ABB R-series fieldbus adapter modules
for ACS550, ACH550, ACS800, and DCS800

The R-series fieldbus adapter modules are flexible plug-in adapters that 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. Fieldbus networks also offer a cost reduction in wiring costs, compared to traditional I/O connections.

ABB's complete product portfolio of drives and fieldbus adapters make ABB drives ideal for many different industrial applications in industries such as; water & wastewater, 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
– 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, connectivity to any major PLC
– Reusability of system software
– Drive parameters setting

Advantages of ABB network connectivity
– Connectivity to virtually any automation architecture
– Fast and 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 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 - 19.2 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
LonWorks® RLON-01	127/subnet, 32 385 total	78 kbit/s
Ethernet POWERLINK REPL-01	239	100 Mbit/s

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CANopen: RCAN-01 (+K457)

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 (+K469)

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.

Ethernet POWERLINK: REPL-01 (+K470)

Ethernet POWERLINK applies the same protocol technology as CANopen. The adapter module supports the CANopen DSP 402 (Device Profile Drives and Motion Control) profile or the ABB drives profile.

REPL-01 is capable of participating in an Ethernet POWERLINK network as a Controlled Node.

LonWorks®: RLON-01 (+K452)

The RLON-01 LonWorks® adapter module includes two objects, a node object and a drive object. The node object is used to control the drive object. The drive object realises the LONMARK® Functional Profile: Variable Speed Motor Drive, version 1.1.

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 PPO messages 1 to 6. Communication profiles: PROFIdrive and ABB drives profile are supported.

PROFINET IO: RETA-02 (+K467)

The adapter module can operate in two modes, ABB drives profile and PROFIdrive profile. 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:

www.abb.com/drives
www.abb.com/drivespartners

Compatibility table

Fieldbus	ACS550	ACH550	ACS800	DCS800
CANopen RCAN-01	X	X	X	X
ControlNet RCNA-01	X	X	X	X
DeviceNet RDNA-01	X	X	X	X
EtherCAT® RECA-01	X	–	X	–
EtherNet/IP RETA-01	X	X	X	X
Modbus-RTU RMBA-01	–	–	X	X
Modbus-TCP RETA-01	X	X	X	X
PROFIBUS DP RPBA-01	X	X	X	X
PROFINET IO RETA-02	X	X	X	X
LonWorks® RLON-01	X	X	X	–
Ethernet POWERLINK REPL-01	X	X	X	–

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