Network Protocol Addendum

Installation, maintenance and
operating instructions

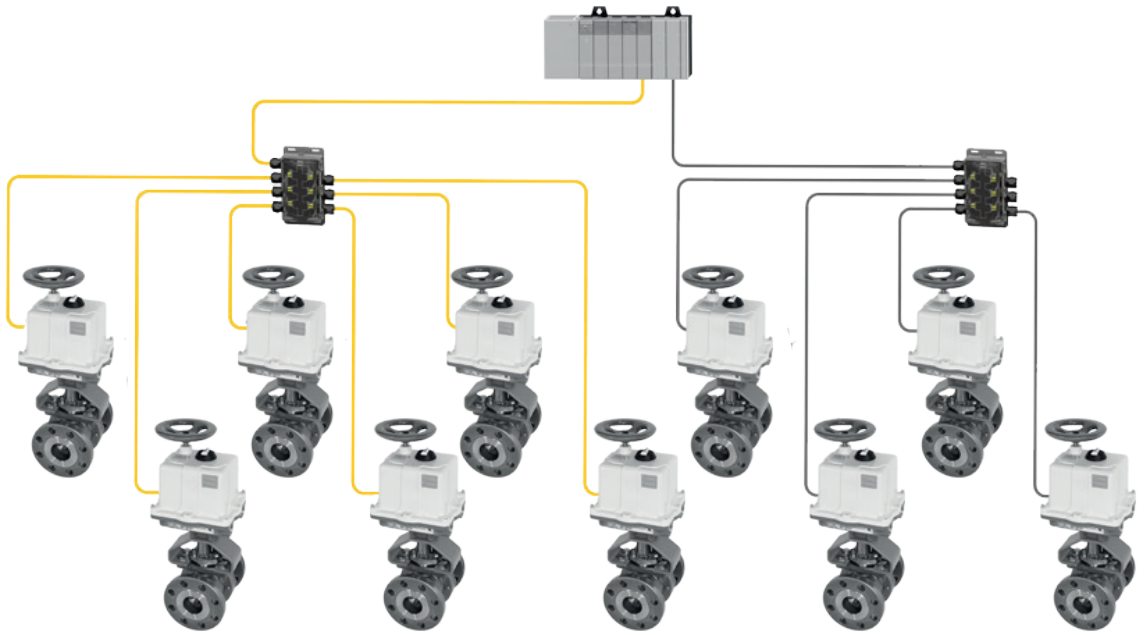

Table of contents

READ THESE INSTRUCTIONS FIRST!

These instructions provide information about safe handling and operation of the valve.

If you require additional assistance, please contact the manufacturer or manufacturer's representative.

SAVE THESE INSTRUCTIONS!

Addresses and phone numbers are printed on the back cover.

1. Introduction

The Valvcon ADC-Series actuator offers enhanced communication capabilities through the integration of Stonel™ AS-i, and DeviceNet™ communication interface modules. These modules enable seamless communication between the actuator and external control systems, facilitating efficient operation and monitoring. The actuator's standard control board must still be powered via 12-24VDC, 24VAC, or 115-230VAC in addition to the required power for each communication module.

2. AS-i Communication Interface

The AS-i communication interface module allows the ADC-Series actuator to interface with AS-Interface (AS-i) networks. AS-i is a simple, yet robust, communication protocol primarily used for connecting sensors and actuators in industrial automation systems.

Each actuator has its own address on the network and can be operated as a discrete (on/off) or a positioning device.

Specifications		
Communication protocol	AS-Interface v3.0	
Configuration	(4) Discrete Inputs (Sensors) (4) Discrete Outputs (Sensors)	
Input Voltage	26.5 – 36.6 VDC	
Output Voltage	24 VDC (+/- 10%)	
Quiescent current	21mA	
Maximum output current		
Default address	00	
ID/IO codes	ID = F; IO = 7; ID1 = F; ID2 = E (S-7.F.E.)	
Bit Assignment	Inputs DI0 = Aux SW (CCW) DI1 = Aux SW (CW) DI2 = Power Relay DI3 = RED IN4	Outputs DO0 = CW LV Control DO1 = CCW LV Control DO2 = OUT1 DO3 = OUT2

3. AS-i Wiring

Connect AS-Interface communications to the AS-i +/- terminals.

The following connections are wired internally by manufacturer.

DI0 = Aux SW (CW)

DI1 = Aux SW (CCW)

DO1 = CCW LV Control

DO0 = CW LV Control

3 Wire RTN = Neg / Neutral LV Control

DI2 = Power Relay

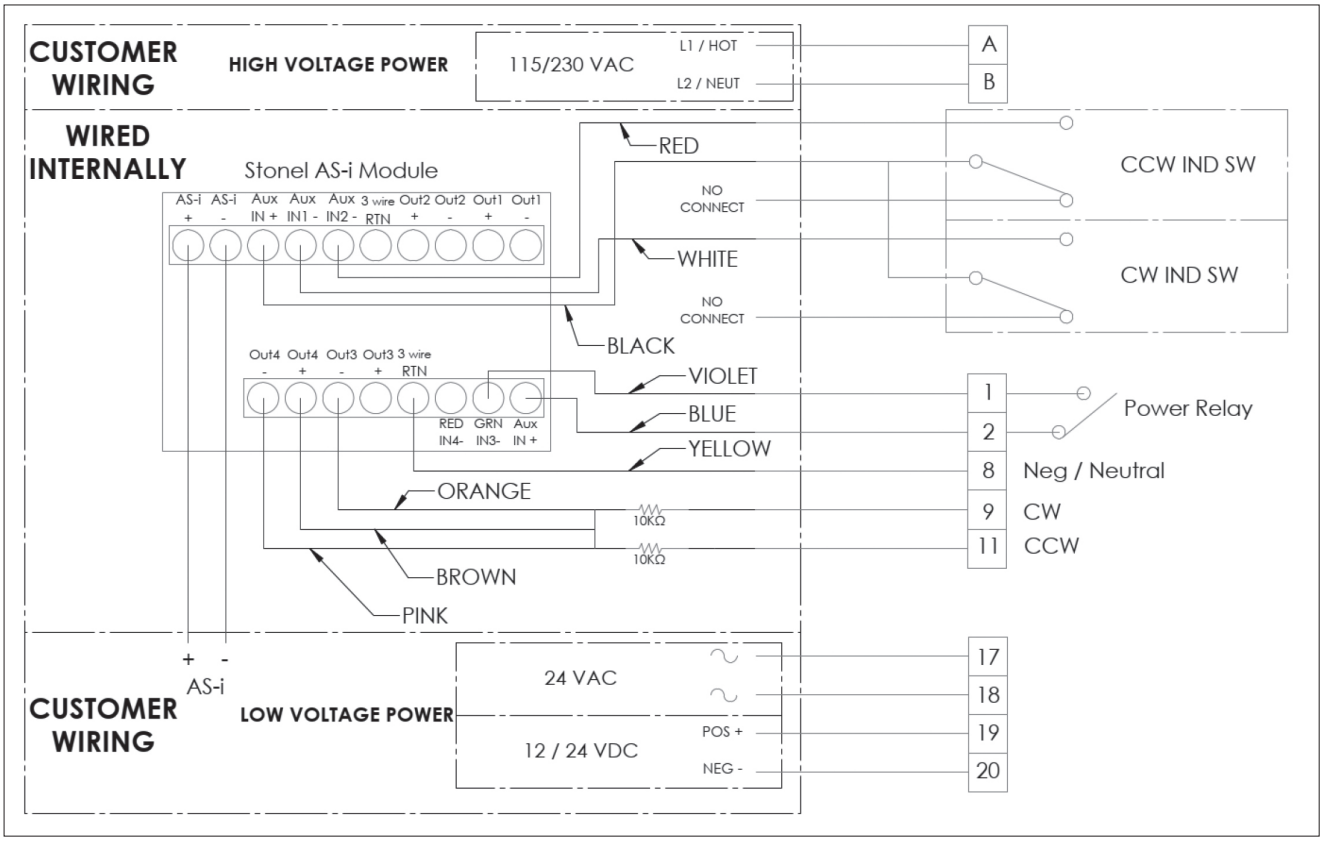

Fig. 1 AS-i Wiring Diagram

4. DeviceNet™ Communication Interface

The DeviceNet™ communication interface module enables the ADC-Series actuator to communicate on DeviceNet networks. Each actuator has its own address on the network and can be operated as a discrete (on/off) or a positioning device.

5. DeviceNet™ Wiring

Connect the DeviceNet communications to the I/O modules. Connect through the CAN-L, CAN-H, and the 24VDC terminals.

The following connections are wired internally by manufacturer.

Out 2 + = LV Control CCW

Out 2 - = LV Control CW

24 VDC = Tied between LV Control

Ain - = +mA/+VDC

Ain + = -mA/-VDC

3 wire RTN = Neg/Neutral

DeviceNet™

Specifications	
Communication protocol	DeviceNet™
Configuration	(2) Discrete Inputs (sensors) (1) Auxiliary analog inputs (4-20mA) (2) Discrete Outputs
Input Voltage	11 VDC Via Device Network
Output Voltage	24 VDC
Analog input impedance	254 ohms
Quiescent current	No analog input, no outputs energized: 45 mA @ 24 VDC; 69 mA @ 11 VDC
Maximum output current	160 mA (4 watts; both outputs combined)
Analogs resolution	8-bit resolution (0.4%)
Default address	63 (software assigned)
Default baud rate	125K (software selectable 125K, 250K, or 500K baud)
Messaging	Polling, cyclic and change of state
DeviceNet™ type	100
Bit Mapping	Inputs (3 bytes) Byte 0, bit 0 = red LED Byte 0, bit 1 = green LED Byte 0, bit 4 = fault bit (on if Input 1 and Input 2 are set) Byte 1, bits 8-15 = analog input Byte 2, bits 16-23 = analog input (4-20mA analog input 0-10,000 scaling) Outputs (1 byte) Byte 0, bit 0 = output 1 Byte 0, bit 1 = LV Control

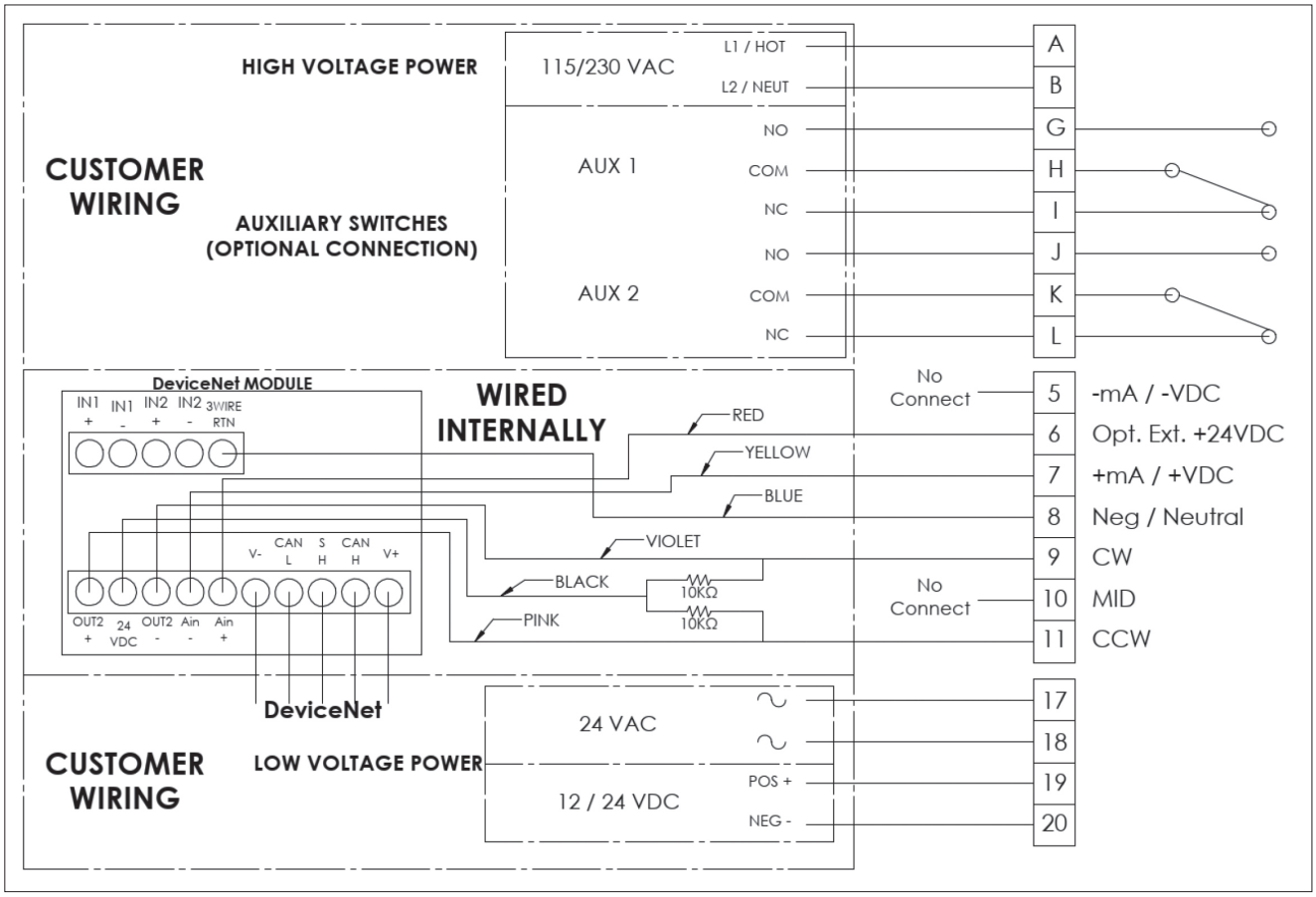

Fig. 2 DeviceNet Wiring Diagram

6. Additional Resources

For in-depth details on integrating the Stonel AS-i, and DeviceNet™ communication interface modules with the Valvcon ADC-Series actuator, consult the respective module documentation and the ADC-Series actuator IMO.

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