

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

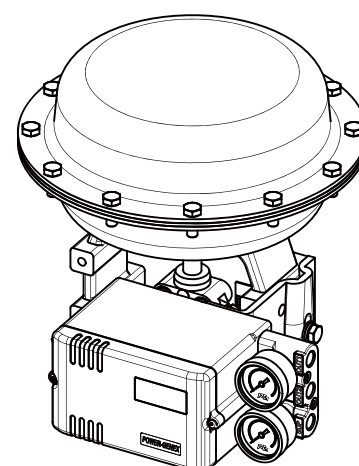


Features

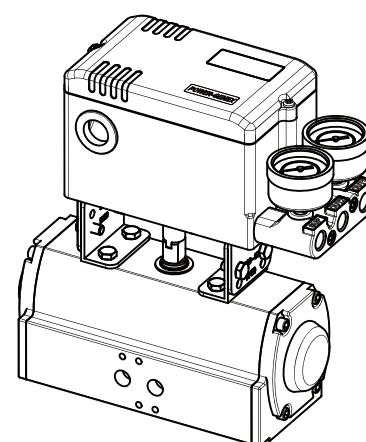
- ▶ “Fail Freeze” function to help the valve stay at the last position on the electrical power supply or the pneumatic supply air by accident
- ▶ Easy and quick auto-calibration
- ▶ Detecting RA (reverse acting) or DA (direct acting) automatically regardless of wrong air connections
- ▶ Available to use for single or double acting without any special adjustments
- ▶ Compact design allowing to be installed on small actuators
- ▶ Providing 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 -30 ~ +80°C
- ▶ Improved control of high-friction globe and ball valves by eliminating an overshoot and a hunting
- ▶ Low air consumption
- ▶ Providing a mounting bracket to meet IEC 60534-6-1 for linear valves
- ▶ Supporting a NAMUR mounting pattern VDI/VDE 3845 (IEC 60534-6-2) and providing a multi-size mounting bracket for rotary valves

Options

- ▶ Output position transmitter (4 - 20 mA)
- ▶ 2 x alarm limit or micro switch (SPDT)
- ▶ Explosion proof type (IECEx / ATEX / KC Ex ia IIC T6/T5)
- ▶ HART communication
- ▶ Profibus communication
- ▶ Fieldbus Foundation communication (in progress)



- SS5L (Linear Type)



- SS5R (Rotary Type)

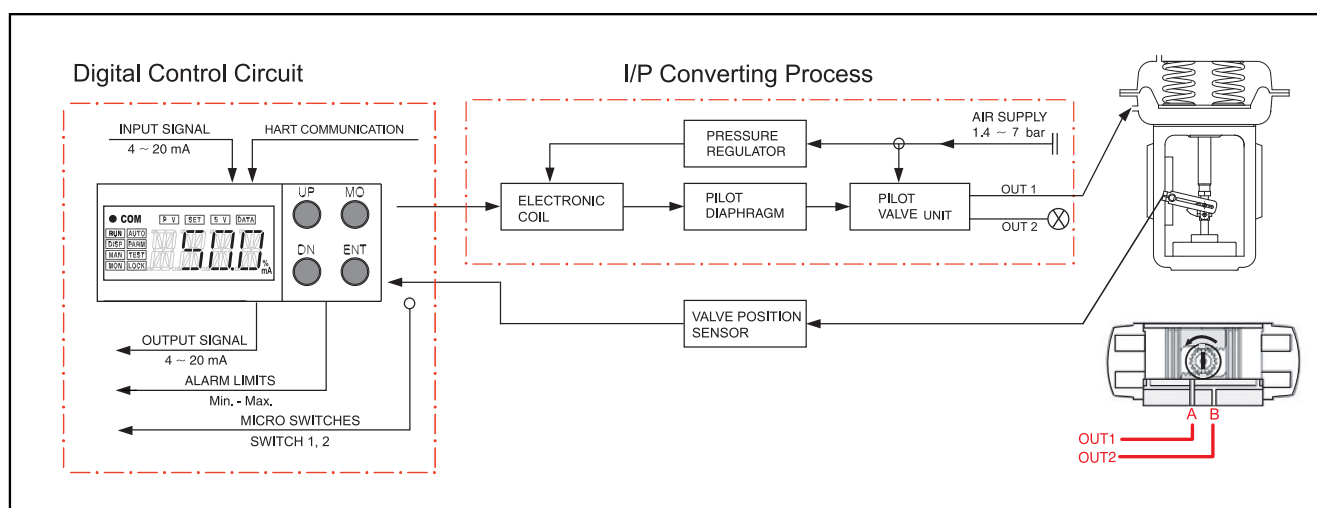
Specifications

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 N ^m /h = 2.8 scfm (Sup = 1.4 bar) 233 l/min = 14 N ^m /h = 8.2 scfm (Sup = 6 bar)	
Air Consumption	2 l/min = 0.12 N ^m /h = 0.07 scfm (Sup = 1.4 ~ 6 bar)	
Characteristic	Linearity < ±0.3% F.S Hysteresis < 0.2% F.S	Sensitivity < 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	PT(Rc) 1/4 or NPT 1/4	
Electrical Connections	2 x PF(G) 1/2 or NPT 1/2	
Protection Class	IP66, intrinsically safe (IECEX / ATEX / KC Exia IIC T5)	
Body Material	Aluminum die-cast / powder-painted	
Weight	1.6 kg	

* Up to 200mm on request

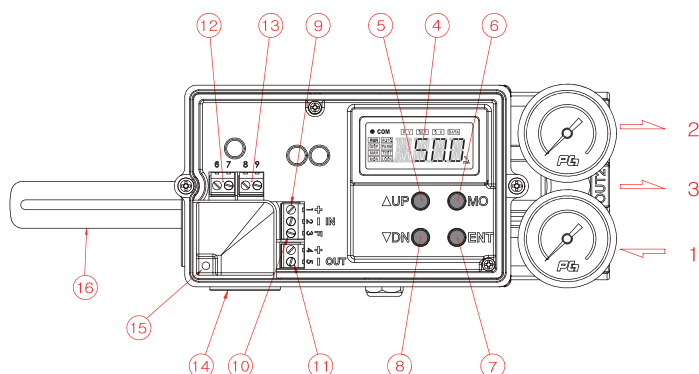
** -40 °C on request

Principle 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.

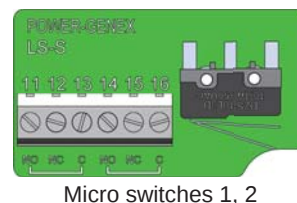
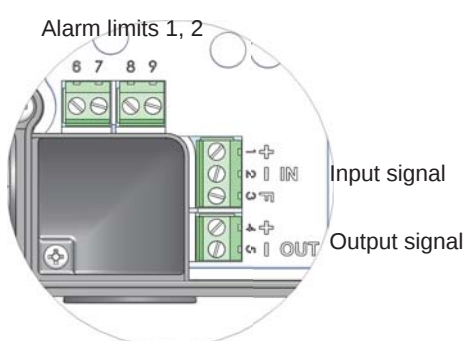
SS5 Front Cover Removed



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

Electrical Connections

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



How to Order

SS5

Actuator Operation	—	Protection Class	Feedback Lever	Pressure Gauges	Position Feedback	Communi-cation	Connection Threads	Mounting Bracket	Feedback Pin Guide Lever Set
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Description	Code
Actuator Operation :	L : Linear type R : Rotary type
Protection Class :	I : Intrinsically safe (IECEx Ex ia IIC T6/T5, ATEX Ex ia IIC T6/T5) K : Intrinsically safe (KC Ex ia IIC T6/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 F: Fieldbus (in progress)
Connection Threads :	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 :	0: Not included 1: Included

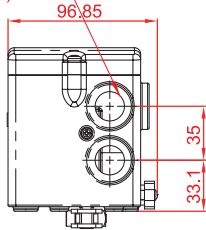
SS5 Linear / Rotary

Smart Valve Positioner (fail freeze function)

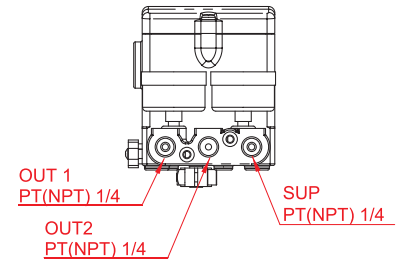
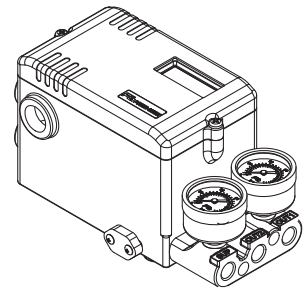
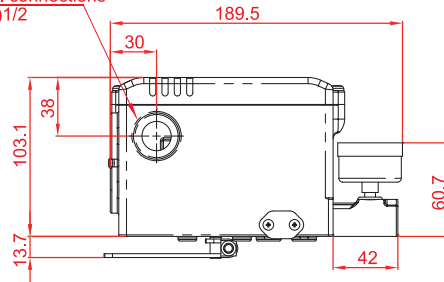
Dimensions

- SS5L (Linear Type)

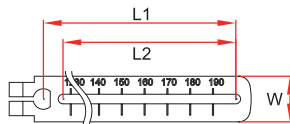
Electrical connections
2 - PF(NPT)1/2



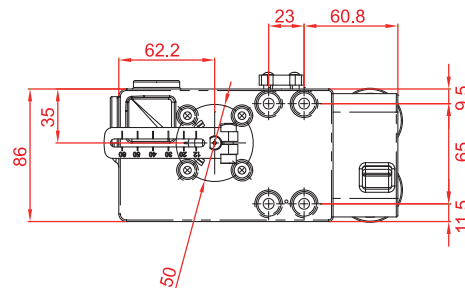
Electrical connections
PF(NPT)1/2



A,B,C,D TYPE LEVER

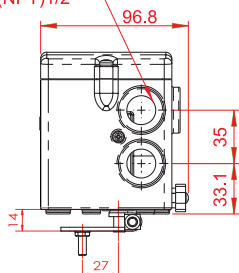


LEVER TYPE	L1(mm)	L2(mm)	W(mm)
A	30	21.40	20
B	65	55.90	20
C	130	121.40	20
D	200	191.40	20

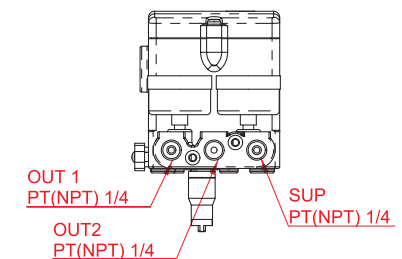
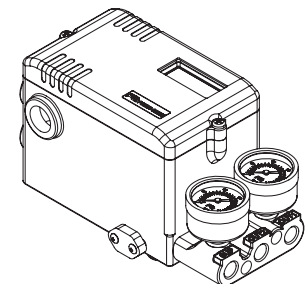
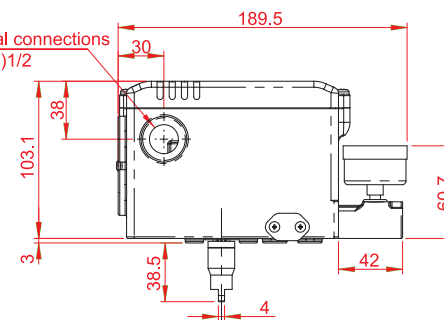


- SS5R (Rotary Type)

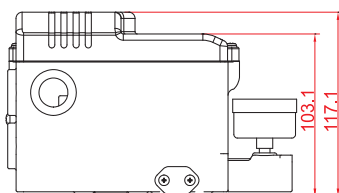
Electrical connections
2 - PF(NPT)1/2



Electrical connections
PF(NPT)1/2



< Fork Lever Type >



< SS5 with 2 x SPDT Micro S/W >

