

Modbus Direct Protocol Overview

Intellis 7400



The Modbus® protocol is a messaging structure that was developed by Modicon in 1979 and is used to establish master-slave/client-server communication between intelligent devices. It is the most widely used network protocol in the industrial manufacturing environment and is supported by almost every PLC, DCS and operator interface (OI) company. It is implemented by hundreds of vendors on thousands of different devices to transfer discrete/analog I/O and register data between control devices.

The Westlock Modbus Direct Intellis I/O module utilizes the Modbus protocol to serially communicate with a DCS or PLC. The Modbus protocol establishes a common format for the layout and contents of all message fields. Operating commands, sent via Modbus, communicate directly from a controller, to a number of control valves connected, on a common data highway.

Physical Media	Twisted pair for communications and two wires for power
Maximum Distance	3000 ft. trunk
Maximum Network Monitors per System	32/network
Maximum I/O Points per System	256/network plus optional 4/20mA analog I/O per slave
Current Consumption Per Network Monitor	27 mA + 20 mA/coil (25 mA XP coil)
Interface Capability	All PLC's & DCS w/ Modbus port
Communications Method	Master/slave with cyclic polling
Error Checking	CRC check
Network Topology	Zero drop
Transmission Speed	9.6kps, 19.2kps
Redundancy	No
Valves Specific Diagnostics	Yes