

# Anybus X-gateway CANopen - Modbus-TCP INSTALLATION SHEET



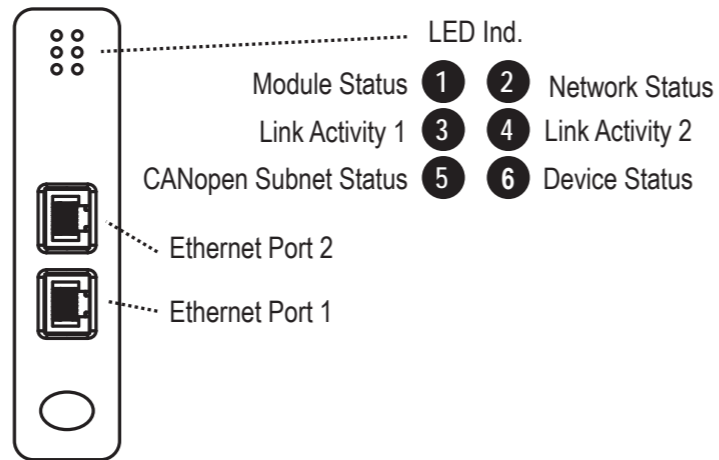
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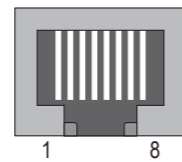
SP118, rev 2.00, Apr 2012. AB7308.

[www.anybus.com](http://www.anybus.com)

## Module Front



## Ethernet Connector



Pin no	Description
1	TD+
2	TD-
3	RD+
6	RD-
4, 5, 7, 8	(reserved)

## LED Indicators

LED no	Indication	Meaning
1 (Module Status)	Off	Not initialized
	Green	Initialized, normal operation
	Flashing green (1 Hz)	IP address not set by on-board switches
	Flashing red (1 Hz)	Invalid MAC address (internal error)
	Flashing red (2 Hz)	Failed to load Ethernet configuration from FLASH
	Flashing red (4 Hz)	Internal error (fatal)
2 (Network Status)	Flashing green	Duplicate IP address detected
	Flashing green	Indicates the number of Modbus-TCP connections (each connection is represented by as a single green flash)
3 (Link activity 1)	Off	No link sensed on port 1/2
4 (Link activity 2)	Flashing green	Activity, receiving/transmitting Ethernet packets at 100 Mbps
	Flashing yellow	Activity, receiving/transmitting Ethernet packets at 10 Mbps
5 (CANopen Subnet Status) <sup>1</sup>	Off	Power off
	Flickering green/red	The LSS services are in progress
	Blinking green	Pre-operational state
	Single flash, green	Stopped state
	Green	Operational state
	Blinking red	Configuration error
	Single flash, red	Warning limit reached
	Double flash, red	Error control event
	Triple flash, red	Sync error
	Quadruple flash, red	Data communication timeout
Red	Bus off	
6 (Device Status)	Off	Power off
	Single flash, green	Bootup
	Green	Running
	Single flash, red	Initialization error
	Double flash, red	Timeout
	Triple flash, red	Hardware failure
	Quadruple flash, red	General error
	Red	Fatal error

1. This LED shows the status of the CANopen subnet that is controlled by the X-Gateway CANopen.

## Accessories Checklist

The following items are required for installation:

### CANopen:

- CANopen configuration tool (available at [www.anybus.com](http://www.anybus.com))
- CANopen adapter for configuration tool (not included)
- CANopen cable (not included)
- EDS file, available at [www.anybus.com](http://www.anybus.com)

### Modbus TCP Interface:

- Ethernet cable and connector (not included)
- Configuration tool (not included)

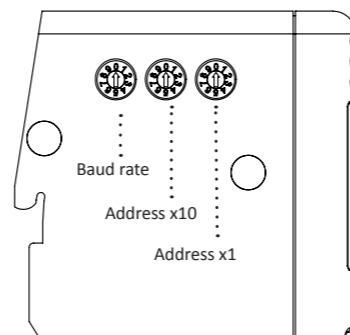
## Installation and Startup Summary

- Select baud rate and an unused node address for the interface. (Cover the switches with the enclosed switch covers.)
- Connect the gateway to the CANopen network.
- Install the EDS file in the CANopen configuration tool.
- Power up and (if required) configure the module.
- Restart the module after the CANopen interface has been configured.
- Connect the gateway to the Ethernet network.
- Power up and (if required) configure the module.

Please note that the module will start up as a CANopen slave. The module can be reconfigured as a CANopen master during configuration.

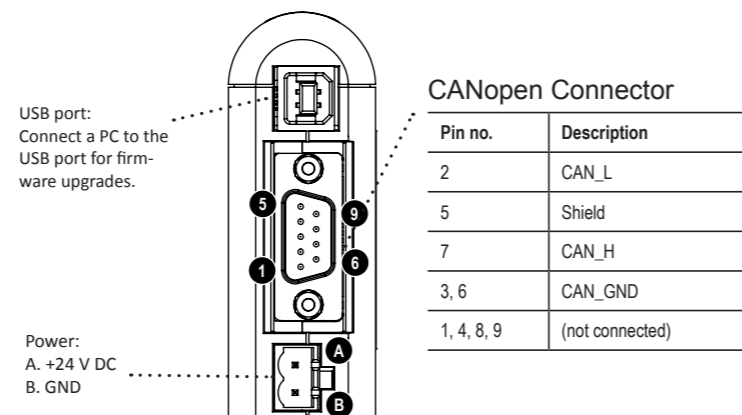
## Side View

Setting	Baud Rate (kbit/s)
0	20
1	50
2	125
3	250
4	500
5	800
6	1000
7	Auto
8, 9	Not available



Allowed node address range is 1 - 127. Addresses 1 - 99 are available using the address rotary switches. To set e.g. node address 42, set the left address switch to 4 and the right address switch to 2. Cover the switches with the enclosed switch covers to ensure EMC compliance.

## Bottom View



## Technical Details

- Power supply:  
24 V DC (-10% to +10%).
- Power consumption:  
Maximum power consumption is 250 mA @ 24 V DC.  
Typical power consumption: 100 mA @ 24 V DC.
- Protective Earth (PE):  
Internal connection to PE via DIN-rail.  
**Note:** Make sure the DIN-rail is properly connected to PE.

## CANopen Support

Technical support regarding the CANopen fieldbus system should be addressed to CAN in Automation (CiA).  
Online: [www.can-cia.org](http://www.can-cia.org)

## Modbus TCP Support

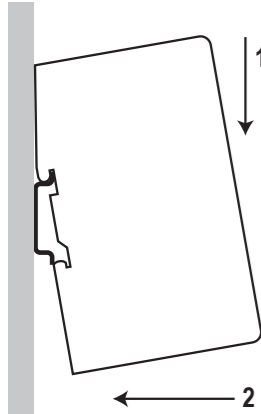
Technical questions regarding the Modbus-TCP fieldbus system should be addressed to the Modbus IDA Organization.  
Online: [modbus-ida.org](http://modbus-ida.org)

For maintenance and support, contact the HMS support department.  
Contact information is available at the support pages at [www.anybus.com](http://www.anybus.com).

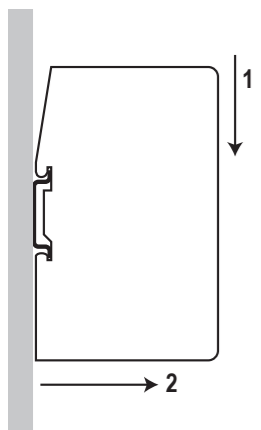
Further information and documents about this product can be found at the product pages on [www.anybus.com](http://www.anybus.com).

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## DIN-rail Mounting



To snap the gateway on, first press it downwards (1) to compress the spring in the DIN-rail mechanism, then push it against the DIN-rail as to make it snap on (2).



To snap the gateway off, push it downwards (1) and pull it out from the DIN-rail (2), as to make it snap off from the DIN-rail.

## Additional Installation and Operating Instructions

Supply voltage: The X-gateway requires a regulated 24 V (21.6 V to 26.4 V) DC power source.

Field wiring terminal markings (wire type (Cu only, 14-30AWG)  
"Use 60/75 or 75°C copper (CU) wire only"  
Terminal tightening torque (5-7 lb-in (0.5 - 0.8 Nm)).

Use in Overvoltage Category I Pollution Degree 2 Environment.

Install in an enclosure considered representative of the intended use. To comply with ATEX directives, the equipment must be installed within an IP54 enclosure and must be installed with a transient suppressor on the supply that does not exceed 140% (33.6 V DC) of the nominal rated supply voltage.

Operating temperature/Surrounding temperature:  
-25 to +55 degrees C @ 250 mA @ 24 V DC.

Maximum surface temperature: 135 degrees C.

Pressure: 850 - 1050 millibar.

This product is designed to safely operate in class I, division 2 Hazardous location according to ANSI/ISA 12.12.01-2011 and category 3, zone 2 according to EN 60079-0, EN 60079-11, and EN 60079-15.

SUITABLE FOR USE IN CLASS I, DIVISION 2, GROUPS A, B, C AND D HAZARDOUS LOCATIONS, OR NONHAZARDOUS LOCATIONS ONLY.

## Warnings

- **WARNING - EXPLOSION HAZARD - SUBSTITUTION OF ANY COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2.**
- **WARNING - EXPLOSION HAZARD - WHEN IN HAZARDOUS LOCATIONS, TURN OFF POWER BEFORE REPLACING OR WIRING MODULES.**
- **WARNING - EXPLOSION HAZARD - DO NOT DISCONNECT EQUIPMENT WHILE THE CIRCUIT IS LIVE OR UNLESS THE AREA IS KNOWN TO BE FREE OF IGNITABLE CONCENTRATIONS.**
- **WARNING - EXPLOSION HAZARD - THE USB CONNECTOR IS NOT FOR USE IN HAZARDOUS LOCATIONS AND FOR TEMPORARY CONNECTION ONLY. DO NOT USE, CONNECT OR DISCONNECT UNLESS THE AREA IS KNOWN TO BE NONHAZARDOUS. CONNECTION OR DISCONNECTION IN AN EXPLOSIVE ATMOSPHERE COULD RESULT IN AN EXPLOSION.**
- **WARNING - INSTALL IN AN ENCLOSURE CONSIDERED REPRESENTATIVE OF THE INTENDED USE. TO COMPLY WITH ATEX DIRECTIVES, THE EQUIPMENT MUST BE INSTALLED WITHIN AN IP54 ENCLOSURE AND MUST BE INSTALLED WITH A TRANSIENT SUPPRESSOR ON THE SUPPLY THAT DOES NOT EXCEED 140% (33.6 V DC) OF THE NOMINAL RATED SUPPLY VOLTAGE.**

## UL Certification



LISTED 67AM

## Atex Certification

EX nA ic IIC T4 Gc



DEMKO 12 ATEX 1062548X

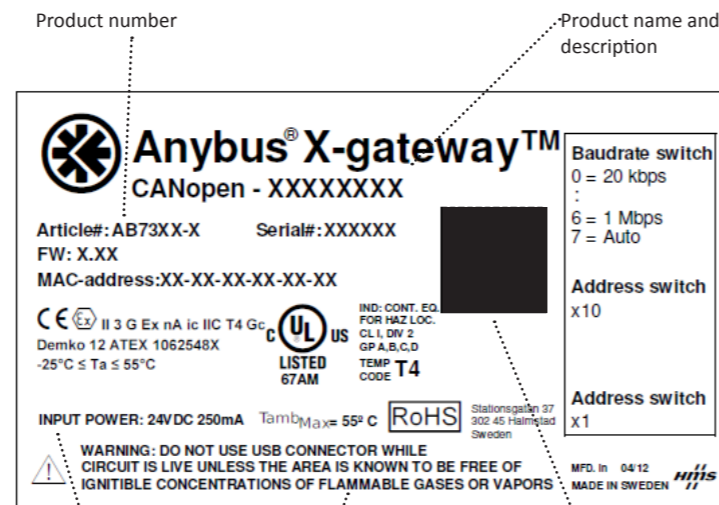
## EMC Compliance (CE)



This product is in accordance with the EMC directive 2004/108/EC through conformance with the following standards:

- **EN 61000-6-4 (2007)**  
Emission standard for industrial environment  
EN 55016-2-3, Class A (2006)
- **EN 61000-6-2 (2005)**  
Immunity for industrial environment  
EN 61000-4-2 (2009)  
EN 61000-4-3 (2006)  
EN 61000-4-4 (2004)  
EN 61000-4-5 (2005)  
EN 61000-4-6 (2007)

## Label Markings



Surrounding air temperature and electrical ratings

Warnings

Product information bar code

HMS Industrial Networks AB  
Stationsgatan 37  
302 45 Halmstad  
Sweden



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