

Let's connect. ABB Network Communication Adapters

These flexible plug-in adapters provide fast and simple universal connectivity to all major controllers. Universal connectivity means ABB Low Voltage Drives connect to virtually all controller brands and communication networks, allowing users to choose the best network to meet their needs.



Network connectivity of products provides simplified interface for control and management of drives; improving quality, productivity, flexibility and scalability.

ABB's complete product portfolio of drives and protocol network adapters make ABB drives ideal for many different industrial applications in industries such as; water & waste water, pumps & fans, alternative energy, pulp & paper, metals, mining, cement, power, chemical, and oil and gas.

Advantages of Network Connectivity

- Decreases mechanical and electrical installation time
- Reduces down time
- More data is available at a lower cost
- Reduces time and cost of machine expansion or relocation
- Remote data access
- Diagnostics provide predictive failure warnings
- Open protocols provide multi-vendor interoperability
- Ease of machine expansion or relocation
- Reusability of system software

Advantages of ABB Network Connectivity

- Connectivity to virtually any automation architecture
- Fast & simple connectivity
- Products designed and tested to conform to protocol specifications
- Best in class support resources

End User Benefits

- Decrease in mechanical and electrical installation cost
- Decrease in down time
- Increase in productivity
- Diminished start-up cost
- Lower maintenance and diagnostic cost

Protocol Network Adapters	Max. Devices	Baud Rate
CANopen® RCAN-01	127	10 kbit/s - 1 Mbit/s
ControlNet™ RCNA-01	99	5 Mbit/s
DeviceNet™ RDNA-01	64	125 kbit/s - 500 kbit/s
EtherCAT® RECA-01	65535	100 Mbit/s
EtherNet/IP™ RETA-01	Nearly Unlimited	10 100 Mbit/s
Modbus® RTU RMBA-01	247	600 bit/s - 19200 kbit/s
Modbus® TCP RETA-01	Nearly Unlimited	10 100 Mbit/s
PROFIBUS® DP RPBA-01	32/segment 126 total	9.6 kbit/s - 12 Mbit/s
PROFINET® IO RETA-02	Nearly Unlimited	100 Mbit/s

CANopen: RCAN-01

The adapter fulfils CiA (CAN in Automation) standard DSP 402 (Device Profile Drives and Motion Control). CANopen device profiles define both direct access to the drive parameters and time critical process data communication.

ControlNet: RCNA-01 (+K462)

The adapter module supports redundant RG-6 quad shielded cable (coax) for the bus connection. The module is also equipped with a NAP (Network Access Port). RCNA-01 control is based on the standard ControlNet objects and vendor specific objects.

DeviceNet: RDNA-01 (+K451)

Adapter module acts as a Class 2 slave with predefined master-slave connection set services. These include the Explicit Messaging, the Poll-Response service and the Change of State/Cyclic service. The adapter supports the ODVA AC/DC Drive Functional Profile with additional features and ABB Drives Profile.

EtherCAT: RECA-01

The adapter module supports the CANopen DSP 402 (Device Profile Drives and Motion Control) profile or the ABB Drives profile. The RECA-01 implements the EtherCAT state machine, four sync manager channels to control the access to the application memory, two watch dogs and specified EtherCAT services, addressing modes and FMMUs.

EtherNet/IP: RETA-01 (+K466)

The module has two communication profiles; AC/DC drive profile and ABB Drives profile. The RETA-01 uses static assemblies, except for the User Specific Control and the Extended Speed Control Plus Drive Parameters assembly. The module fulfills all requirements for certification as an Ethernet/IP device.

Modbus-RTU: RMBA-01 (+K458)

The RMBA-01 provides a galvanically-isolated RS-485 interface. The drive parameter and data set information is mapped into a 4xxxx register area. This holding register area can be read from an external device, and an external device can modify the register values by writing to them.

Modbus-TCP: RETA-01 (+K466)

The adapter module acts as a Modbus/TCP server with support for ABB Drives profile. Common read/write single and multiple register function codes are supported.

PROFIBUS-DP: RPBA-01 (+K454)

The adapter module supports PROFIBUS DP-V0 and DP-V1 communication. The RPBA-01 automatically detects the telegram type used, and supports both PPO messages 1 to 6 and standard telegrams (STD) 1 and 20.

PROFINET: RETA-02 (+K467)

The adapter module can operate in two modes, Vendor mode and PROFIdrive mode. The user can select the appropriate device access point, functional module, parameterization, configuration and acyclic read/write operations. The real time channel is used for standard cyclic data transfer and alarms.

Compatibility table

Protocol	Network Adapter*	ACS550	ACQ550	ACS800	ACQ800	DCS800
CANopen	RCAN-01	X	X	X	X	X
ControlNet	RCNA-01	X	X	X	X	X
DeviceNet	RDNA-01	X	X	X	X	X
EtherCAT	RECA-01	X	X	X	X	X
EtherNet/IP	RETA-01	X	X	X	X	X
Modbus-RTU	embedded	X	X	—	—	—
	RMBA-01	—	—	X	X	X
Modbus-TCP	RETA-01	X	X	X	X	X
	RETA-02	X	X	X	X	X
PROFIBUS DP	RPBA-01	X	X	X	X	X
PROFINET IO	RETA-02	X	X	X	X	X

* also known as Fieldbus Adapter

For more information please contact:

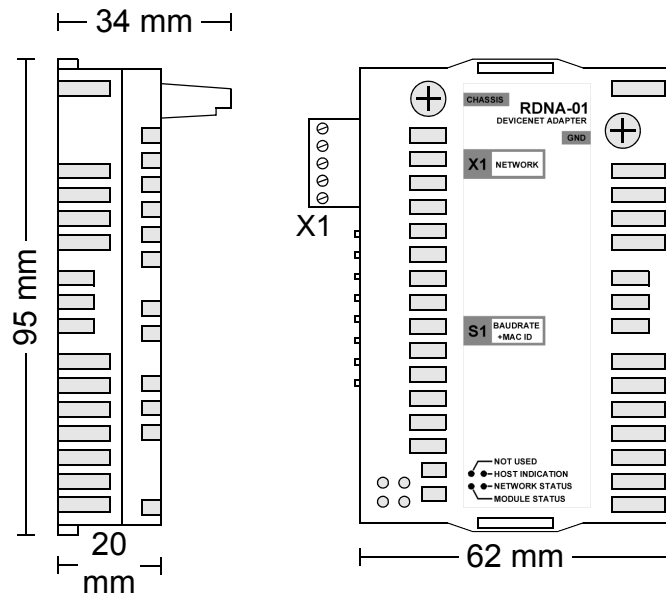
www.abb.com/drives

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Specifications subject to change without notice

Technical data

RDNA-01

Enclosure:



Mounting: Into an option slot inside the drive

Degree of protection: IP 20

Ambient conditions: The applicable ambient conditions specified for the drive in its *Hardware Manual* are in effect.

Settings:

- Through drive parameters
- Eight DIP switches for selecting node address and baud rate

Connectors:

- 34-pin parallel bus connector
- 5-pole screw type connector for bus connection (max. 2.5 mm² cross section), removable

Current consumption:

- 250 mA max. (5 V), supplied by the RMIO board
- 15 mA max. (24 V) from the network supply.

General:

- Estimated min. lifetime: 100 000 h
- All materials are UL/CSA approved
- Complies with EMC Standards EN 50081-2 and EN 50082-2

Fieldbus link

Compatible Devices: Any ODVA-compliant DeviceNet scanner supporting Poll - Response commands to Group 2 only Slaves

Medium:

- **Termination:** 121 ohm, 1%, Metal Film, 1/4 W
- **DeviceNet Cables:**
YR-29790 (Thick DeviceNet Cable)
YR-29832 (Thin DeviceNet Cable)
- **Maximum Bus Length:** 1200 m

Topology: Multi-drop

Serial Communication Type: Asynchronous, half Duplex

Transfer Rate: 125, 250 or 500 kbit/s

Protocol: DeviceNet