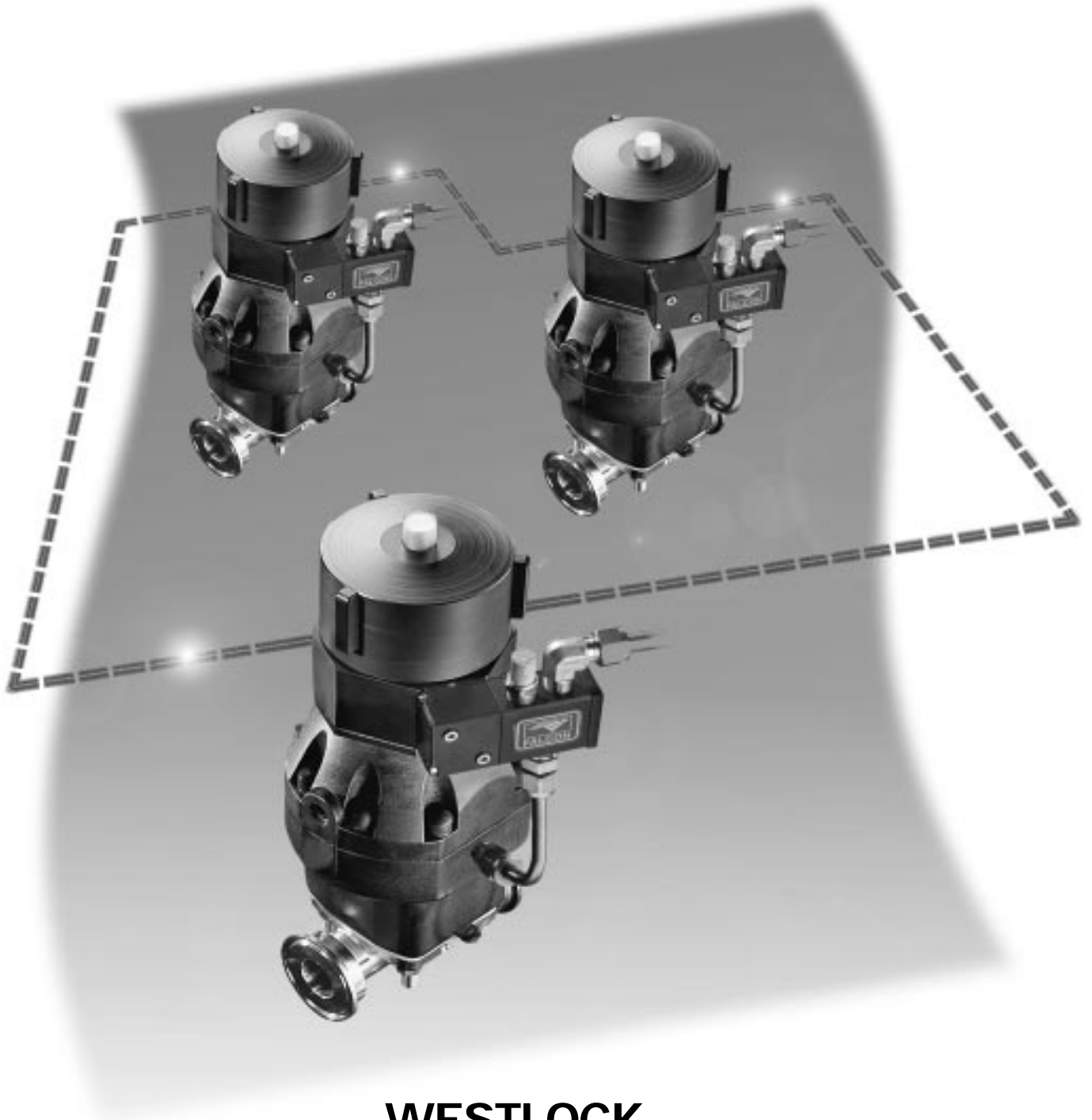


INTELLIS[®]

NETWORK SYSTEMS FOR DIAPHRAGM VALVES

•
DeviceNet[®]

AS-interface[®] Ver. 2.1



WESTLOCK
Network Systems Group

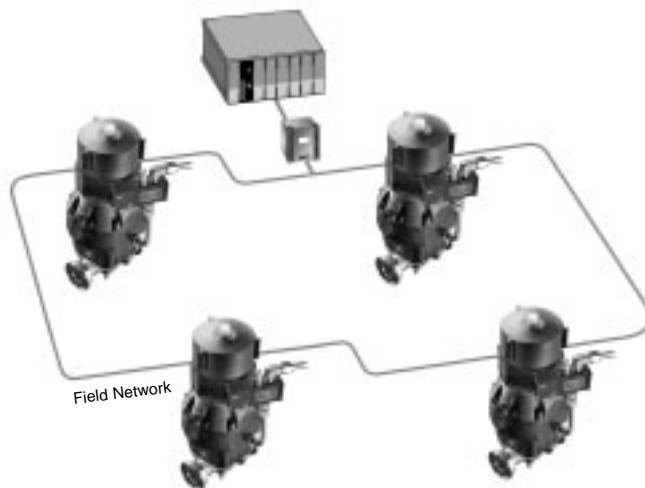
INTELLIS[®]

Network Systems for Diaphragm Valves



Intellis[®] is a family of industrial control field Network Monitors which use embedded control systems to automate valves and link field I/O to the host PLC or DCS. Network Monitors are standard Westlock Control Monitors with the addition of a network I/O module. Each Network Monitor houses two hermetically sealed position sensors for valve position monitoring, a low power solenoid valve for actuation control, and a network interface module for communication via the DeviceNet[®] or AS-interface[®] protocol.

By switching from a conventional hardwired I/O system to an Intellis[®] network, immediate cost savings are realized through the elimination of hundreds of dedicated wires and their associated costs.



The Network Monitor

The Network Monitor for diaphragm valves couples directly onto the pneumatic actuator and communicates over a field network via an integrated network module. Each unit has the capability to accept input/output signals from position sensors and a solenoid valve.

The Network Card

Depending upon the network standard selected DeviceNet[®] or AS-interface[®] a dedicated network card is integrated within the enclosure of each Network Monitor. The on-board network card is capable of communicating and controlling 2 inputs and one output.



NETWORK CARD A

INPUT 1:	Valve Position Sensor (open)
INPUT 2:	Valve Position Sensor (closed)
OUTPUT 1:	Solenoid Valve (actuation control)

DeviceNet
CONFORMANCE TESTED

ROCKWELL AUTOMATION
ENCOMPASS
PROGRAM PARTNER

ASI
INTERFACE
CONFORMANCE TESTED

Factory
Mutual
System
Approved



Standard Network Protocols

The acceptability of standard network protocols such as DeviceNet® and AS-interface® has made it possible to effectively integrate process control components into a network. DeviceNet and AS-interface have emerged as de facto standards for interfacing discrete devices. They have proven themselves to be extremely reliable, simple to understand and consistently cost effective. The integration of these three major network standards with various manufacturers of PLC's and DCS systems is readily accomplished through the implementation of off-the shelf gateway interfaces.

Network Protocol Overview

DeviceNet®

Allen-Bradley is the originator of the DeviceNet® protocol. DeviceNet is an open device network standard based upon proven Controller Area Network (CAN) technology.

AS-interface® Ver 2.1

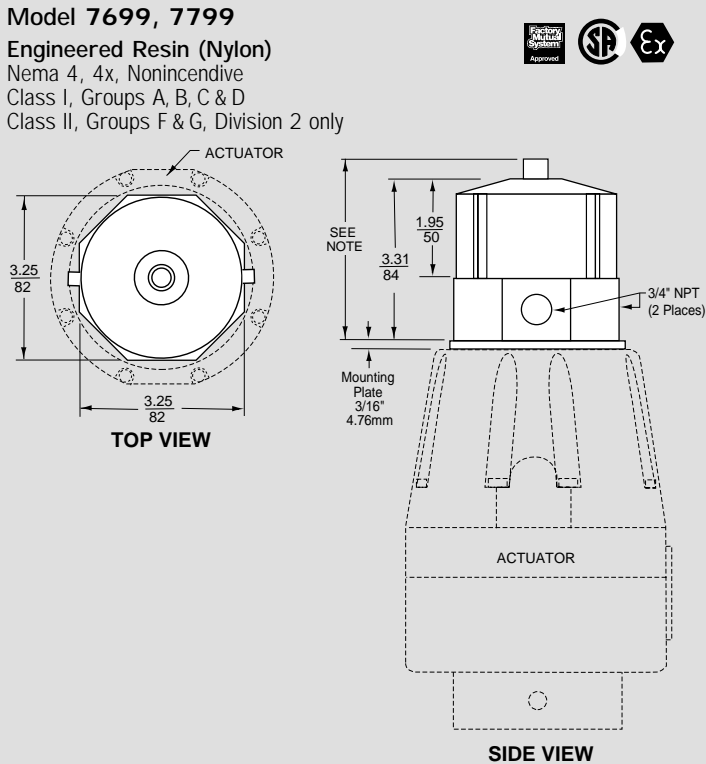
The AS-Interface® protocol was developed by a consortium of major European companies. Designed specifically for use in low level automated systems, any Profibus, ModBus, DeviceNet or Interbus PLC may be accessed through a gateway interface.

	DeviceNet®	AS-interface® Ver 2.1
Physical Media	Twisted pair for communications and power	Two wire cable (communications & power)
Maximum Distance	1600 ft.	300 ft. 900 ft. with repeater
Maximum Network Monitors per System	63/network 2 networks/system	62/network 1 network/system
Maximum I/O Points per System	189/network 378/system	186/network 186/system
Current Consumption Per Network Monitor	80 mA w/ solenoid energized	40 mA w/ solenoid energized
Interface Capability	Allen-Bradley, Omron, GE, Siemens	All PLC's & DCS w/ModBus, DeviceNet, ProfiBus Port
Communications Method	Master/slave	Master/slave with cyclic polling
Error Checking	CRC check	Control sum, parity
Network Topology	Trunkline/dropline with branching	Bus, tree, star
Transmission Speed	125 kbps, 250 kbps, 250 kbps	167 kbps
Redundancy	No	No
Valves Specific Diagnostics	Yes	No

*For added I/O capability, please consult factory.

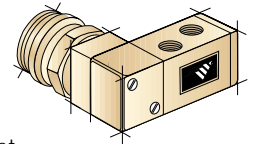
TECHNICAL SPECIFICATIONS & ORDERING GUIDE

DIMENSIONAL DATA



ORDERING GUIDE

Network Protocol	Enclosure	Network Card	Solenoid	Gateway Interface
DeviceNet 76	Engineered Resin 99RS	Card A 2 Inputs 1 Output A	Use above listing for ordering solenoid	DeviceNet Scanner for Allen-Bradley PLC5 DS71
	Engineered Resin w/ Junction Housing 99XS			DeviceNet Scanner for Allen-Bradley SLC DS47
AS-interface 77	Engineered Resin w/ Junction Housing 99XS	Card A 2 Inputs 1 Output A	Use above listing for ordering solenoid	AS-i/Profibus 1060
				AS-i/DeviceNet 1078
				AS-i/Modbus 1104
				AS-i/Interbus-S 1079
				AS-i/Interbus-S 1079



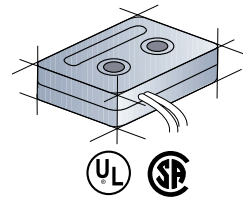
SOLENOID VALVES

Falcon low power solenoid valves operate at 24 VDC, 20 mA, .5 watt. The low power feature (20 mA) allows for a major reduction in power supply requirements. When utilizing the AS-interface protocol, power and communications may be transmitted on the same two wire cable.



VALVE POSITION SENSORS

Utilized for full open/close position detection and predictive diagnostic functions, each proximity sensor is hermetically sealed against the intrusion of explosive gases, moisture, and corrosion.



ORDERING GUIDE (FALCON® SOLENOID)

COILS	CV	Body	3-Way	4-Way
FSO 24 VDC 0.5 watts NEMA 4, 4x, Nonincendive Class I, Groups A, B, C, D Class II, Grps. F, G, Div. 2	.3 Cv	Brass	2100	2500
		Alum.	3100	3500
		303 S.S.	4100	4500
		316 S.S.	5100	5500
	.5 Cv	Brass	2200	2600
		Alum.	3200	3600
		303 SS	4200	4600
		316 S.S.	5200	5600
	1.2 Cv	Brass	2300	2700
		Alum.	3300	3700
		303 S.S.	4300	4700
		316 S.S.	5300	5700
3.5 Cv	Alum.	3400	3800	
	Delrin	6400	6800	

NOTE: For dual coil applications, please consult factory. For Manual Override suffix part number with **MO**