Anybus Communicator - Common Ethernet

Order Code: ABC3090
Modbus RTU Master - Industrial Ethernet

Integrate your serial RS-232/485 based industrial devices and equipment to EtherCAT, EtherNet/IP, Modbus TCP or PROFINET control systems without any changes to the device. Just connect, configure and you’re done.

The Anybus Communicator can transfer large amounts of data, is fast to configure thanks to its’ drag and drop web interface and is built on trusted Anybus technology.

CONVERT ALMOST ANY TYPE OF SERIAL PROTOCOL
The Communicator can convert both standard serial protocols such as Modbus RTU and proprietary serial request/response or produce/consume based protocols.

TYPICAL SERIAL APPLICATIONS
Typical serial applications include variable frequency drives, sensors, actuators, human machine interfaces, barcode readers, RFID readers and industrial scales among others.

FEATURES & BENEFITS

- Transfer up to 1 500 bytes of data in both directions
- Selectable industrial ethernet network (EtherNet/IP, Modbus TCP or PROFINET)
- Web-based drag and drop configuration interface
- ·-25 to +70 °C industrial temperature range
- Powered by award winning NP40 network processor

Transfer up to 1 500 bytes of data
Demand for more data is constantly growing and the Communicator has been equipped to handle the challenge. It can transfer up to 1 500 bytes from the PLC to the Gateway and 1 500 bytes from the gateway to the PLC, 3 000 bytes in total (network dependent). Support for up to 150 Modbus commands means even complex configurations with multiple nodes can be handled with ease.

Drag and drop web interface
To make sure you spend as little time as possible configuring the Communicator, we have built a graphical and responsive web-based user interface. No software needed to be installed, just open your favorite web browser and get started.

Industrial temperature range
An industrial operating temperature range of -25 to +70 °C ensures the Communicator can excel under harsh conditions.

Powered by proven NP40 technology
The Communicator is built on the award-winning and proven Anybus NP40 network processor. With hundreds of thousands NP40:s used in Embedded applications across the world, it is the industry benchmark for reliable industrial communication.

Security switch
Even with sophisticated security measures, human error is still the main cause of security breaches. To simplify security, we added a physical security switch on the Communicator. It locks your configuration and prevents any access to the web-based configuration interface. Just flip it when your configuration is done and watch the padlock LED on the product light up.

Ethernet configuration port

With a dedicated Ethernet configuration port you don’t need any special configuration cable. In addition, it is easy to connect to the gateway to monitor network traffic.

Optimized for DIN-rail mounting

The slim form factor, front facing network connectors, screw in serial cable connector and the neat cable tie ensure it is fast and simple to install and connect the Communicator.

Diagnostics

When opening the Communicator web interface you immediately see the status of the PROFINET connection and serial connection. You can even see the status of individual serial nodes. It’s also equipped with a serial log and an event log for further analysis.

Support

Sometimes you run into a problem where you need help. That’s why we have included a support page in the user interface with contact information. There is even a button to generate a support package to simplify troubleshooting.

SERIAL FEATURES

- Selectable RS-232/485 interface
- 3 ms serial update rate (selectable)
- Visual I/O data map to map serial data to industrial network
- Drag and drop frame builder for custom protocols, no programming required
- Trigger serial transactions from control system with triggers
- Transfer data between serial nodes with general data area
- Monitor and control serial nodes from control system with live list and data exchange control
- Ability to import Communicator Classic configuration file

COMMON ETHERNET FEATURES

- Cover multiple protocols with a single gateway and reduce storage costs
- Supports EtherNet/IP, EtherCAT, Modbus TCP or PROFINET (Modbus TCP pre-loaded)
- Transfer 1 448 bytes with EtherNet/IP, 1486 bytes with EtherCAT, 1 500 bytes with Modbus TCP and 1 024 bytes with PROFINET to and from the gateway
- Download your protocol firmware from the product support page (free)
- Load your protocol firmware via the gateway web-configuration interface
- Dual RJ45 Ethernet ports with 10/100 Mbit full duplex
- Daisy chaining with integrated switch

TECHNICAL SPECIFICATIONS

GENERAL

Dimensions (L x W x H) with serial and power connector	98 x 27 x 144 mm 3.85 x 1.06 x 5,67 in
Weight	150 grams, 0.33 lb
Buttons and switches	Reset button and security switch
LEDs	Gateway, PROFINET and Serial status
IP rating	IP20
Housing material	PC ABS, UL 94 VO
Mounting	DIN rail (35 * 7,5/15)

ENVIRONMENT

Operating temperature	-25 to 70° C, -13 to 158° F
Storage temperature	-40 to 85° C, -40 to 185° F
Relative humidity	0-95% non condensing
Installation altitude	Up to 2 000 m

POWER

Input voltage	12 - 30 VDC
Current consumption	Typical: 160 mA @ 24V Max: 400 mA @ 12V
Power connector	3-pin plug with screw terminal
Protection	Reverse voltage protection and short circuit protection

ETHERNET PORTS

Ports	2 x Ethernet
Isolation	Galvanic isolation
Bitrate	10/100 Mbit full duplex
Connector	RJ45
Switch.	Dual port cut-through switch

PROFINET

Mode	PROFINET IO-Device (slave)
Class	A, B
Communication channels	Real Time Channel (RT)
Input data size	1 024 bytes
Output data size	1 024 bytes
Minimum cycle time	1 ms
Max number of connections	1 IO Controller Application Relationship + 2 Device Access Application Relationships
Netload class	Class III
I&M records	Manufacturer data (I&M0), Tag information (I&M1), Date/Time (I&M2), Description (I&M3)
SNMP	Available
GSDML File	Available
Certification	Approved

ETHERNET/IP

Mode	Adapter (slave)
Messages	Implicit and explicit
Max no of scanner connections	1 input/output (exclusive owner) 3 listen only or input only
Input data size	1 448 bytes (with large forward open)
Output data size	1 448 bytes (with large forward open)
Network redundancy	Device Level Ring (DLR), beacon-based
Quick connect	Class B
Certification	ODVA conformant
Minimum cycle time	1 ms for class 1 connections, 100 ms for class 3 connections
EDS File	Available

MODBUS TCP

Mode	Server
Max number of connections	4
Input data size	1 500 bytes
Output data size	1 500 bytes

CERTIFICATIONS AND STANDARDS

UL	cULusfile number E214107
CE	2014/30/EU
KC	R-R-ABJ-Communicator
EMC	EN 61000-6-2 EN 61000-4-2 EN 61000-4-3 EN 61000-4-4 EN 61000-4-5 EN 61000-4-6 EN 61000-6-4 EN 55032
Environment	IEC 60068-2-1 Ab IEC 60068-2-2 Bb IEC 60068-2-1 Ab IEC 60068-2-2 Bb IEC 60068-2-14 Nb IEC 60068-2-30 Db IEC 60068-2-78 Cab IEC 60068-2-78 Cab
Vibration and shock	IEC 60068-2-27 IEC 60068-2-6

Waste certification	WEE

CONFIGURATION

Configuration software	Web based configuration
Configuration ports	Dedicated 10/100 Mbit RJ45 Ethernet configuration port and Ethernet ports

SECURITY

Secure boot	Ensures software authenticity
Security switch	Physical switch that enable/disable access to the web based configuration interface

PRODUCT PACKAGING

Content	Gateway, power connector, start-up guide, compliance information sheet
Box material	Cardboard

MEAN TIME BETWEEN FAILURE

MTBF	> 1500000 h, Telcordia Method I Case 3 at 30° C

ETHERCAT

Mode	EtherCAT slave according to IEC 61158 Type 12 (ETG.1000)
Addressing modes	Logical, node, and position
Synchronization modes	Free run
Input data size	1 486 bytes
Output data size	1 486 bytes
Network redundancy	Device Level Ring (DLR), beacon-based
Minimum cycle time	100 µs
Features	Supports CANopen over EtherCAT (CoE)
ESI File	Available

Ordering information

Order Code	ABC3090
Included components	Anybus Communicator - Common Ethernet

3 year guarantee. For purchasing instructions and terms and conditions, see: How to buy