



DualConnectPlus Functionality for DeviceMaster UP

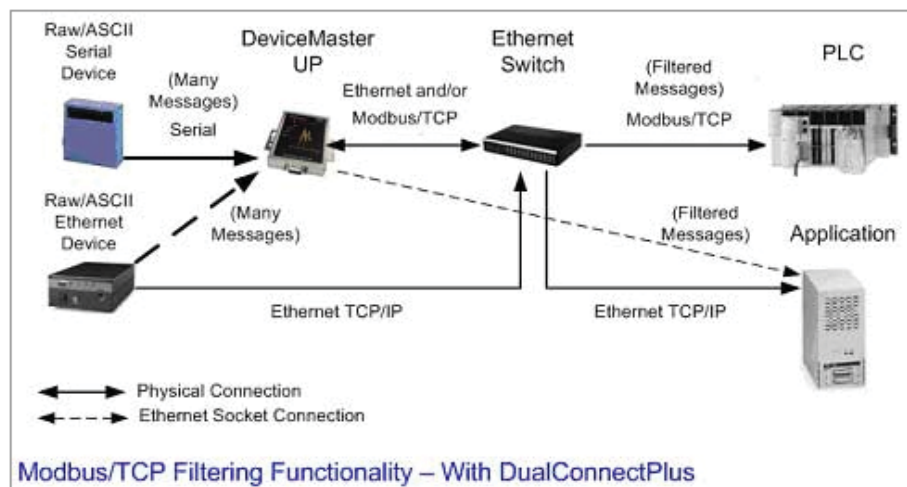
New DualConnectPlus Functionality with 3.0x Firmware

Modbus/TCP Serial and Ethernet Device Connectivity

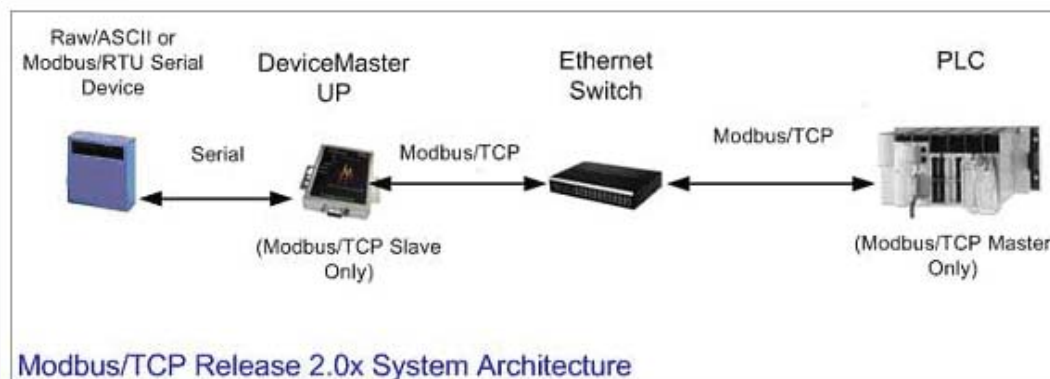
- One port DeviceMaster UP now provides Modbus/TCP support for one serial device AND one Ethernet device. (A total of two devices.)
- Four port DeviceMaster UP now provides Modbus/TCP support for four serial devices AND four Ethernet devices. (A total of eight devices.)

DualConnectPlus - Application interface for both serial and Ethernet devices (Patent Pending)

- Connect an application, such as a configuration, database, or control application, via the Application socket port to the serial and/or Ethernet devices while the device(s) are attached to the PLC via Modbus/TCP.



System Architecture With Modbus/TCP 2.0x Firmware:

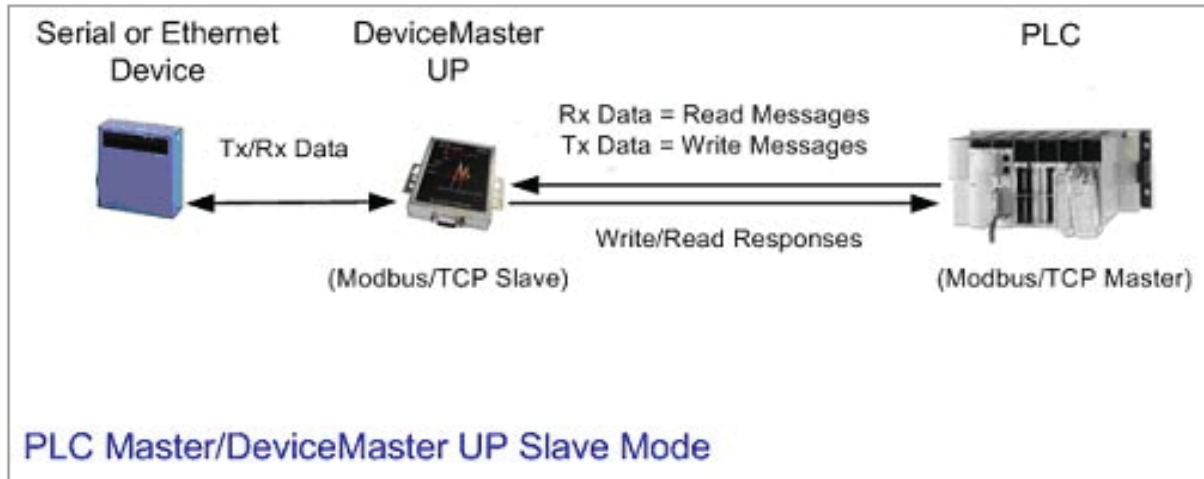


Modbus/TCP Multi-Mode Connectivity:

The Modbus/TCP application now supports the following Modbus/TCP communication modes

PLC Master/DeviceMaster UP Slave Mode

Description: Standard Modbus/TCP PLC to device method of communication. All read and write messages are initiated by the PLC.

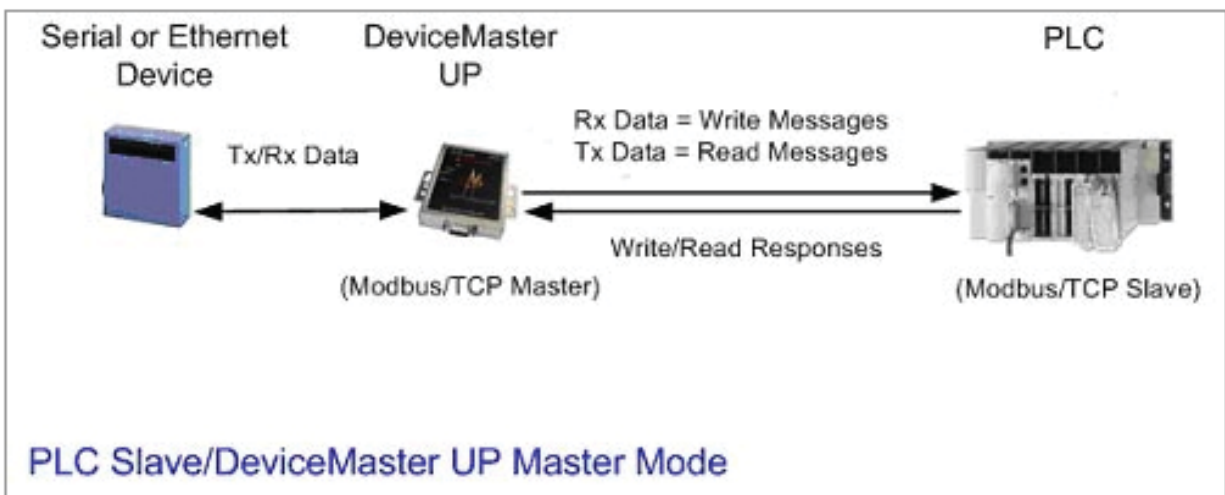


PLC Slave/DeviceMaster UP Master Mode

Description:

- The DeviceMaster UP initiates all read and write messages.
- The DeviceMaster UP writes received serial and/or Ethernet device data directly into PLC memory with minimal latency.
- The DeviceMaster UP polls the PLC for transmit data for serial and/or Ethernet devices.

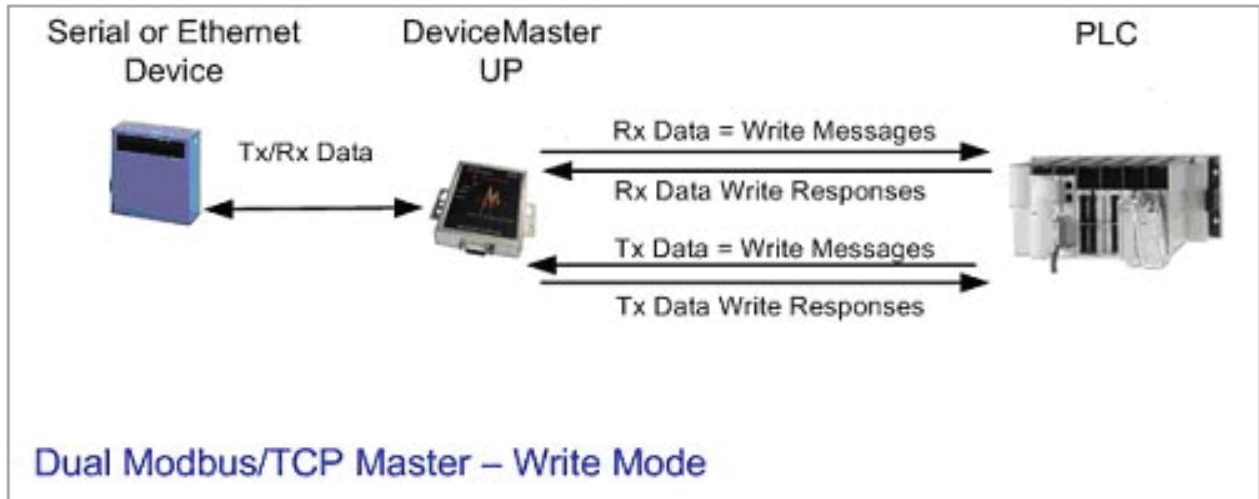
PLC programs can be simplified to eliminate both polling for received data and sending of write messages to transmit data.



Dual Master (Virtual Peer-to-Peer) - Write Mode

Description:

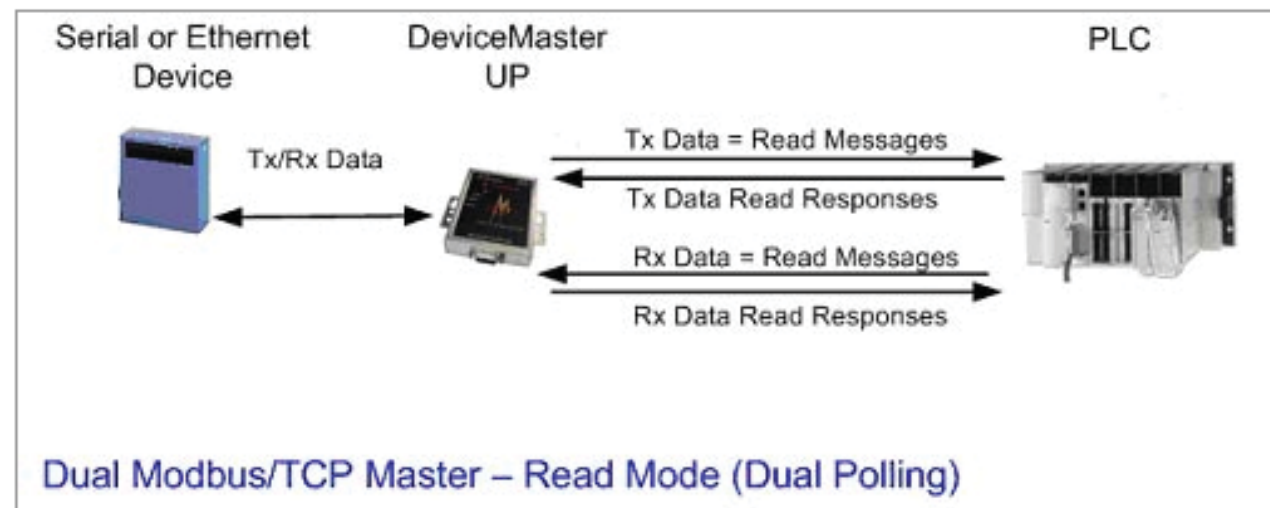
- The DeviceMaster UP and PLC initiate only write messages to each other.
- The DeviceMaster UP writes received serial and/or Ethernet device data directly into PLC memory with minimal latency.
- The PLC can write to serial and/or Ethernet devices through the DeviceMaster UP with minimal latency.
- This mode provides the lowest possible Ethernet bandwidth usage and most efficient usage of PLC and DeviceMaster UP processing power.



Dual Master (Virtual Peer-to-Peer) - Read Mode (Dual Polling)

Description:

- This is provided for programmers who strongly prefer polling.
- The DeviceMaster UP and PLC initiate only read messages to each other.
- The PLC will poll for received serial and/or Ethernet device data.
- The DeviceMaster UP polls for transmit data to serial and/or Ethernet devices.
- This mode requires the highest possible Ethernet bandwidth usage and provides the least efficient usage of PLC and DeviceMaster UP processing power.



Filtering and Data Extraction functionality (Patent Pending)

Description:

Filtering

- String Filtering of up to 128 bytes of raw/ASCII data to both the PLC and/or Application.
- RFID filtering of EPCglobal formatted RFID tag data to both the PLC and/or Application.
- Barcode filtering of all UPC/EAN formatted barcodes data to both the PLC and/or Application.
- Simplifies PLC and Application programming tasks.

Data Extraction

- RFID data extraction extracts all parameters, such as company code, product code, and serial numbers, from any or all of the 43 EPCglobal tag formats. It then transfers the data to the PLC and/or Application in a consistent and simple format.
- Barcode data extraction extracts the company, product, and numbering codes from UPC/EAN formatted barcodes. It then transfers the data to the PLC and/or Application in a consistent and simple format.
- Simplifies PLC and Application programming tasks.

Environment specific support

- Support for multiple RFID reader tag formats.
- RFID antenna grouping.
- Aging of filtered string/RFID/barcode entries.
- Discarding of unrecognized RFID and barcode messages.

Improved PLC interfaces

- Transfer of large received serial device packets up to 1024 bytes in Master Receive Mode.
- Transfer of large received Ethernet device packets up to 2048 bytes in Master Receive Mode.
- Throttling of received data to the PLC in the Master receive mode.
Ensures data received by the PLC is not overwritten before it can be processed.
- Disabling of non-filtered receive queue:
Ensures the PLC will only receive the latest received serial/Ethernet device data.

New embedded Web Pages

- PLC Interface Diagnostics page:
Provides statistics and error messages to monitor and help diagnose PLC interface problems.
- Serial/Ethernet Device Communication Statistics page:
A comprehensive statistics page for all serial and Ethernet device interfaces. Includes packet, byte, and error counts to the PLC(s) and Application(s) as well as comprehensive filtering statistics.
- Ethernet Device Interface Configuration page:
Provides a user interface to the Ethernet device interface configuration.

