

SS5 Linear / Rotary Smart Valve Positioner



Perfect combination

with reliable **fail freeze**

function and **smart** performance

with innovative durable coil drive



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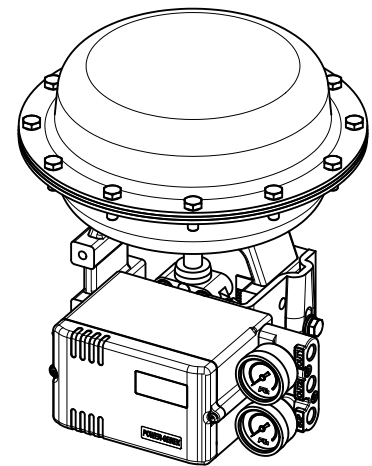
**FAIL
FREEZE**

*Perfect combination with reliable fail freeze function and **smart** performance with innovative durable coil drive*

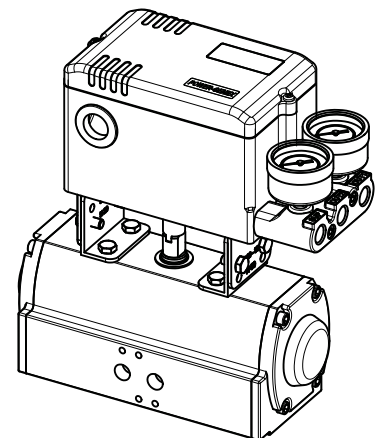


FEATURES

- "Fail Freeze" function to help the valve stay at the last position on the electrical power supply or the pneumatic supply air by accident
- Easy and quick auto-calibration
- Detects RA (reverse acting) or DA (direct acting) automatically regardless of wrong air connections
- Available to use for single or double acting without any special adjustments
- Compact design allows installation on small actuators
- Provides error messages against performance failures
- Possible to test the actuator with any fixed signal under a test mode
- Programmable characteristic curve with 17 points
- Wide operating temperature range -22° F to 176° F
- Improved control of high-friction globe and ball valves by eliminating an overshoot and a hunting
- Low air consumption
- Provides a mounting bracket to meet IEC 60534-6-1 for linear valves
- Supports a NAMUR mounting pattern VDI/VDE 3845 (IEC 60534-6-2) and provides a multi-size mounting bracket for rotary valves



SS5L (Linear Type)



SS5R (Rotary Type)

OPTIONS

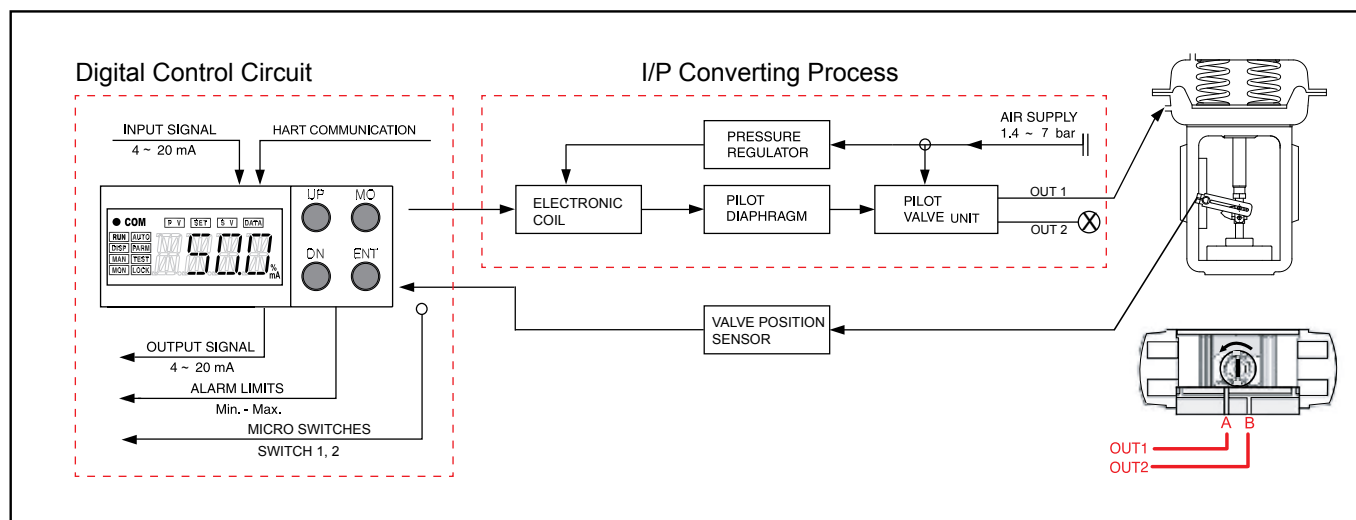
- Output position transmitter (4 - 20 mA)
- 2 x alarm limit or micro switch (SPDT)
- Explosion proof type (IECEX / ATEX / KC Ex ia IIC T5)
- HART communication
- Profibus communication (in progress)
- Fieldbus Foundation communication (in progress)

SPECIFICATIONS

Input Signal	4 - 20 mA @ 24 VDC
Min. / Max. Current	3.6 mA / 50 mA
Voltage Drop (Resistance)	Without Hart : 8.7 VDC (435Ω @ 20 mA) With Hart : 9.4 VDC (470Ω @ 20 mA)
Stroke / Angle	Linear type : 5 - 130 mm * Rotary type : 25 - 120°
Air Supply Pressure	1.4 - 7 bar (20 - 100 psi), filtered, compressed dry and non-oiled to meet Class 3 of ISO 8573-1
Output Pressure Range	0 - 100% of supply air pressure
Air Capacity	80 l/min = 4.8 Nm ³ /h = 2.8 scfm (Sup = 20 PSIG) 233 l/min = 14 Nm ³ /h = 8.2 scfm (Sup = 90 PSIG)
Air Consumption	2 l/min = 0.12 Nm ³ /h = 0.07 scfm (Sup = 20 ~ 90 PSIG)
Characteristic	Linearity < ±0.3% F.S Sensitivity < 0.2% F.S Hysteresis < 0.2% F.S Repeatability < 0.2% F.S
Performance Characteristic	Linear, EQ %, Quick open, User set (17 points)
LCD Indication	4-digit LCD indicator
Adjustable Speed	1 - 1000 (lowest 1, highest 1000)
Scan Time	2ms
Shut-off Value	Range 0 - 10% of position signal
Valve Action	Direct action (DA) / Reverse action (RA)
Operating Temperature	- 30 ~ +80° C (- 22 ~ +176° F)**
Pneumatic Connections	NPT 1/4
Electrical Connections	NPT 1/2
Protection Class	IP66, intrinsically safe (IECEx / ATEX / KC Exia IIC T5)
Body Material	Aluminum die-cast / powder-painted
Weight	3.5 LBS.

* Up to 200mm on request ** -40° C on request

PRINCIPALS OF OPERATION

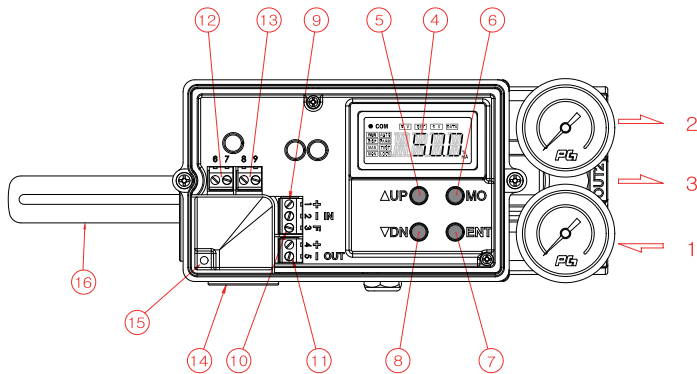


If 4-20 mA input signal is supplied, the micro processor compares input signal with position feedback and sends control signal to the I/P converting module. Pneumatic signal from the I/P converting module operates the valve and the valve stays at the desired position.

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FRONT COVER REMOVED

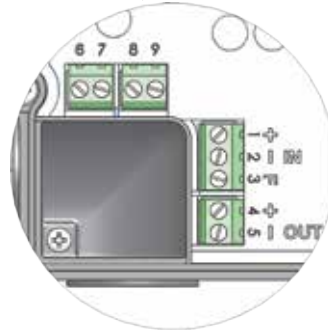


- 1 : Air supply
- 2 : OUT 1
- 3 : OUT 2
- 4 : Display LCD
- 5 : Up key
- 6 : Mode key
- 7 : Enter key
- 8 : Down key
- 9 : Input signal (+, -)
- 10 : Frame ground
- 11 : Output signal (+, -)
- 12 : Alarm limit 1
- 13 : Alarm limit 2
- 14 : Electrical connections
- 15 : Ground
- 16 : Feedback lever

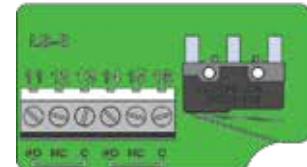
ELECTRICAL CONNECTIONS

- 1 (+) — IN. 4-20mA input signal
- 2 (-) — Frame Ground
- 3 (FG) — Frame Ground
- 4 (+) — OUT. 4-20mA output signal
- 5 (-) — OUT. 4-20mA output signal
- 6 (+) — LS1. (Low) Alarm limit 1
- 7 (-) — LS1. (Low) Alarm limit 1
- 8 (+) — LS2. (High) Alarm limit 2
- 9 (-) — LS2. (High) Alarm limit 2

Alarm limits 1, 2



Input signal
Output signal



Micro switches 1, 2

HOW TO ORDER

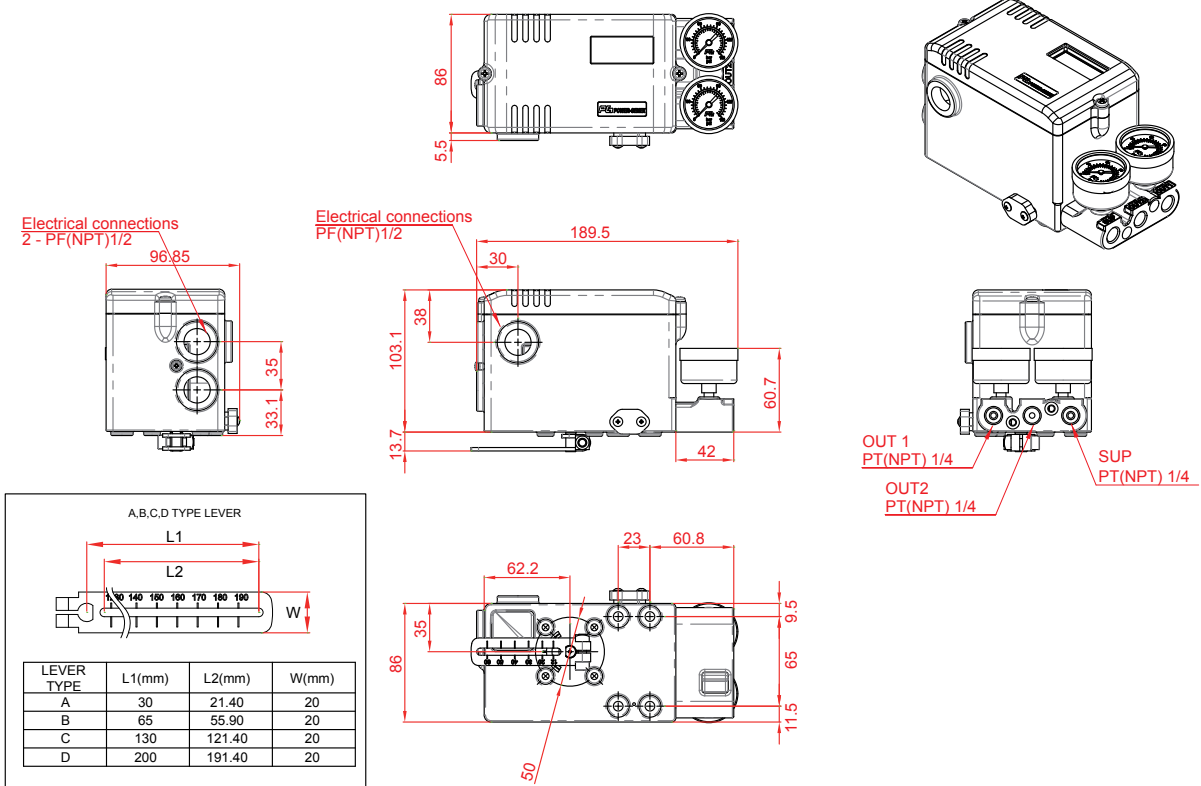
SS5

- Actuator Operation
- Protection Class
- Feedback Lever
- Pressure Gauges
- Position Feedback
- Communication
- Connection Threads
- Mounting Bracket
- Feedback Pin Guide Lever Set

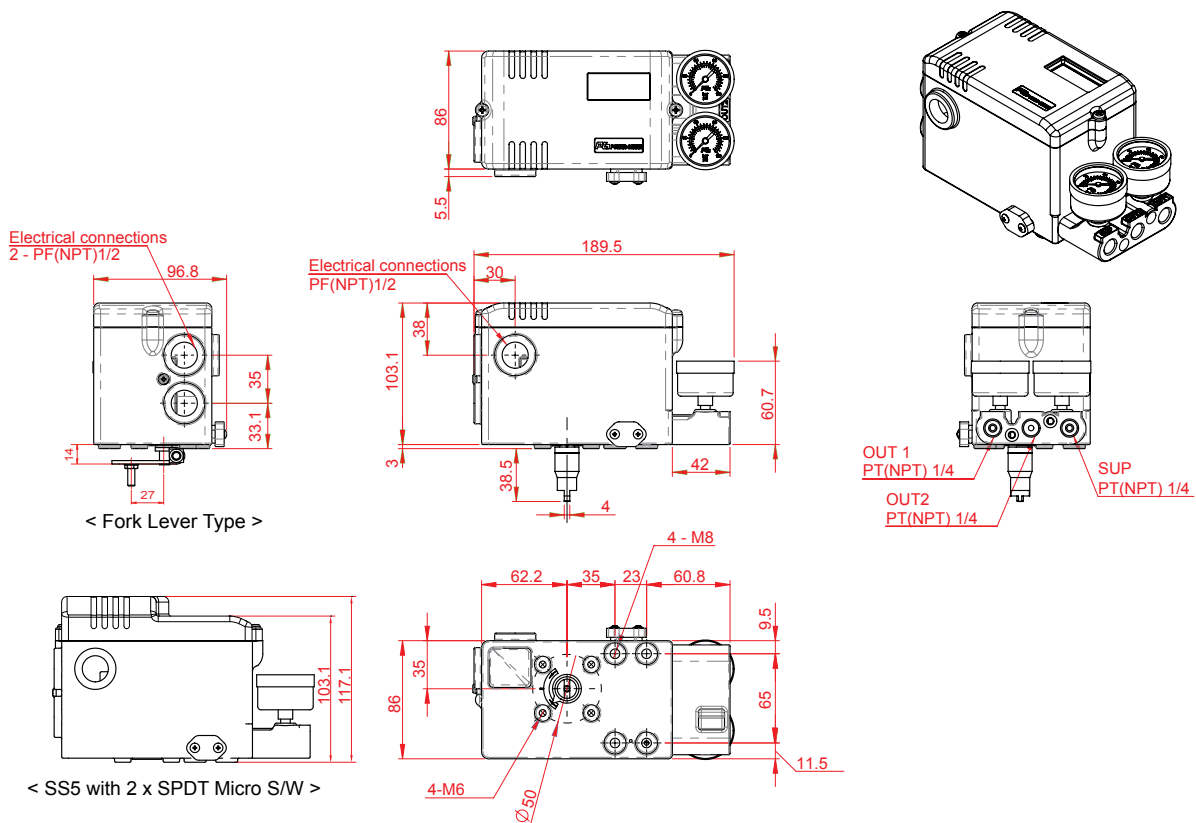
Description	Code
Actuator Operation :	L : Linear type R : Rotary type
Protection Class :	I : Intrinsically safe (IECEX Ex ia IIC T5 / ATEX Ex ia IIC T5) K : Intrinsically safe (KC Ex ia IIC T5) W : Weatherproof to IP66
Feedback Lever : - Linear Type	A : Stroke (5 ~ 30mm) B : Stroke (5 ~ 65mm) C : Stroke (5 ~ 130mm) D : Stroke (80 ~ 200mm)
- Rotary Type	F : Fork lever N : Namur shaft (direct mounting)
Pressure Gauge Block :	0 : Not mounted 1 : 6 bar (90 psi) 2 : 10 bar (150 psi)

Description	Code
Position Feedback :	N : None O : Position transmitter (4 ~ 20mA output signal) L : 2 x alarm limit S : 2 x micro switch (SPDT) M : O+L Q : O+S
Communication :	N : None H : HART P : Profibus (in progress) F : Fieldbus (in progress)
Connection Threads : (pneumatic - electrical)	3 : Rc 1/4 – G1/2 (standard) 4 : NPT 1/4 – NPT 1/2 5 : Rc 1/4 – M20 x 1.5
Mounting Bracket :	N : None L : IEC 60534-6-1 (for SS5L) R : VDI/VDE 3845 / IEC 60534-6-2 (for SS5R)
Feedback Pin Guide Lever Set : (only for linear type SS5L)	0 : Not included 1 : Included

DIMENSIONS SS5L (Linear Type)

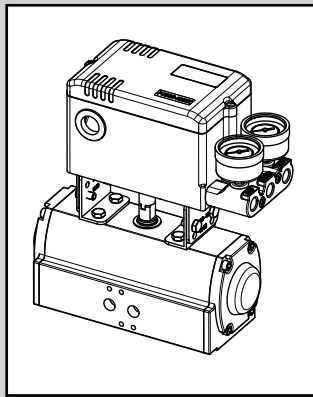
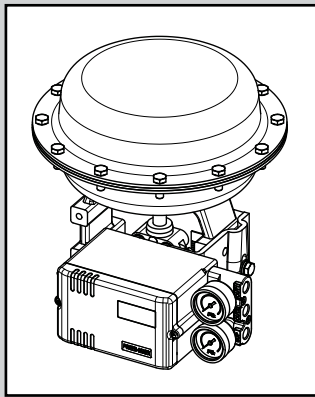


DIMENSIONS SS5R (Rotary Type)



SS5 Linear / Rotary Smart Valve Positioner

**FAIL
FREEZE**



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SS5-20140211