

Anybus® X-gateway™ CANopen® - Modbus-TCP
INSTALLATION SHEET



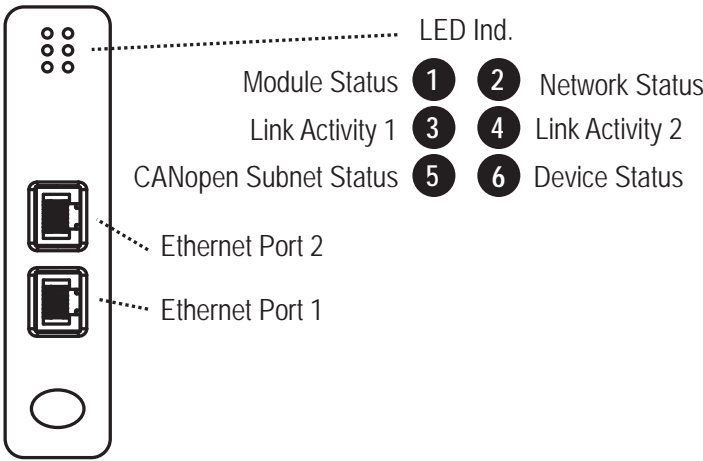
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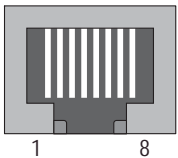
SP1198, Rev 2.20. AB7308.

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 Green Flashing green (1 Hz) Flashing red (1 Hz) Flashing red (2 Hz) Flashing red (4 Hz) Red	Not initialized Initialized, normal operation IP address not set by on-board switches Invalid MAC address (internal error) Failed to load Ethernet configuration from FLASH Internal error (fatal) Duplicate IP address detected
2 (Network Status)	Flashing green	Indicates the number of Modbus-TCP connections (each connection is represented by as a single green flash)
3 (Link activity 1) 4 (Link activity 2)	Off Flashing green Flashing yellow	No link sensed on port 1/2 Activity, receiving/transmitting Ethernet packets at 100 Mbps Activity, receiving/transmitting Ethernet packets at 10 Mbps
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.

Accessories Checklist

The following items are required for installation:

CANopen:

- ACM 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-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.

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), at: www.can-cia.org

Modbus-TCP Support

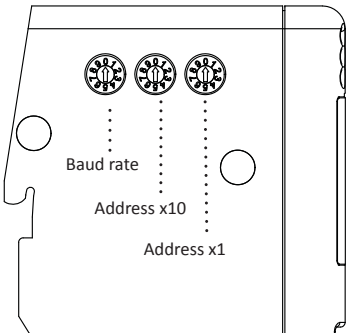
Technical questions regarding the Modbus-TCP fieldbus system should be addressed to the Modbus IDA Organization, at: modbus-ida.org

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 at: www.anybus.com.

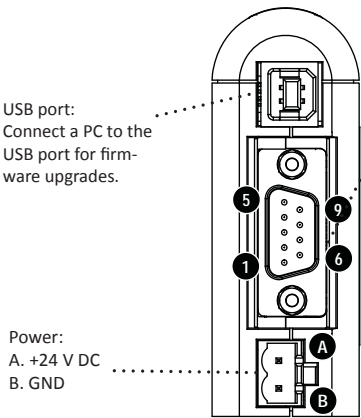
Side View

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.

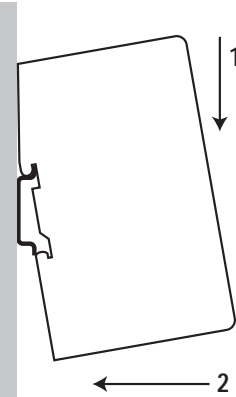
Bottom View



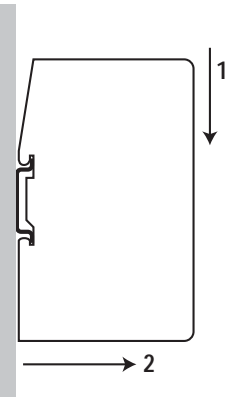
CANopen Connector

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

DIN Rail Mounting



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



To dismount the gateway, push it downwards (1) and pull it out from the rail (2).

Additional Installation and Operating Instructions

This equipment requires a regulated 24 V (21.6 V to 26.4 V) DC power source

Field wiring terminal markings (wire type (Cu only, 14-30 AWG))
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 conforming to EN 60664-1.

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

Maximum surface temperature: 135 °C

Pressure: 850–1050 millibar (85–105 kPa)

This product is designed to safely operate in class I, division 2 Hazardous location according to ANSI/ISA 12.12.01-2013 and category 3, zone 2 according to EN 60079-0:2012 and EN 60079-15:2010.

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

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.

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.**

Attention!

- **ATTENTION – RISQUE D'EXPLOSION – LE REMPLACEMENT DE TOUT COMPOSANTS INVALIDE LA CERTIFICATION CLASS I, DIVISION 2.**
- **ATTENTION – RISQUE D'EXPLOSION – EN ZONE EXPLOSIVE, VEUILLEZ COUPER L'ALIMENTATION ÉLECTRIQUE AVANT LE REMPLACEMENT OU LE RACCORDEMENT DES MODULES.**
- **ATTENTION – RISQUE D'EXPLOSION – NE PAS DÉCONNECTER L'ÉQUIPEMENT TANT QUE L'ALIMENTATION EST TOUJOURS PRÉSENTE OU QUE LE PRODUIT EST TOUJOURS EN ZONE EXPLOSIVE ACTIVE.**
- **ATTENTION – RISQUE D'EXPLOSION – LE CONNECTEUR USB N'EST PAS FAIT POUR UN USAGE EN MILIEU EXPLOSIF. NE PAS, BRANCHER ET DEBRANCHER SANS SAVOIR SI LA ZONE N'EST PAS IDENTIFIÉE NON EXPLOSIVE. BRANCHER OU DEBRANCHER EN ZONE EXPLOSIVE PEUT ENTRAINER UNE EXPLOSION.**
- **AVERTISSEMENT – INSTALLER DANS UNE ARMOIRE VERROUILLÉE VALIDANT L'ACTE VOLONTAIRE D'UTILISATION.**

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 2014/30/EU through conformance with the following standards:

- **EN 61000-6-4 (2007)**
Emission standard for industrial environment
EN 55016-2-3, Class A (2010)
EN 55022, Class A (2011)
- **EN 61000-6-2 (2005)**
Immunity for industrial environment
EN 61000-4-2 (2009)
EN 61000-4-3 (2006)
EN 61000-4-4 (2012)
EN 61000-4-5 (2014)
EN 61000-4-6 (2014)

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