Anybus® Communicator™ CAN - Modbus RTU
INSTALLATION SHEET
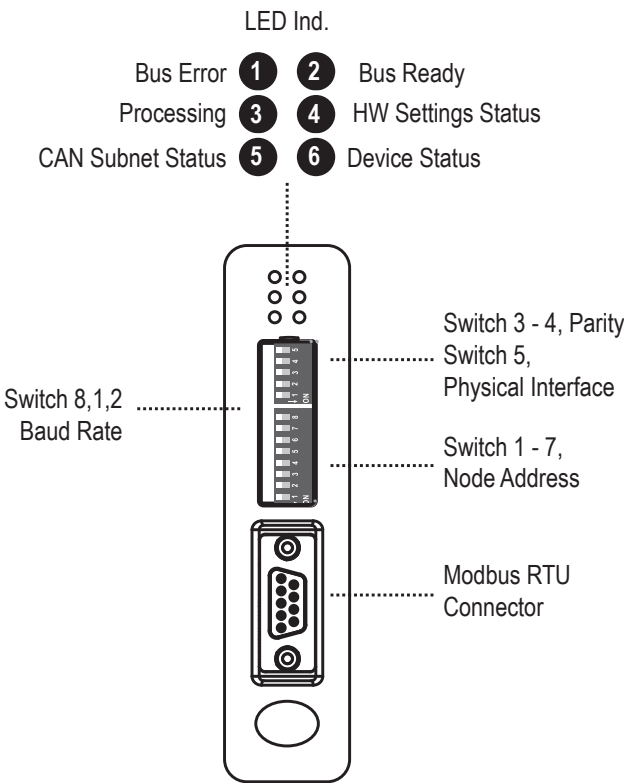

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SP1311, rev 2.20, AB7316   www.anybus.com

Module Front

LED Ind.

Bus Error   ① ②   Bus Ready
Processing   ③ ④   HW Settings Status
CAN Subnet Status ⑤ ⑥ Device Status

Switch 3 - 4, Parity
Switch 5,
Physical Interface

Switch 8,1,2
Baud Rate

Switch 1 - 7,
Node Address

Modbus RTU
Connector

Modbus RTU Connector

5   1
9   6

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)

Bottom View

USB port:
Connect a PC to the
USB port for firm-
ware upgrades.

Power:
A. +24 V DC
B. GND

CAN 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	Normal operation
	Red	Bus Error
2 (Bus Ready)	Off	No power
	Green	Bus ready
	Red	Bus timeout error
3 (Processing)	Off	No query is currently being processed
	Flashing green	Processing query
4 (HW Settings Status)	Off	Using switch settings, normal operation
	Red	Not configured. Operating at 19200 bps. Will only respond to broadcast messages.
5 (CAN Subnet Status)	Off	Power off/no CAN communication
	Green	Running with no transaction errors/timeout
	Flashing red	Transaction error/timeout or subnetwork stopped
	Red	Fatal error
6 (Device Status)	Off	Power off/initializing
	Alternating red/green	Invalid or missing configuration
	Green	Run
	Flashing green	Idle
	Red	Fatal error

Configuration Switches

NOTE: Changes to the configuration switches will only take effect after the gateway has been restarted.

The first 7 switches are used to set the node ID, using binary format.

Sw. 1	Sw. 2	Sw. 3	Sw. 4	Sw. 5	Sw. 6	Sw. 7	Node ID
64	32	16	8	4	2	1	
OFF	OFF	OFF	OFF	OFF	OFF	OFF	(invalid)
OFF	OFF	OFF	OFF	OFF	OFF	ON	1
...	...	...	...	...	...	...	...
ON	ON	ON	ON	ON	ON	ON	127 (64+32+16+8+4+2+1)

The remaining switches are used to set the baud rate, the parity and stop bits, and the physical interface type. **Bold text** = default value.

Sw. 8	Sw. 1	Sw. 2			Baud rate	
OFF	OFF	OFF			(invalid)	
OFF	OFF	ON			1200 bps	
OFF	ON	OFF			2400 bps	
OFF	ON	ON			4800 bps	
ON	OFF	OFF			9600 bps	
ON	OFF	ON			**19200 bps**	
ON	ON	OFF			38400 bps	
ON	ON	ON			57600 bps	

		Sw. 3	Sw. 4			Parity	Stop bits
		OFF	OFF			(invalid)	(invalid)
		OFF	ON			**None**	**2**
		ON	OFF			Even	1
		ON	ON			Odd	1

			Sw. 5				Interface
			OFF				RS485
			ON				RS232

Accessories Checklist

The following items are required for installation:

- Anybus Configuration Manager - Communicator CAN (available at www.anybus.com)
- CAN cable (included D-sub can be used)
- USB cable (type B) for configuration download
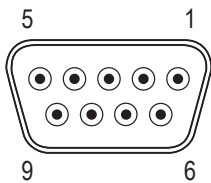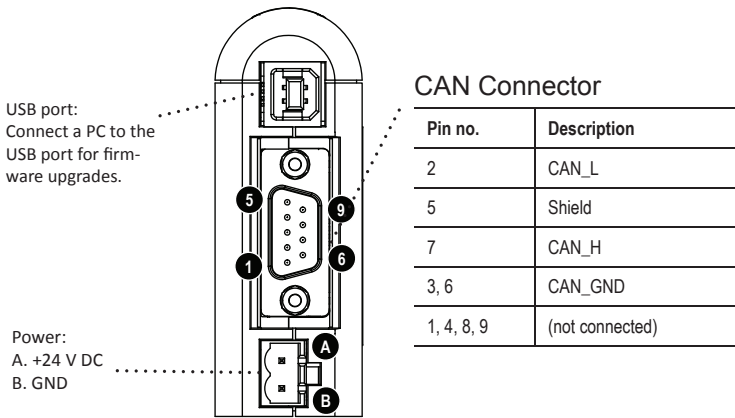- Modbus RTU cable (not included)

Modbus Notes:

- Modbus start address for input registers is 1 (data from CAN to Modbus). Modbus start address for holding registers is 1025 (data from Modbus to CAN).
- If the physical interface is RS485, check that the Modbus cables are terminated correctly.

Installation and Startup Summary

- Build the configuration in the Anybus Configuration Manager.
- Set the Modbus switches to the desired values.
- Mount the Communicator at its proper position.
- Connect the USB, Modbus and CAN cables (if needed, use cables with terminations or add terminations).
- Power up the module and download the configuration.
- Remove the USB cable.

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.

Modbus Support

Technical questions regarding the Modbus RTU fieldbus system should be addressed to the Modbus IDA organization.

Online: www.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
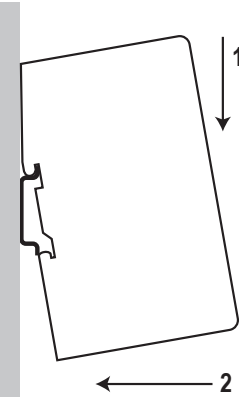
To mount the gateway on a DIN rail, first press it downwards (1) to compress the spring in the rail mechanism, then push it against the rail as to make it snap on (2).
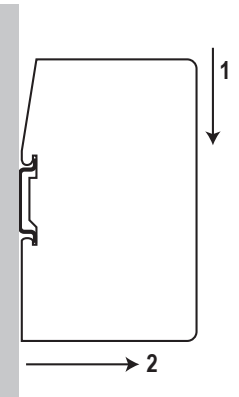
To dismount the gateway, push it downwards (1) and pull it out from the rail (2).

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 - 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.**

- **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 IDENTIFIEE NON EXPLOSIVE. BRANCHER OU DEBRANCHER EN ZONE EXPLOSIVE PEUT ENTRAINER UNE EXPLOSION.**

- **AVERTISSEMENT – INSTALLER DANS UNE ARMOIRE VERROUILLEE VALIDANT L'ACTE VOLONTAIRE D'UTILISATION.**

UL Certification

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

LISTED 67AM

ATEX Certification

EX nA ic IIC T4 Gc

II 3 G

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)

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