



Smartest valve control device meeting a dynamic performance and a precise setting with a piezoelectric technology and an optimized auto-calibration program

Features

- ▶ Auto-Calibration for optimum conditions
- ▶ Precise control performance and high dynamic response
- ▶ Easy operation with four-key pads and full text graphical LCD
- ▶ Single and double acting
- ▶ Low air consumption due to piezo electric microvalve
- ▶ Pressure regulator built-in to eliminate variations in supply air pressure
- ▶ Problem-free characteristics on a small actuator
- ▶ High resistance against shock and vibration
- ▶ Mounting on linear actuators according to IEC 534

Options

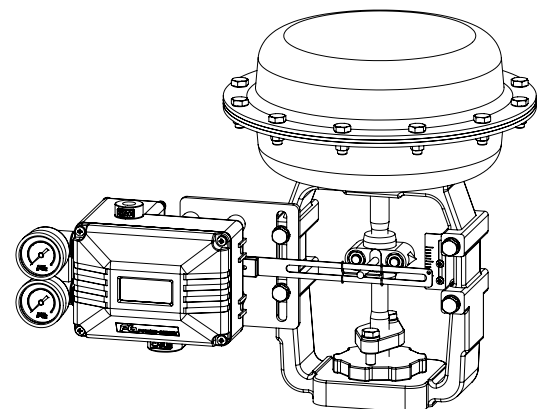
- ▶ Position transmitter (4...20mA output signal)
- ▶ 2 × alarm limit (Min., Max.)
- ▶ Explosion proof type (Exd IIB T6, Exia IIC T6)
- ▶ HART communication (FSK)

Specifications

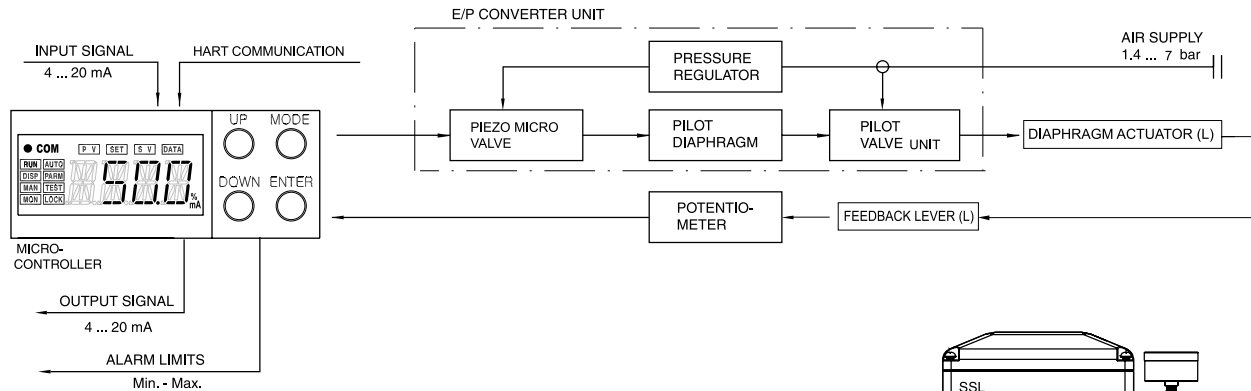
Input Signal	4 - 20 mA @ 24 VDC
Voltage Drop	8.5 VDC @ 20 mA (425 Ω)
Min. / Max. Current	3.6 mA / 50 mA
Required Load Voltage (@ 20mA)	Without HART : 8.5V (≅425 Ω) With HART : 9.2V (≅460 Ω)
Air Supply Pressure	1.4 - 7.0 bar (20 - 100 psi) Filtered compressed dry and non-oiled air
Output Pressure	0 - 100% supply air pressure / single or double action
Shut-off Value	Range 0 - 5% of position signal
Air Capacity	80 LPM @ supply air of 1.4 bar (20psi)
Air Consumption	1.3 LPM ≅0.08 m³/h @ supply air of 1.5 bar (22psi)
Humidity Limits	< 90% RH, non-condensing
Stroke	5 - 80mm (Max. up to 150mm)
Adjustable Speed	1 - 1000 (lowest 1, highest 1000)
LCD Indication	4-digit LCD indicator
Scan Time	2 ms
Valve Action	Position 0 - 100% / direct action (DA) / reverse action (RA)
Characteristic Curve	Linear, E.Q.% (1:25 or 1:50), Quick open Linearity <= 0.3% / sensitivity <= 0.2% / hysteresis <= 0.2%
Operating Temperature	-20 - +70 °C
Protection Class	IP66, intrinsic safety (Exia), flameproof (Exd)
Body Material	Aluminum die-cast
Pneumatic Connections	Rc 1/4 or 1/4 NPT
Electrical Connections	2 × G 1/2 or 1/2 NPT
Weight	2.5 kg



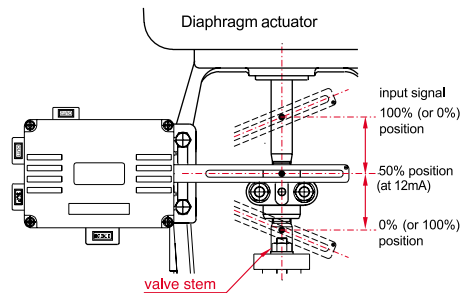
Explosion proof Type (Exd)



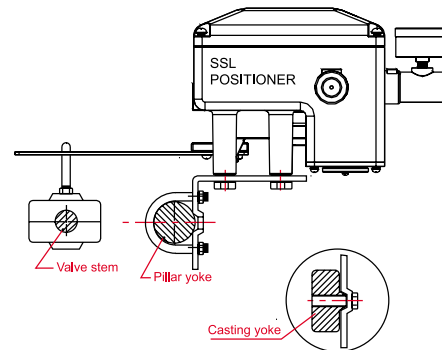
Principle of Operation



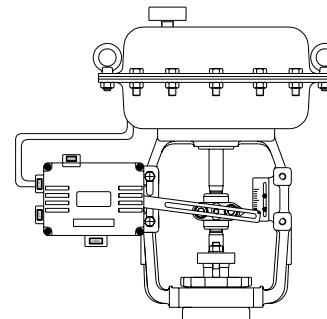
Mounting



Feedback Lever Installation



Mounting to Linear Actuator to IEC 534

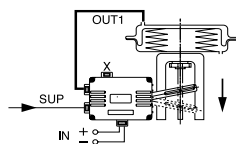


General Mounting to Linear Actuator

Air Connections

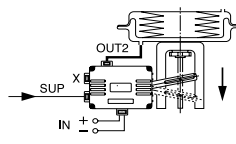
Direct Acting (DA)

As the input signal increases, Valve stem moves downwards
Actuator : DA



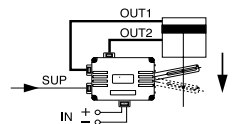
OUT2 must be plugged

As the input signal increases, Valve stem moves downwards
Actuator : DA



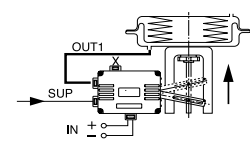
OUT1 must be plugged

As the input signal increases, Valve stem moves downwards



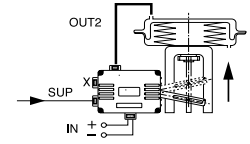
Reverse Acting (RA)

As the input signal increases, Valve stem moves upwards
Actuator : RA



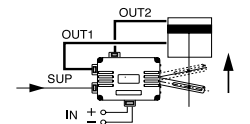
OUT2 must be plugged

As the input signal increases, Valve stem moves upwards
Actuator : RA

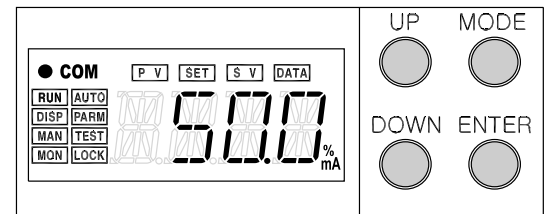
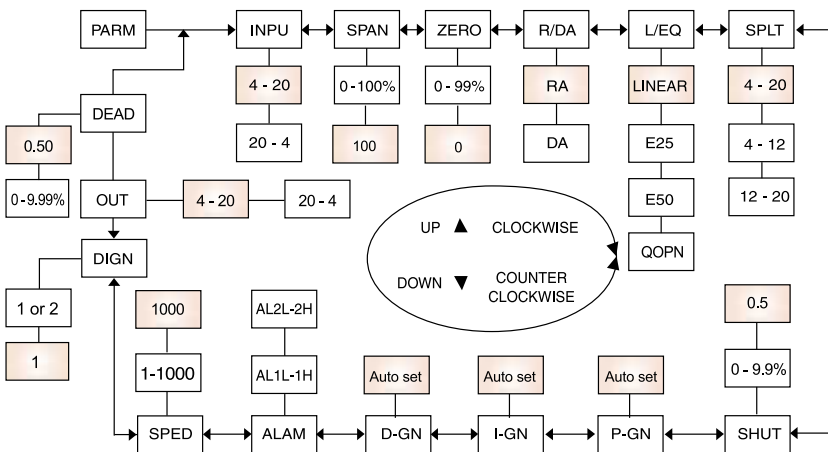
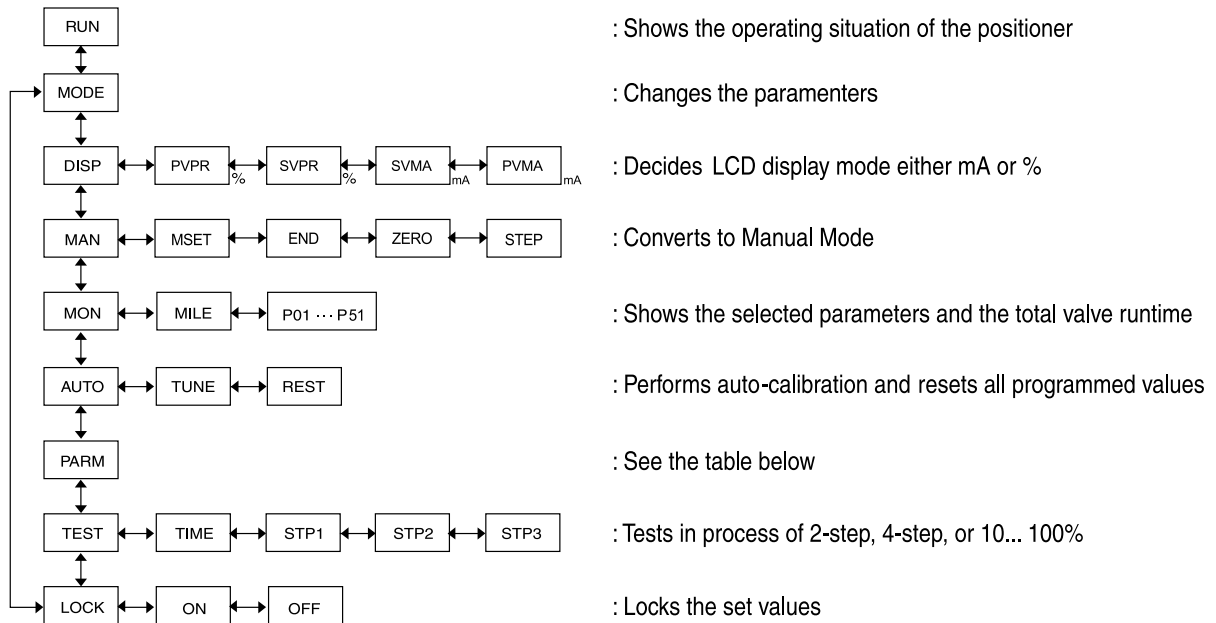


OUT1 must be plugged

As the input signal increases, Valve stem moves upwards



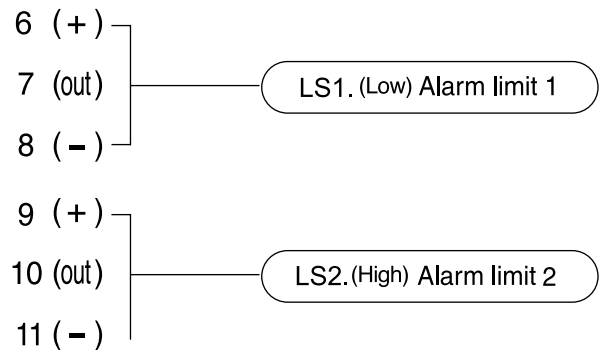
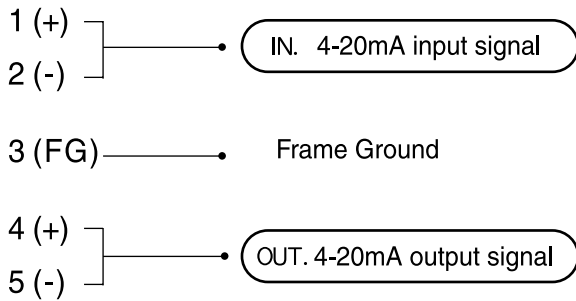
Parameters Diagram



LCD Display
 ● COM : Hart Communication (FSK)

Parameters	Descriptions	Functions	Initial value
INPU	Input signal	4 - 20mA or 20 - 4mA	4 - 20 mA
SPAN	Span range	0 - 100% span adjustment	100 %
ZERO	Zero-up	Position Zero up and down 0 - 99%	0 %
R / DA	RA / DA	Reverse or direct acting	RA
L / E.Q / QOPN	Linear / E.Q% / Quick open	Linear, E.Q%(1:25 or 1:50) , Quick open	Linear
SPLT	Split range	4 - 12mA or 12 - 20mA	4 - 20 mA
SHUT	Shut-off	Valve shut off at 0 - 9.9 %	0.5 %
P-GN	P-Gain	Proportional gain value	Auto setting
I-GN	I-Gain	Integral gain value	Auto setting
D-GN	D-Gain	Differential gain value	Auto setting
ALAM	Alarm limit low, high	AL1L / AL1H, AL2L / AL2H	Low (0 - 10%), High (90 - 100%)
SPED	Speed control	1 - 1000	1000
DIGN	Display digit	Move to one or two decimal places	1
OUT	Output signal	4 - 20mA or 20 - 4mA	4 - 20 mA
DEAD	Dead zone	0 - 9.99%	0.5%

Electrical Connections

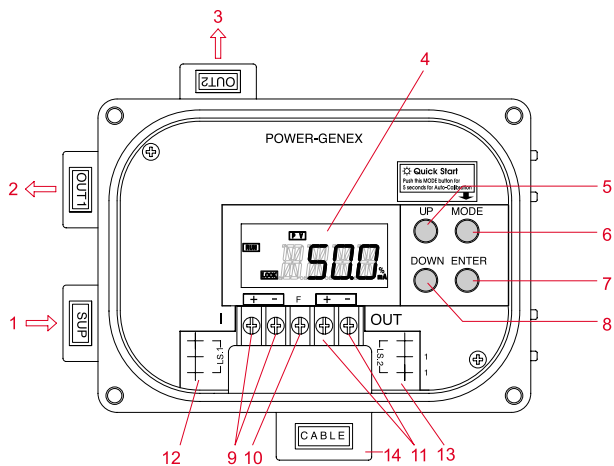


Auto - Calibration

- ① Push MODE button for more than 5 seconds, and Auto Calibration will start.
- ② The time required for this process may be different according to the actuator volume, but it generally takes about 2~3 minutes.

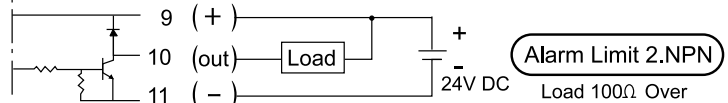
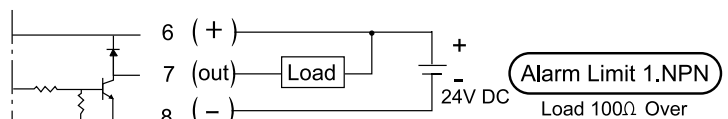
Checking Ambient Temperature

Push ENTER button, and the ambient temperature will be shown on the LCD.

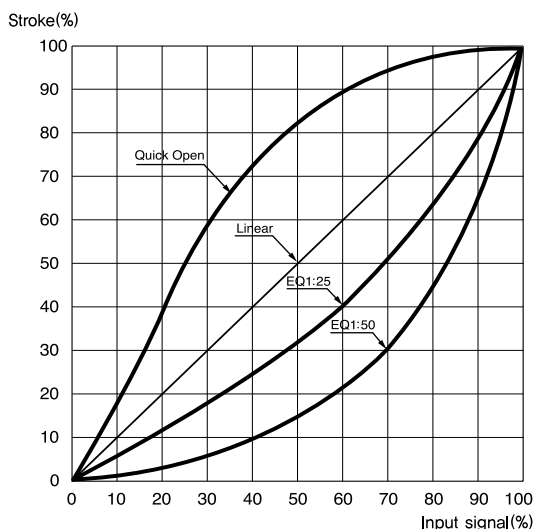


- | | |
|-----------------|-----------------------------|
| 1 : Air supply | 9 : Input signal (+, -) |
| 2 : Output 1 | 10 : Frame ground |
| 3 : Output 2 | 11 : Output signal (+ -) |
| 4 : Display LCD | 12 : Alarm limit 1 |
| 5 : Up key | 13 : Alarm limit 2 |
| 6 : Mode key | 14 : Electrical connections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

Measuring Alarm Limits



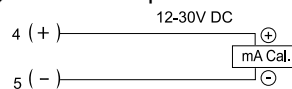
Characteristic Curves



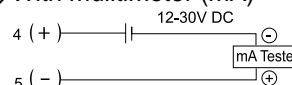
Measuring 4-20mA Output Signal

Note that the input signal should be provided for measurement of output signal.

- ① With mA loop calibrator



- ② With multimeter (mA)



ZERO / SPAN of position feedback will be automatically set after Auto Calibration.

How to Order

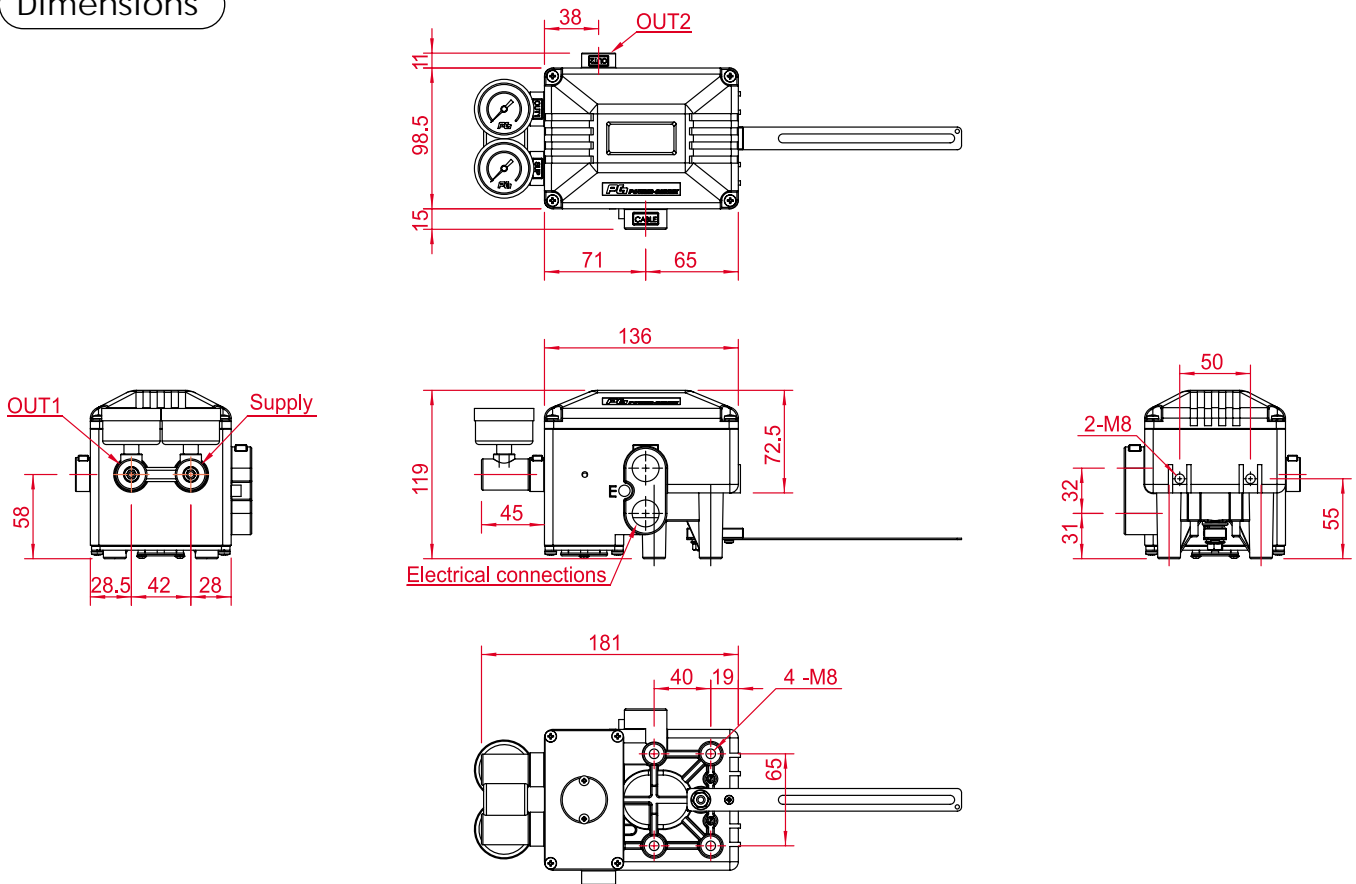
SSL

Protection Class	Feedback Lever	Pressure Gauge Block	Position Feedback	HART Communication	Connection Threads	Mounting Bracket
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Description	Code
Protection Class :	F : Flameproof (Exd IIB T6) I : Intrinsic safety (Exia IIC T6) W : Weatherproof to IP 66
Feedback Lever	A : Stroke (5 ~ 40mm) B : Stroke (5 ~ 80mm) C : Stroke (up to 150mm)
Pressure Gauge Block :	N : None 1 : 6 bar (90 psi) 2 : 10 bar (150 psi)
Position Feedback :	N : None O : Position transmitter (4 ~ 20 mA output signal) L : 2 × alarm limit M : O + L

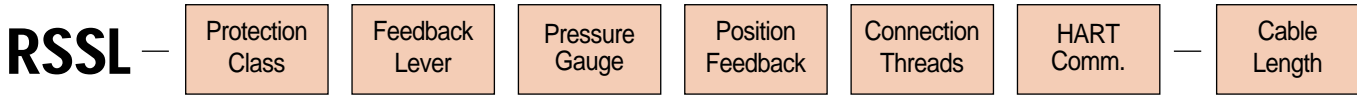
Description	Code
HART Communication :	N : None H : HART Comm
Connection Threads: (pneumatic - electrical)	3 : Rc 1/4 - G 1/2 (standard) 4 : NPT 1/4 - NPT 1/2 5 : Rc 1/4 - M20 x 1.5
Mounting Bracket :	N : None L : DIN / IEC 534

Dimensions



Note : All specifications and characteristics are the same with SSL.

How to Order



Description	Code
Protection Class :	I : Intrinsic safety (Exia IIC T6) W : Weatherproof to IP 66
Feedback Lever :	A : Stroke (10 ~ 40mm) B : Stroke (10 ~ 80mm) C : Stroke (80 ~ 150mm)
Pressure Gauge :	1 : 6 bar (90 psi) 2 : 10 bar (150 psi)

Description	Code
Position Feedback :	N : None O : Position transmitter (4 ~ 20 mA output signal)
Connection Threads : (pneumatic - electrical)	3 : Rc 1/4 - G 1/2 4 : NPT 1/4 - NPT 1/2 5 : Rc 1/4 - M20 x1.5
HART Communication :	N : None H : HART Communication
Cable Length :	3, 5, 10, 15m Other : On request

Ex) RSSL-WA103H-3 (weatherproof, feedback lever 10 - 40mm stroke, 6 bar pressure gauges, position transmitter, Rc 1/4 - G 1/2, HART communication, cable 3m)

Dimensions

