Anybus X-gateway CANopen - Modbus RTU
INSTALLATION SHEET

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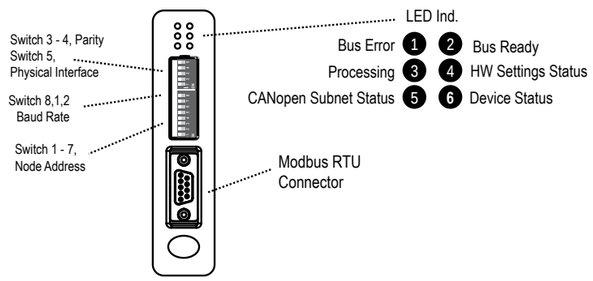
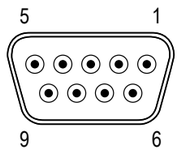
Module Front



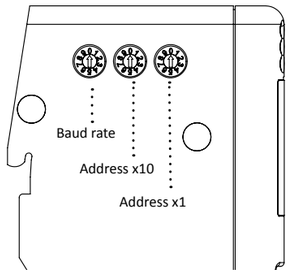
Modbus RTU Connector



Pin no	Name	Function
2	RS232 - Tx	Transmit signal
3	RS232 - Rx	Receive signal
5	GND	Signal ground
6	+5 V	Power supply
7	RS485 D0	
8	RS485 D1	
Casing	PE	
1, 4, 9	-	(not connected)

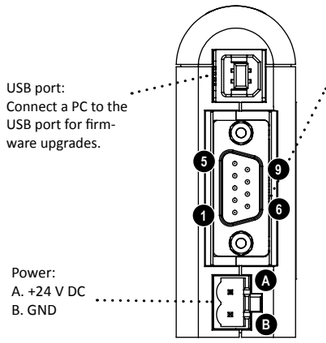
Side View

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



CANopen Connector

Pin no.	Description
2	CAN_L
5	Shield
7	CAN_H
3, 6	CAN_GND
1, 4, 8, 9	(not connected)

LED Indicators

LED no	Indication	Meaning
1 (Bus Error)	Off Red	Normal operation Bus Error
2 (Bus Ready)	Off Green Red	No power Bus ready Bus timeout error
3 (Processing)	Off Flashing green	No query is currently being processed Processing query
4 (HW Settings Status)	Off Red	Using switch settings, normal operation Not configured. Operating at 19200 bps. Will only respond to broadcast messages.
5 (CANopen Subnet Status)[1]	Off Flickering green/red Blinking green Single flash, green Green Blinking red Single flash, red Double flash, red Triple flash, red Quadruple flash, red Red	Power off The LSS services are in progress Pre-operational state Stopped state Operational state Configuration error Warning limit reached Error control event Sync error Data communication timeout Bus off
6 (Device Status)	Off Single flash, green Green Single flash, red Double flash, red Triple flash, red Quadruple flash, red Red	Power off Bootup Running Initialization error Timeout Hardware failure General error Fatal error

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

Modbus RTU Switch Settings

The Node Address is set in binary form with switches 1 - 7. Each module has to have a unique address.

The rest of the switches are used as shown in the tables below.

Baud Rate (Bps)	Sw. 8	Sw. 1	Sw. 2
-	OFF	OFF	OFF
1200	OFF	OFF	ON
2400	OFF	ON	OFF
4800	OFF	ON	ON
9600	ON	OFF	OFF
19200	ON	OFF	ON
38400	ON	ON	OFF
57600	ON	ON	ON

Parity	Stop Bits	Sw. 3	Sw. 4
-	-	OFF	OFF
None (default)	2	OFF	ON
Even	1	ON	OFF
Odd	1	ON	ON

Physical Interface	Sw. 5
RS232	ON
RS485	OFF

Accessories Checklist

The following items are required for installation:

CANopen:

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

Modbus RTU Interface:

- Modbus RTU cable (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 Modbus RTU network.
- Set baud rate etc. using the switches.
- 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.

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

Modbus RTU Support

Technical quiestions regarding the Modbus RTU fieldbus system should be addressed to the Modbus IDA organization.
Online: modbus-ida.org

For maintenance and support, contact the HMS support department. Contact information is available at the support pages at www.anybus.com.

Further information and documents about this product can be found at the product pages on www.anybus.com.

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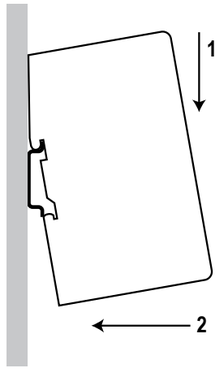
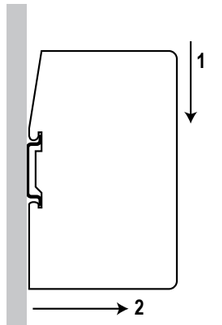
DIN-rail Mounting



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.

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

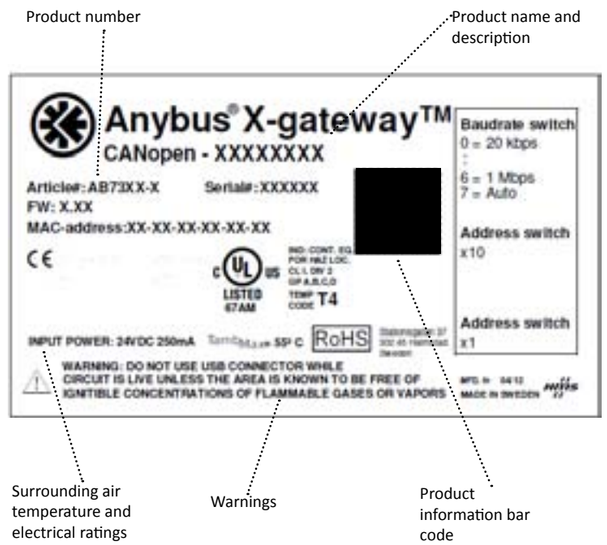
Maximum surface temperature: 135 degrees C.

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.

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

Label Markings



Warnings

- **WARNING - EXPLOSION HAZARD - SUBSTITION 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 CURCUIT 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.**

UL Certification

c UL us LISTED
IND: CONT. EQ. FOR HAZ LOC.
CL I, DIV 2
GP A,B,C,D
TEMP CODE **T4**
E203225

LISTED 67AM

EMC Compliance (CE)

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)

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