Anybus® Communicator™

IIoT

STARTUP GUIDE

SP2444 1.0 en-US ENGLISH

Connecting Devices™

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1 Preface

1.1 About This Document

This document describes how to install the Anybus Communicator IIoT.

For additional documentation and software downloads, FAQs, troubleshooting guides and technical support, please visit www.anybus.com/support.

1.2 Document Conventions

The following formatting conventions are used in this document to indicate safety information and other content of specific importance:

WARNING
This instruction must be followed to avoid a risk of death or serious injury.

Caution
This instruction must be followed to avoid a risk of personal injury.

This instruction must be followed to avoid a risk of reduced functionality and/or damage to the equipment, or to avoid a network security risk.

This is additional information which may facilitate installation and/or operation.

2 Installation

2.1 Installation Overview

Prerequisites

The following items are required for installation and basic configuration:

- Configuration cable
- Subnetwork cable
- Ethernet cable
- Anybus Configuration Manager - Communicator RS-232/422/485 (4.5.0.0 or later)
- Anybus Configuration Manager - IIoT
- IPconfig (3.2.1.1 or later)

The Anybus Configuration Manager and IPconfig applications can be downloaded from www.anybus.com/support.

Basic installation steps

1. Mount the Anybus Communicator on the DIN rail.
2. Connect the serial and IIoT network interfaces.
3. Connect the configuration cable between the gateway and a PC.
4. Connect the power cable and apply power.
5. Check the LED indicators to verify that the gateway is running and that the serial and IT networks are connected. See *LED Indicators, p. 9*.
6. Use Anybus Configuration Manager - Communicator to set up the data exchange configuration in the Anybus Communicator.
7. Use IPconfig to configure the TCP/IP settings for the Anybus Communicator.
8. Use Anybus Configuration Manager - IIoT to create a tag configuration and transfer it to the Anybus Communicator.
9. Connect to the web interface of the Anybus Communicator and configure MQTT/OPC UA communication.

2.2 DIN Rail Mounting

> **!** The unit must be electrically grounded through the DIN rail for EMC compliance.

Mount on DIN rail

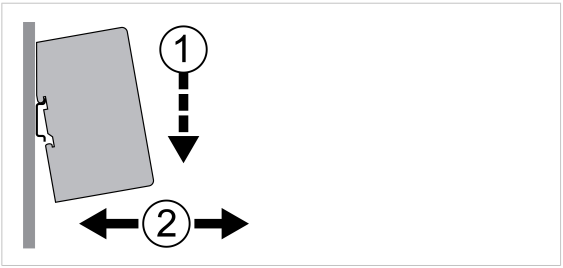


Fig. 1 Push down to mount or remove

1. Hook the unit onto the upper lip of the rail and push gently downwards.
2. Push the unit towards the rail until it snaps into place.

Remove from DIN rail

1. Push the unit gently downwards on the rail.
2. Pull the bottom end of the unit free of the rail and remove it.

2.3 Connectors and Indicators

2.3.1 Overview

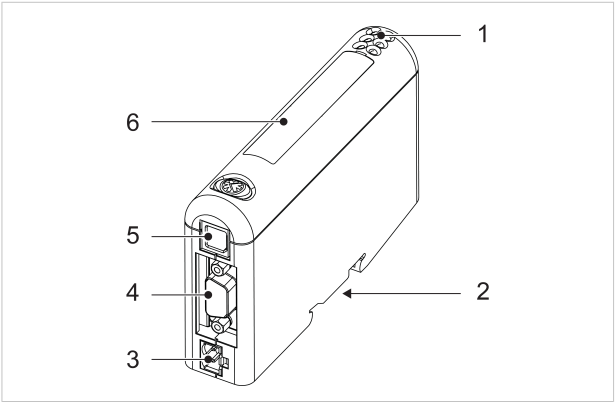


Fig. 2 Overview

1 LED indicators
2 DIN rail mount
3 Power connector
4 Serial subnetwork interface
5 PC connector
6 IIoT network interface

2.3.2 Serial Subnetwork Interface

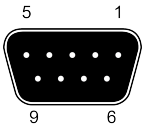


Fig. 3 D-sub connector (DE-9F)

Pin	Description	RS-232	RS-422	RS-485
1	+5 V Output (100 mA max.)	x	x	x
2	RS-232 Rx	x		
3	RS-232 Tx	x		
4	(reserved)			
5	Signal Ground	x	x	x
6	RS-422 Rx +		x	
7	RS-422 Rx -		x	
8	RS-485 + / RS-422 Tx +		x	x
9	RS-485 - / RS-422 Tx -		x	x
Housing	Shield	x	x	x

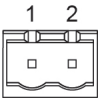
! Do not connect Signal Ground to Protective Earth (PE) of other nodes on the subnetwork as this may damage the on-board serial transceivers. Connect it only to the Signal Ground on other nodes.

Bias and/or termination resistors may be required depending on the type of serial network. Please refer to the User Manual for more information.

2.3.3 Power Connector (2 pin)

> **!** Connecting power with reverse polarity or using the wrong type of power supply may damage the equipment. Make sure that the power supply is connected correctly and of the recommended type.

Pin	Signal
1	+24 VDC
2	Power Ground

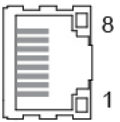


2.3.4 PC Connector (RJ11)

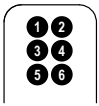
Pin	Signal
1	GND (signal ground)
2	GND (signal ground)
3	RS-232 Rx (input)
4	RS-232 Tx (output)

2.3.5 Ethernet Connector (RJ45)

Pin	Signal	Description
1	TD+	Transmit data +
2	TD-	Transmit data -
3	RD+	Receive data +
6	RD-	Receive data -
4,5,7,8	-	(reserved)



2.4 LED Indicators



LED 1 to 4 Model-specific information

LED 5 Serial subnetwork status

LED 6 Device status

LED	Indication	Meaning
1 - Network Status	Off	Offline or no power
	Green	Online, IP address assigned
	Green, flashing	No IP address assigned or no link
	Red	Fatal error, IP address conflict
	Alternating Red/Green	Firmware update in progress
2 - Module Status	Off	No power or IP address conflict
	Green	Normal operation
	Red	Fatal error
	Alternating red/green	Firmware update in progress
3 - Link/Activity 1 4 - Link/Activity 2	Off	Link not detected or no power
	Green	Link established (100 Mbit/s)
	Green, flickering	Link activity (100 Mbit/s)
	Red	Link established (10 Mbit/s)
	Red, flickering	Link activity (10 Mbit/s)

5 - Subnet Status	Off	No power
	Green	Running
	Green, flashing	Running, one or more transaction errors
	Red	Transaction error/timeout or subnet stopped
6 - Device Status	Off	No power
	Green	Initializing
	Green, flashing	Running
	Red	Bootloader mode
	Alternating red/green	Configuration invalid or missing

The Link/Activity LED indicators will show a red light for 10 Mbit/s connections. This is normal and does not indicate an error.

3 Technical Data

3.1 General Specifications

Model name	Anybus Communicator IIoT
Order code	AB7079-B
Dimensions (L x W x H)	120 x 75 x 27 mm
Weight	150 g
Operating temperature	0 to +55 °C (IEC 60068-2-1 and IEC 60068-2-2)
Storage temperature	-40 to +85 °C (IEC 60068-2-1 and IEC 60068-2-2)
Humidity range	5–95 % RH, non-condensing (IEC 60068-2-30)
Power supply	24 V ±10 % DC regulated power source
Current consumption	Typical: 100 mA @ 24 VDC Maximum: 200 mA @ 24 VDC
Galvanic isolation	Yes, on both network sides
Mechanical rating	IP20, NEMA rating 1
Mounting	DIN rail (EN 50022) Network shield conductance via DIN rail
Certifications	See datasheet at www.anybus.com/support

3.2 Serial Interface

Serial application Interface	Selectable RS-232, RS-422, RS-485
Maximum number of stations	31 nodes via RS-422 or RS-485
Protocol: Modbus RTU	Modbus RTU Master - Query/Response
Protocol: ASCII/Vendor Specific	Request/Response or Produce/Consume
Protocol: Rockwell DF1	DF1 Master

3.3 IIoT Interface

OPC UA functionality

- Support for micro-embedded profile
- Supports Discovery Services
- Timestamp supported via discovery server
- User name and password authentication
- Supports DataChange Subscription
- Maximum 80 data point tags
  (max. 2 clients with up to 40 tags per client)

MQTT functionality

- MQTT client acting as publisher
- MQTT version 3.1.1 supported
- Json data encoding supported
- QoS 0-2 supported
- User name and password authentication
- Maximum 256 data point tags

Ethernet

- 100 Mbit/s, full duplex (fixed)
- Dual port cut-through switch, RJ45 connectors

Box 4126
300 04 Halmstad, Sweden

info@hms.se

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