



Communications Application Note

CAN-4, Rev. 2, 8/26/2008

Applicable Products:
Epsilon EP-P, SM Ethernet

Allen Bradley MicroLogix 1000 and SLC 500 Ethernet/IP capabilities

Many users ask if the MicroLogix 1000 with Ethernet/IP or the SLC 5/05 processor can be used with Control Technique's Ethernet/IP enabled drives such as Epsilon EP and the Unidrive SP with SM Ethernet module.

According to the Allen Bradley literature, the MicroLogix 1000 and SLC 5/05 ethernet ports only perform Peer to Peer messaging, this is also known as "explicit messages". Explicit messages are not considered "polled I/O" where the Ethernet master communicates to ethernet slave devices at a very rapid deterministic rate.

Explicit messages can be used to send most drive commands and request drive information, but is slower than polled I/O and require much more PLC programming implement them.

The user's application may function adequately using explicit messaging, however the user should determine this by testing the equipment, since it is very difficult for any manufacturer to qualify the user's needs with the many communication variables that could make the application unusable.

The CompactLogix and ControlLogix are the only A-B PLC platforms that perform polled Ethernet/IP communications.



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PROGRAMMABLE LOGIC CONTROLLERS

MicroLogix 1100 System

Communications

Communication Channel 0 port enhancement provides isolated RS-232 and RS-485 electrical compatibility (on separate pins). Use the 1763-NC01 cable to interface directly to RS-485 networks. This port supports the same protocols as the MicroLogix 1200 and MicroLogix 1500:

- DF1 Full Duplex / DF1 Half Duplex Master & Slave / DF1 Radio Modem
- DH-485 (if you use RS-232 port and existing cables, a 1761-AIC and external power is required for networking; DH-485 is also supported directly using the RS-485 cable on this port)
- Modbus™ RTU Master and RTU Slave (if you use RS-232 port and existing cables, a 1761-NET-AIC and external power is required for networking; Modbus RTU networking also supported directly using the RS-485 cable on this port)
- ASCII

Communication Channel 1 with embedded RJ-45 port supports EtherNet/IP for peer-to-peer messaging:

- 10/100 Mbps port with support for BOOTP, DHCP, & SNMP capability directly from the controller
- Automatically assign IP address through DHCP or BOOTP, or configure using RSLogix 500
- Monitor your IP address through the LCD Display (or use the write-on nameplate)
- Supports CIP, but not CSD (SLC 5/05 supports both)
- Allows controllers to exchange data with other controllers through messaging, but does not support scanning of I/O on Ethernet adapters

SLC 500

- SLC 5/05 Series C — 10/100 Mbps enhancement provides more connection capability and faster throughput
- Basic RS-232/DF1 Port Splitter — Interface converter device that will provide customers with a low cost way to expand (or split) a single RS-232/DF1 port on a Rockwell Automation controller into two RS-232/DF1 ports for communication with two external devices at the same time
- SLC 5/03, 5/04, 5/05 Firmware Enhancements — Improved messaging for DeviceNet and EtherNet/IP applications, and improved security for RSLogix 500