

# Network Communications

## ABB R-Series Fieldbus Adapter Modules

### ACS550, ACS800, and DCS800 Network Connectivity

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 fieldbus 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

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

### **CANopen: RCAN-01**

The adapter fulfills 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 4xxx 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.

For more information please contact:

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