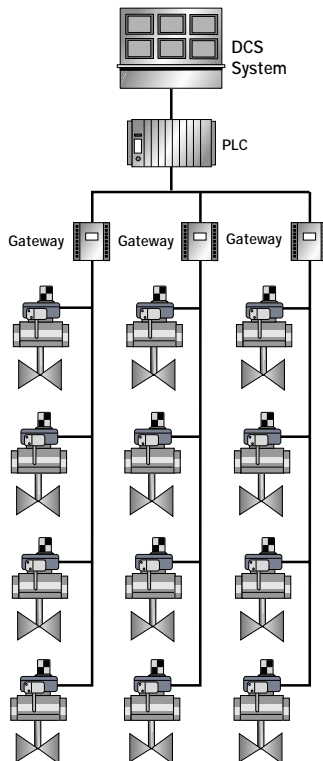


Network Monitors with AS-interface® Ver. 2.1 Capability

Intellis® 7700

AS-interface® Ver 2.1 Network Systems



AS-interface® Ver 2.1

The AS-Interface® protocol was developed by a consortium of major European companies. Designed specifically for use in low level automated systems, any Profibus, ModBus, ModBus+, DeviceNet or Interbus-S PLC may be cost-effectively accessed by the integration of AS-Interface I/O module within the Westlock Network Monitor. A single AS-Interface Intellis system will support a network having a maximum of 62 automated valves with both power and communications transmitted over the same pair of wires. The AS-Interface Ver. 2.1 protocol provides for 434 programmable discrete I/O points on each network (248 inputs/186 outputs).

Intellis® AS-interface® Ver.2.1 Overview

Physical Media	Two wire cable (communications and power)
Maximum Distance	300 ft. 900 ft. with repeater
Maximum Network Monitors per System	62/network 1 network/system
Maximum I/O Points per System	434/network 434/system
Current Consumption Per Network Monitor	40 mA w/ solenoid energized
Interface Capability	All PLC's & DCS w/Modbus, DeviceNet, ProfiBus Port.
Communications Method	Master/slave with cyclic polling
Error Checking	Control sum, parity
Network Topology	Bus, tree, star
Transmission Speed	167 kbps
Redundancy	No
Valves Specific Diagnostics	No

AS-interface®

How The System Operates

Field Network

An AS-interface Ver. 2.1 field network consists of a group of Network Monitors interconnected by a common communications protocol (AS-interface). The AS-interface is a master-slave (Gateway-Network Monitor) system and is capable of operating with a 30VDC supply on a

two-wire unshielded and untwisted cable. Communication and power (8A) share the same two wires. The AS-interface system has a cycle time of less than 5mS. Maximum cable length/network (without repeaters) is 300 feet from the PLC or master controller.

Network Monitor

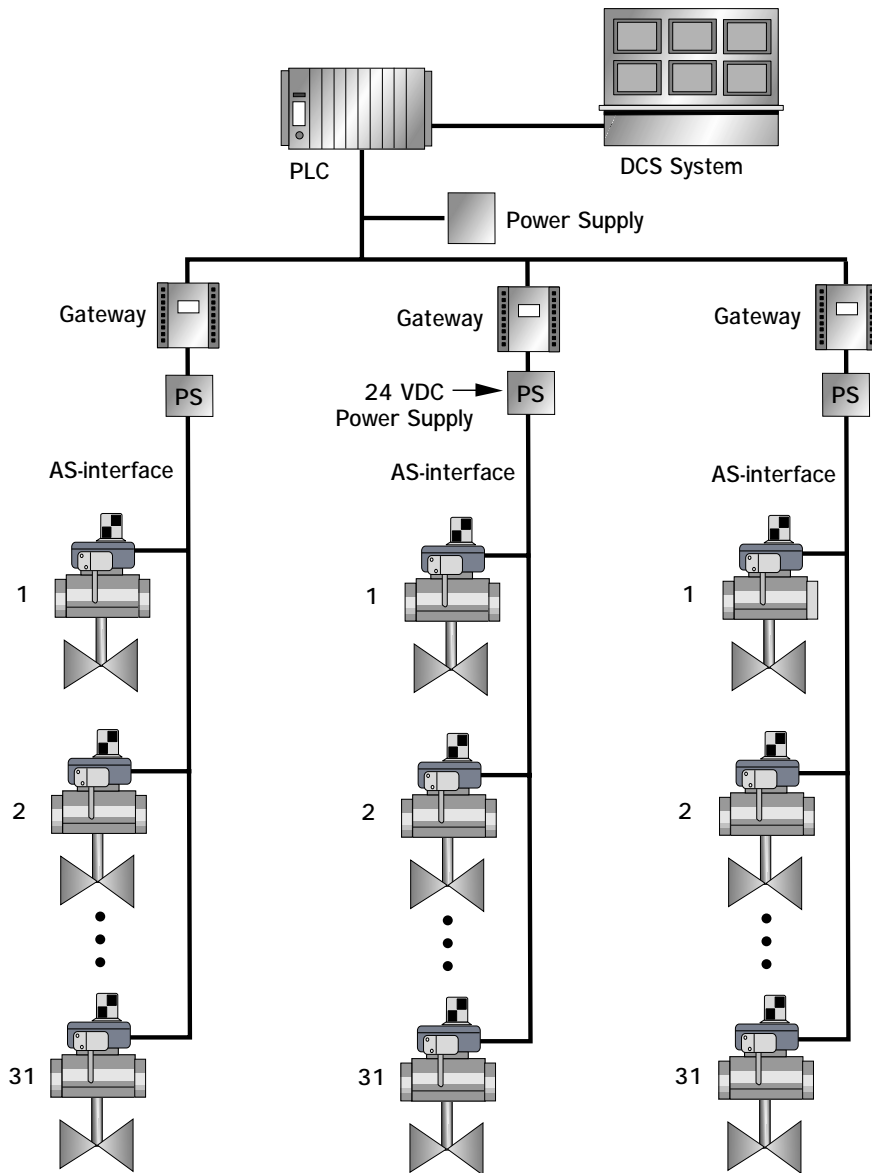
Each Network Monitor has an integrated I/O module onboard that is assigned and addressed from 1 to 31 subscript A or 1 - 31, subscript B. The address number identifies one Network Monitor from all the other monitors in the system

Gateway Interface

The Network Monitors interface to higher level bus system such as a Profibus, DeviceNet, ModBus, Modbus+ and Interbus-S through the use of gateways. In some instances, direct connection is available to PLC's or PC's (Siemens Simatic 55 series, AG 90, 95 and 100, ET200V and RS232C, RS422 and RS485 serial interfaces).

Number of I/O points on a single system.

Because each network may connect up to 62 Network Monitors, the total number of programmable discrete I/O points comes to 434 (298 inputs/ 186 outputs).



Intellis® 7700

AS-interface® Ver 2.1 Network Systems

NETWORK MONITORS

An AS-interface Network System is established by integrating an OnBoard I/O module directly within the Westlock Network Monitor. Each I/O module has the capability to accept input/output signals from automated valves, position sensors, solenoid valves, emissions monitors and external devices (level alarms, temperature and pressure sensors, flow switches, etc.)

Automated Valve Network Monitor

The Automated Valve Network Monitor couples directly to the pneumatic actuator. It houses three functional components; position sensors, low-power solenoid valve, and an OnBoard I/O card. The OnBoard I/O module is capable of accepting four input and four output devices.

ONBOARD I/O CARD

- INPUT 1:** Valve Position Sensor (open)
- INPUT 2:** Valve Position Sensor (closed)
- INPUT 3:** External Device or
Optional Pressure Monitor (supply air)
- INPUT 4:** External Device or
Optional Fugitive Emissions Monitor
- OUTPUT 1:** Solenoid Valve (actuation control)
- OUTPUT 2:** Dual Coil application or External Device
- OUTPUT 3:** External Device
- OUTPUT 4:** External Device*

*Ver. 2.0 AS-i slave

External Device Network Monitor

An External Device Network Monitor is available for control or monitoring of non-valve related devices (sensors, alarms, actuators, indicating lights, etc.).

Depending upon the process layout, a wide range of options exist. Standard units are supplied with protective diodes and optical isolation features. External Device Network Monitors are available in **4 input/4 output*** configurations. Power requirements for each external device are considered within the design parameters of the overall system.

*Ver. 2.0 AS-i slave

AS-interface®

Gateway



Gateway Interface

The AS-interface Gateway is responsible for management of the communications data on the field network and functions as the interface between the Network Monitors and the primary control system (PLC, DCS, PC). Along with specific PLC and PC interfaces, Gateways are standardly available for use with higher level networks such as Profibus, ModBus, DeviceNet and Interbus-S.

PROFIBUS®

The AS-interface/PROFIBUS gateways serve to connect the AS-interface network to the higher level PROFIBUS network. The gateways act as a complete master for the AS-interface and as a slave for PROFIBUS. All AS-interface functions can be called up via PROFIBUS.

The combined device has the essential advantage of making it possible to work in a PROFIBUS-FMS (9.6 KBaud to 500 KBaud) as well as in a PROFIBUS-DP network. (9.6 KBaud to 1500 KBaud).

ModBus®

The AS-interface/Modbus gateway serves to connect the AS-interface to a higher level Modbus network. The gateway acts as a complete master for the AS-interface and as a slave for the Modbus.

Commissioning, debugging and setting up of the AS-interface parameters can be accomplished with two push-buttons, the LED display and the LED's located on the gateway.

DeviceNet®

The AS-interface/DeviceNet gateway serves to connect the AS-interface to a DeviceNet network. The gateway acts as a complete master for the AS-interface and as a slave for the DeviceNet.

All AS-interface functions can be called up via DeviceNet. Commissioning, configuration and debugging on the AS-interface circuit can be accomplished with the two push-buttons, the LCD display and the LED's located on the gateway. It is also possible to configure the network with the DeviceNet Manager Software.