Feature Spec

Pass-Through Port

Available on Digi One® IAP

Overview

Manufacturers typically have "islands of automation" throughout their production facilities – a PLC serially linked to an inspection machine or an HMI panel serially connected to a PLC. The Digi One IAP running with the "pass-through port" enabled offers a low-impact way to retrofit such islands of automation for central access by Ethernet without disrupting their operation.

About the Pass-Through Port Feature

A serial HMI (or other device) normally connects to a PLC's serial port. Adding a device server between the two consumes the PLC's serial port leaving no place to connect the HMI. With the Digi One IAP pass-through feature, the single serial port on the PLC can be shared – its pass-through port connects to the HMI while its primary serial port connects to the PLC – eliminating the need to unplug the serial connection from the Digi One IAP so that a local serial master can be connected to the PLC instead.

If your island of automation uses a supported multi-master protocol (e.g., Modbus/RTU or AB/DF1), the Digi One IAP allows the existing serial master to continue polling the serial slave. As the Digi One IAP receives requests from the serial master, it acts as a proxy to obtain answers from the slave and transparently return those answers to the serial master in an understood protocol.

The Digi One IAP's real magic occurs when a remote network master (e.g., a SCADA or data warehousing application) connects. Just like the serial master, the remote master believes it has sole control of the serial slave. The Digi One IAP manages the messages from the two masters such that the serial slave is unaware it has multiple masters. Since the two masters are competing for the serial bandwidth, each sees the slave as slightly slower to respond.

If multi-master functionality is not required, the Digi One IAP can run as a pure two-port device server – supporting two serial slaves, two serial masters or a serial master-slave pairs – allowing the host application to communicate with separate serial devices across the network.

Product	Part Number
Digi One IAP	70001777

Diagram 1: Solution Before Pass-Through Port

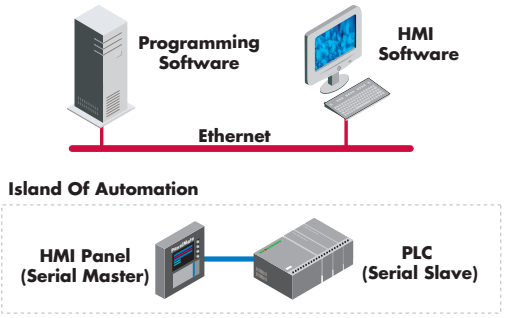
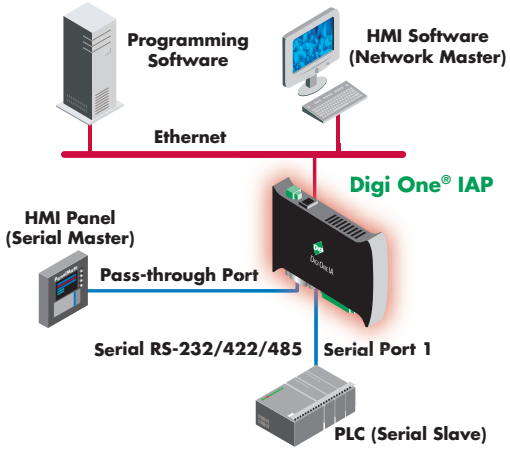


Diagram 2: Digi Pass-Through Port Solution



Features/Benefits

Pass-through functionality	• Easy connections for HMIs and operator panels • Quick set-up – no need to find special cables or the PLC programming port • Works with Digi's IA multi-master engine
Multimaster capabilities	• Multiple-master devices and systems can simultaneously access a slave
Multi-protocol support	• Modbus RTU/ASCII, Allen-Bradley DF1, Omron Hostlink, FINS, Compoway/F

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