Let's connect.
ABB network communication adapters

The network 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. Communication networks also offer a cost reduction in wiring costs, compared to traditional I/O connections.

Combining these feature-rich adapter modules with ABB's drives offers a powerful drive solution to OEMs and system integrators focused on the food & beverage, material handling, printing, rubber & plastics, and textile industries.

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, connectivity to any major PLC
- PC Tool communication via installed PLC networks

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
- FENA-21 and FEIP-21 supports DLR (Device Level Ring)

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
- Quick access to networked drives with PC-based start-up and maintenance software tools

Protocol Network Adapters		Maximum Devices	Baud Rate
CANopen®	FCAN-01	127	50 kbit/s - 1 Mbit/s
ControlNet™	FCNA-01	48 Node, 250 m	5 Mbit/s
DeviceNet™	FDNA-01	64	125 kbit/s - 500 kbit/s
EtherCAT®	FECA-01	65535	100 Mbit/s
EtherNet/IP™	FENA-01/-21 FEIP-21	Nearly Unlimited	10 / 100 Mbit/s
EtherNet™ POWERLINK	FEPL-02	240	100 Mbit/s
Modbus® RTU	FMBA-01 FSCA-01 FRSA-00	247	600 bit/s - 115.2 kbit/s
Modbus® TCP	FENA-01 FMBT-21	Nearly Unlimited	10 / 100 Mbit/s
PROFIBUS® DP	FPBA-01	32/segment, 126 total	9.6 kbit/s - 12 Mbit/s
PROFINET® IO	FENA-01/-21	Nearly Unlimited	10 / 100MB Full/Half Duplex
	FPNO-21	Nearly Unlimited	10 / 100 Mbit/s

CANopen: FCAN-01 (+K457)
The adapter module 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: FCNA-01 (+K462)
The adapter supports redundant RG-6 quad shielded cable (coax) for the bus connection and is compatible with all master stations that support the ControlNet protocol. The module is also equipped with a NAP (Network Access Port). FCNA-01 control is based on the standard ControlNet objects and vendor specific objects.

DeviceNet: FDNA-01 (+K451)
The DeviceNet 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: FECA-01 (+K469)
The adapter module supports the CANopen DSP 402 (Device Profile Drives and Motion Control) profile or the ABB drives profile. The FECA-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: FENA-01 (+K466) / FENA-21 (+K475) / FEIP-21 (+K490)
The adapter module acts as an EtherNet/IP server with support for ODVA AC/DC Drive, ABB drives and Transparent profiles. The adapter module supports both explicit messaging where each attribute of a class is set individually and implicit messaging using input and output instances. The FENA-21 supports DLR (Device Level Ring).

EtherNet PowerLink: FEPL-02 (+K470)
Ethernet PowerLink is a communication profile for real-time Ethernet communication. The FEPL-02 module supports CiA 402 and the ABB Drives profile. In addition, two transparent modes - for 16-bit and 32-bit words respectively - are available.

Modbus-RTU: FMBA-01 (+K458) / FSCA-01 / FRSA-00
The adapter module enables the connection of the drive to a RS-485 Modbus-RTU network. Common read/write single and multiple register function codes are supported.

FRSA-00 is a set of 20 adapters.

Modbus-TCP: FENA-01 (+K466) / FENA-21 (+K475) / FMBT-21 (+K491)
The adapter module acts as a Modbus/ TCP server with support for ABB drives and Transparent profiles. Common read/write single and multiple register function codes are supported.

PROFIBUS DP: FPBA-01 (+K454)
The adapter module supports PROFIBUS DP-V0 and DP-V1 communication.The FPBA-01 automatically detects the telegram type used, and supports both PPO messages 1 to 6 and standard telegrams (STD) 1 and 20. Communication profiles: PROFIdrive, ABB drives, Transparent 16 and Transparent 32 are supported.

PROFINET IO: FENA-01 (+K466) / FENA-21 (+K475) / FPNO-21 (+K492)
PROFINET IO is a fieldbus protocol that enables communication between programmable controllers and distributed field devices in an Ethernet network. The adapter module acts as a ProfiNet I/O device with support for PROFIdrive, ABB Drives, Transparent 16-bit, Transparent 32-bit profiles, and PROFIdrive positioning mode for ACSM1 Drives. The standard UDP/IP and TCP/IP channel is used for parameterization and configuration of devices and for acyclic operations. The real time (RT) channel is used for cyclic data transfer and alarms. The isochronous real time (IRT) channel is not supported.

Protocol	Network adapter*	Plus code	ACS355	ACS880	ACS380	ACx580	ACx480
CANopen	FCAN-01	+K457	X	X	X	X	—
ControlNet	FCNA-01	+K462	X	X	—	X	—
DeviceNet	FDNA-01	+K451	X	X	X	X	—
EtherCAT	FECA-01	+K469	—	X	X	X	—
EtherNet/IP	FENA-01	+K466	X	—	—	—	—
	FENA-21	+K475	X	X	X	X	—
	FEIP-21	+K490	—	X	X	X	X
POWERLINK	FEPL-02	+K470	—	X	X	X	—
Modbus-RTU	embedded	—	—	X	X**	X	—
	FMBA-01	+K458	X	—	—	—	—
	FSCA-01		—	X	—	X	—
	FRSA-00		X	—	—	—	—
Modbus-TCP	FENA-01	+K466	X	—	—	—	—
	FENA-21	+K475	X	X	X	X	—
	FMBT-21	+K491	—	X	X	X	X
Profibus-DP	FPBA-01	+K454	X	X	X	X	—
PROFINET IO	FENA-01	+K466	X	—	—	—	—
	FENA-21	+K475	X	X	X	X	—
	FPNO-21	+K492	—	X	X	X	X

* also known as fieldbus
**embedded on BMIO-01 installed on Standard ACS380-040S drive