionality on the other side
- Allows for fast transparent transfer of I/O data between two networks. High performance, short throughput delay, approx. imately 5 ms
- Cyclic and acyclic data
- SD memory card slot for backup, configuration and Easy Replacement™
- Dual Port switched Ethernet allows daisy chaining on all Ethernet ports
- Robust design for optimized cabling, DIN-rail or wall mount options
- Easy web based configuration tool. No programming or scripting required
- Live list which provides information to the uplink PLC about the status of connected Modbus-TCP server devices and configured transactions

## Easy configuration

Configuration is made over Ethernet via a built-in web page. The configuration page is used to configure Ethernet TCP/IP settings, Modbus-TCP client configuration and I/O data register mapping between Modbus-TCP and the chosen network.

The uplink fieldbus or Ethernet slave interface to the PLC is configured with a standard device description file (GSD/EDS) in the PLC engineering tool.

## Easy Replacement™

The X-gateway is equipped with an SD memory card slot for Easy Replacement and with configuration copy and backup. If required field replacement can be made without connecting a PC and with no specialist help, by simply moving the SD memory card.

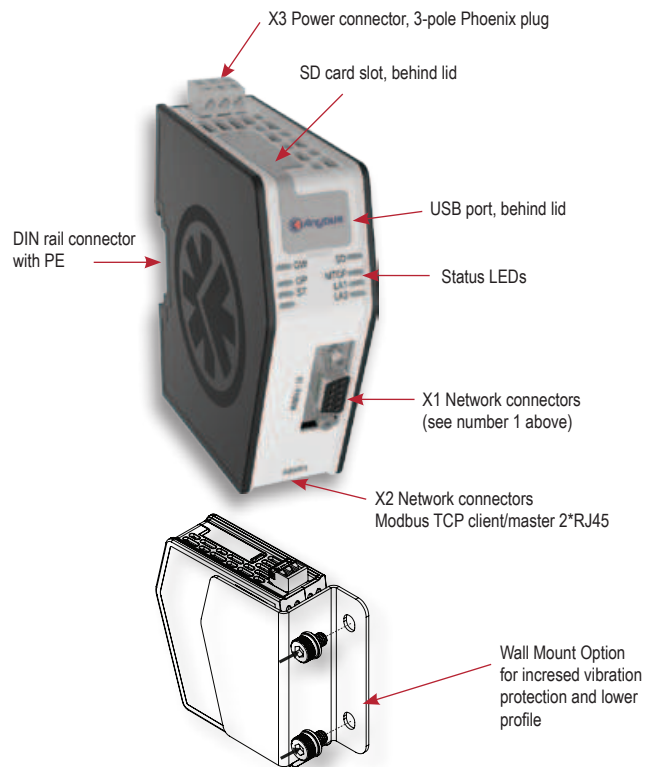
## TECHNICAL SPECIFICATIONS

X-gateway Modbus-TCP Client/Master		
Max amount of slaves	126	
Network connector	2*RJ45	
Baud rate	10/100 Mbit/s	
I/O data	256 bytes IN/OUT	
Supported Modbus-TCP functions	1, 2, 3, 4, 5, 6, 15, 16, 23	
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, T4	ANSI/ISA-12.12.01-2000
ATEX	Zone 2, Cat 2	EN 60079-15 EN 60079-11
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	
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/rms	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
Single Pack Accessories		
• Resource CD • Installation sheet		

## NETWORK SPECIFIC FEATURES

1 = Network connector, 2 = Baud rate,  
3 = I/O data, 4 = Other

SLAVE / ADAPTER / SERVER / DEVICE	
<b>CANopen</b>	1 = DSUB9M 2 = Up to 1 Mbit/s 3 = 256 byte IN/OUT 4 = LSS and Auto baud
<b>CC-Link</b>	1 = 5*5p; 5.08 Phoenix Plug 2 = 156 kbit/s to 10 Mbit/s 3 = 256 byte IN/OUT 4 = CC-Link version 2.0 with extended data
<b>ControlNet</b>	1 = 2*BNC Coax 2 = 5 Mbit/s 3 = 256 byte IN/OUT 4 = CIP Parameter Object Support
<b>DeviceNet</b>	1 = 5*5p; 5.08 Phoenix Plug 2 = 125-500 kbit/s 3 = 256 byte IN/OUT 4 = Bit-strobed, Change-of-state or Cyclic I/O
<b>EtherCAT - 2 port</b>	1 = 2*RJ45 2 = 100 Mbit/s 3 = 256 byte IN/OUT 4 = CANopen over EtherCAT (COE)
<b>EtherNet/IP - 2 port</b>	1 = 2*RJ45 2 = 10/100 Mbit/s 3 = 256 byte IN/OUT 4 = Device Level Ring (DLR)
<b>Modbus RTU</b>	1 = DSUB9F 2 = Up to 115,2 kbit/s 3 = 256 byte IN/OUT 4 = RTU (8bit) and ASCII (7bit) support
<b>Modbus TCP - 2 port</b>	1 = 2*RJ45 2 = 10/100 Mbit/s 3 = 256 byte IN/OUT 4 = Up to 4 simultaneous connections
<b>PROFIBUS</b>	1 = DSUB9F 2 = Up to 12 Mbit/s 3 = 256 byte IN/OUT 4 = I&M functions
<b>PROFINET IO - 2 port</b>	1 = RJ45 2 = 100 Mbit/s 3 = 256 byte IN/OUT 4 = SNMP with support for the mibs: LLDP and MIB-II



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