June 2017
Addendum to ValvePoint catalog S-912
See Prism PI section pages 68-75

Prism PI Expeditor

Position control for optimal process performance

The Prism Expeditor controls sanitary diaphragm and other linear valves to any position. By partially opening or closing the valves, process batching may be optimized. This enables more precise control of the flow of your valuable ingredients.

Compact and durable, the PI is suited for corrosive, heavy washdown and hazardous areas.

Fast, easy set-up

By using the teach button the unit quickly learns the valve characteristics and is able to provide consistent performance. Bold mechanical and LED indication shows electronic and valve position status.

Optional Wireless Link

Remote set-up monitoring, control and diagnostics are available through the optional Wireless Link capability. Changes are restricted when in normal operating mode, ensuring security.

Compact design for convenient adaptability to linear valves

The PI offers control for valve stroke lengths varying from 5 mm (0.197") up to 66 mm (2.60"). With the low profile version, the unit is less than 76 mm (3.0") above the actuator mounting pads and may accommodate stroke lengths up to 28 mm (1.10").

A wide variety of convenient mounting kits are available to attach the Prism to many brands of actuators.

Compact design

Standard stroke with no visual indicator

Standard stroke with visual indicator

Long stroke with visual indicator

Position sensor and control module

The PI features an intelligent linear magnetic resistive sensor system to precisely measure stroke position at all times and provides control signals to the solenoid control. Features include:

- **High accuracy** over wide operating temperature range.
- **Automated teach function** to tune control algorithm to the specific actuator.
- **High intensity LEDs** for visibility of valve position status even in brightly lit areas.
- **Fully potted and sealed** making it resistant to high vibration forces and moisture.
- **Convenient, simple push button teach settings** may be done by simply removing the cover. Or with the Wireless Link maybe be set-up remotely.

Intermediate position

Open position

Closed position

Convenient push button settings and high intensity LEDs

Positioner operation

The expeditor's position control is directly proportional to the input signal from 20% to 80%. (7.2 mA to 16.8 mA). When the input signal is less than 20% (7.2 mA), the actuator is driven closed. When the input signal is greater than 80% (16.8 mA), the actuator is driven open.

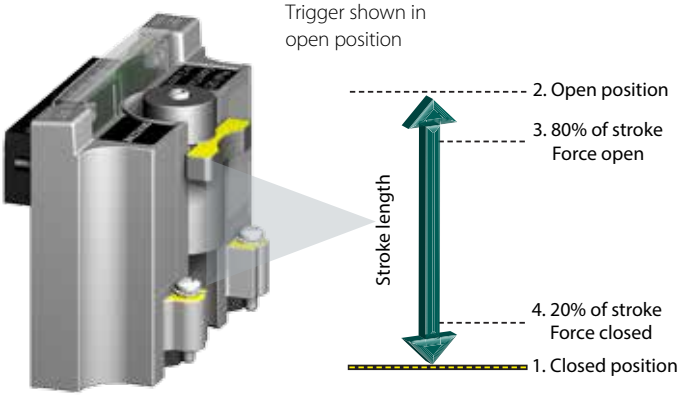
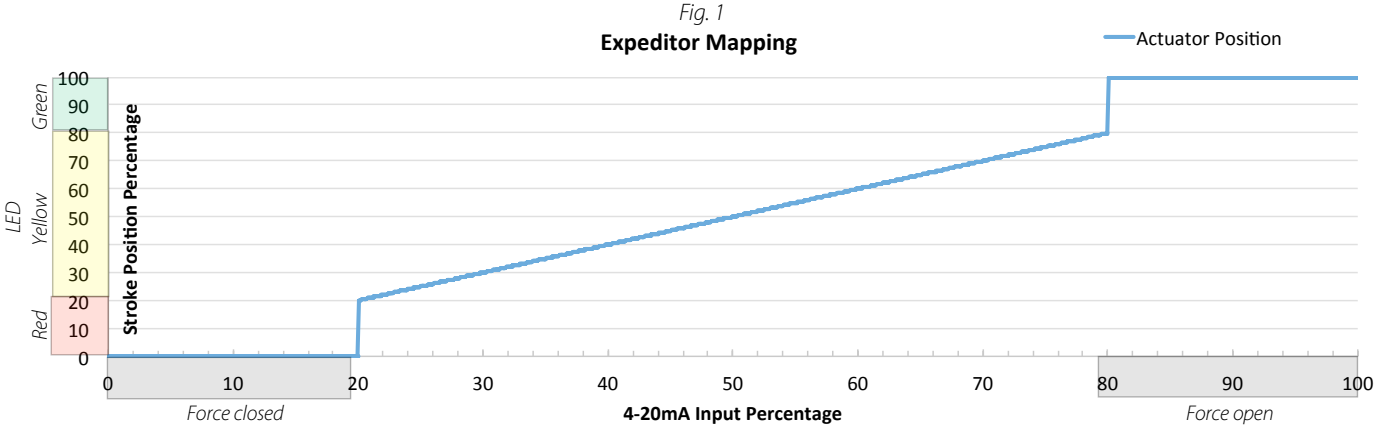


Fig. 1



Sensing and communication module

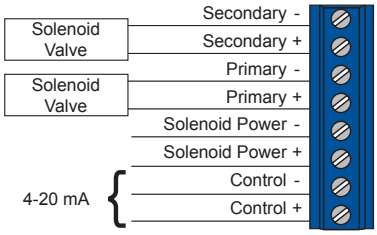
The Prism features StoneL's linear module system with field proven reliability in all applications. Standard stroke module is available for very compact applications on up to 2" valves. Long stroke module is available for up to 6" valves with 4-20 mA and/or direct switched feedback..

Modules have a **five year warranty.**

Expeditor (80S & 80W) with valve size (SA) for standard stroke		
Solenoid voltage		24 VDC
Position control (AO)		(1) 4-20 mA loop, 9 - 30 VDC
LED states *See "Fig. 1" on page 2*	Red Yellow Green	Closed state (current position ≤ 20% of full scale) Intermediate state (20% < current position < 80%) Open state (current position ≥ 80% of full scale)
Control signal *See "Fig. 1" on page 2*		Force closed (4-20 mA signal ≤ 20% of full scale) Linear intermediate control (20% < 4-20 mA signal < 80%) Force open (4-20 mA signal ≥ 80% of full scale)

Wiring diagram
(80S) and (80W) for valve with standard stroke

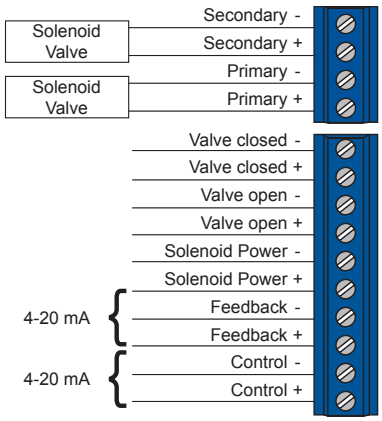
Expeditor



Expeditor (81S & 81W) with valve size (LA) for long stroke		
Solenoid voltage		24 VDC
Position control (AO)		(1) 4-20 mA loop, 9 - 30 VDC
Position feedback (AI)		(1) 4-20 mA loop, 9 - 30 VDC
Position feedback (DI)		(2) Discrete inputs
LED states *See "Fig. 1" on page 2*	Red Yellow Green	Closed state (current position ≤ 20% of full scale) Intermediate state (20% < current position < 80%) Open state (current position ≥ 80% of full scale)
Control signal *See "Fig. 1" on page 2*		Force closed (4-20 mA signal ≤ 20% of full scale) Linear intermediate control (20% < 4-20 mA signal < 80%) Force open (4-20 mA signal ≥ 80% of full scale)

Wiring diagram
(81S) and (81W) for valve with long stroke

Expeditor

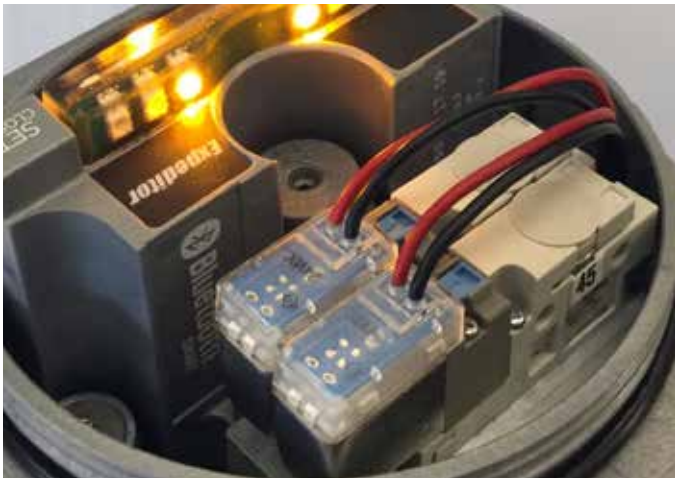


Pneumatic control and other specifications

Two three-way, two-position spring return pneumatic valves quickly and precisely operate valves to specific position in less than two seconds.

Solenoid valve

The high flow, long life solenoid valves operate at low power and are well-suited for most applications. They feature a convenient manual override for stroking during set-up and commissioning.



Specifications	
Solenoid valve	
Configuration	(2) 3-way, 2-position, spring return
Porting	⅛" NPT (stainless steel reinforced)
Flow rating	Cv 0.20
Operating pressure	25 psi to 140 psi
Filtration requirements	40 micron
Operating temperature	-10° C to 50° C (0° F to 122° F)
Electrical ratings	2K option: 1.0 watts @ 24 VDC
Inrush	Negligible

Optional Wireless Link & Specifications

Remotely access your valves from up to 50 meters, depending on obstructions, with the optional Wireless Link iOS app. Experience unrivaled convenience and maintenance savings during the automated valves's entire life cycle.

Download on the App Store

Sensor specifications

	Notes	Min.	Max.	Units
24 VDC voltage range		21.6	26.4	V
24 VDC operating current			100	mA
4-20 mA input operating range		3.8	20.5	mA
4-20 mA input fault range	Wireless Link unlocked	<3.4	>21	mA
4-20 mA input impedance	@ 20 mA		425	ohm
Operating pressure		25 (1.7)	120 (8.2)	psi (bar)
Control precision		3% of stroke		
Control repeatability			0.020 (.51)	inch (mm)
Actuator stroke length	Standard stroke	0.197 (5.00)	1.100 (27.94)	inch (mm)
Actuator stroke length	Long stroke	0.197 (5.00)	2.600 (66.04)	inch (mm)
Operating temperature		-10° 14°	50° 122°	C F
Stroke life		500 k		cycles

Model selector

SERIES

PI Intelligent nonincendive

FUNCTIONS

Expeditor, standard stroke

80S (1) 4-20mA AO for position control *[select valve size SA]*

80W (1) 4-20mA AO for position control with Wireless Link *[select valve size SA]*

Expeditor, long stroke

81S (1) 4-20mA AO for position control with (1) 4-20mA AI and (2) 24V DI for position feedback *[select valve size LA]*

81W (1) 4-20mA AO for position control with (1) 4-20mA AI and (2) 24V DI for position feedback with Wireless Link *[select valve size LA]*

PNEUMATIC VALVE / TEMPERATURE

-10° C to 50° C / 0.2 Cv

2KS Dual three-way 24 VDC 1.0 watt/0.2 Cv solenoid

ENCLOSURE

A North American (NEC/CEC)

V International (IEC)

L Other

CONDUIT

01 (1) 1/2" NPT

02 (2) 1/2" NPT

04 (1) M20

05 (2) M20

09 (2) cable glands

CONNECTORS

10 (1) 4-pin mini-connector

11 (1) 5-pin mini-connector

13 (1) 4-pin micro-connector

14 (2) 4-pin micro-connectors

15 (1) 5-pin micro-connector

17 (1) 6-pin micro-connector

19 (1) 6-pin mini-connector

VISUAL INDICATOR

R Green open

0 No indication

VALVE SIZE

SA 1/4" to 2" (3.2 mm to 28.5 mm; 1/8" to 1 1/8 " stroke)

LA 1/4" to 6" (3.2 mm to 66.8 mm; 1/8" to 2 5/8 " stroke)

Model number example

PI 80W 2KS A 01 R SA – OPTIONAL

MODEL NUMBER

Mounting hardware required and sold separately.

PARTNERSHIP ID

Some models may include 5-digit identification suffix.

StoneL®
Valve Communication Solutions

26271 US Highway 59
Fergus Falls, MN 56537 USA
Tech hotline +1 218 737 0701
Tel. +1 218 739 5774, fax +1 218 739 5776
Email: sales@stoneL.com
StoneL.com