



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 rotary actuators according to VDI/DE 3845

Options

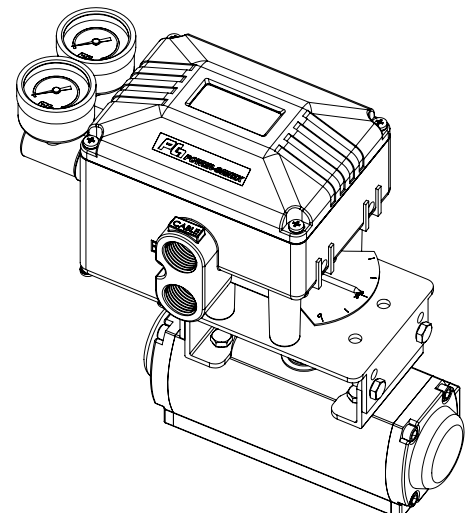
- ▶ Position transmitter (4...20mA output signal)
- ▶ 2 x alarm limit (Min., Max.)
- ▶ Explosion proof type (Exd IIB T6, Exia IIC T6)
- ▶ HART communication (FSK)

Specifications

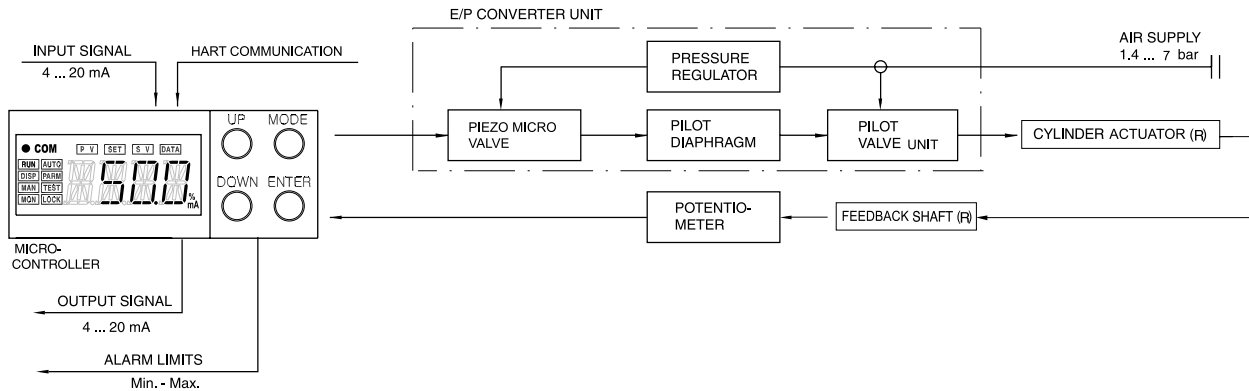
Input Signal	4 - 20 mA @ 24 VDC
Voltage Drop	8.5 VDC @ 20 mA (425 Ω)
Min. / Max. Current	3.6 mA / 50 mA
Required Load Voltage (@ 20mA)	Without HART : 8.5V (≅425 Ω) With HART : 9.2V (≅460 Ω)
Air Supply Pressure	1.4 - 7.0 bar (20 - 100 psi) Filtered compressed dry and non-oiled air
Output Pressure	0 - 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 m ³ /h @ supply air of 1.5 bar (22psi)
Humidity Limits	< 90% RH, non-condensing
Stroke / Angle	40 - 90°(max.up to 100°)
Adjustable Speed	1 - 1000 (lowest 1, highest 1000)
LCD Indication	4-digit LCD indicator
Scan Time	2ms
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 x G 1/2 or 1/2 NPT
Weight	2.5 kg



Explosion proof Type (Exd)

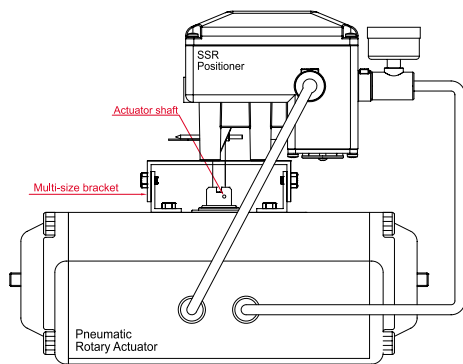
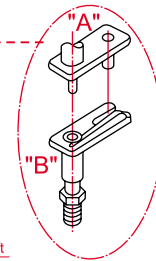


Principle of Operation

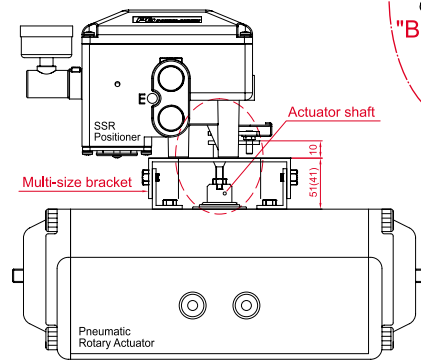


Mounting

Note that feedback lever shaft "A" should be placed in the orifice of fork lever "B" and they should be in perfect alignment with a rotary actuator output shaft



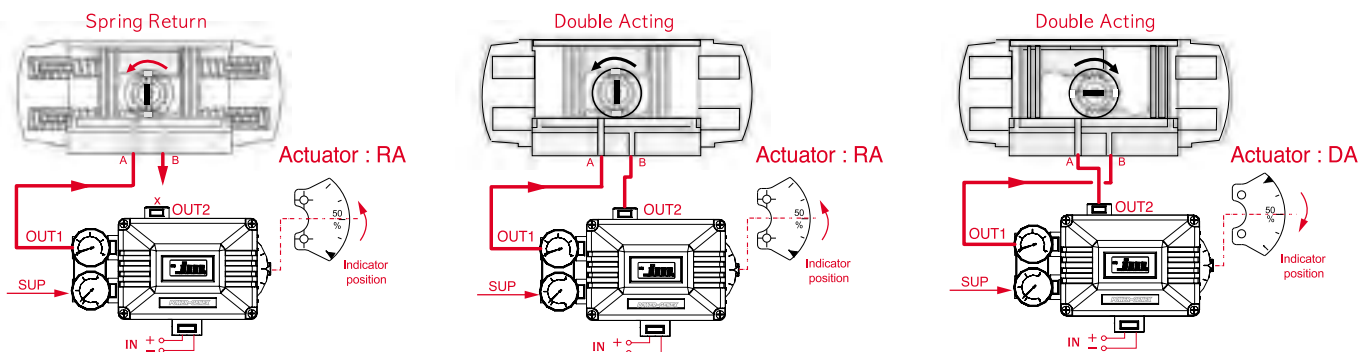
NAMUR Type Mounting



Fork Lever Type Mounting

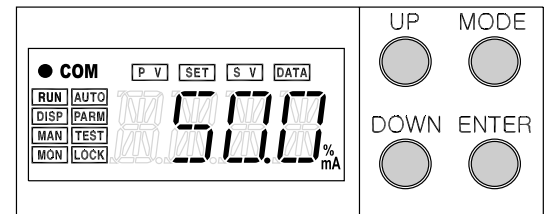
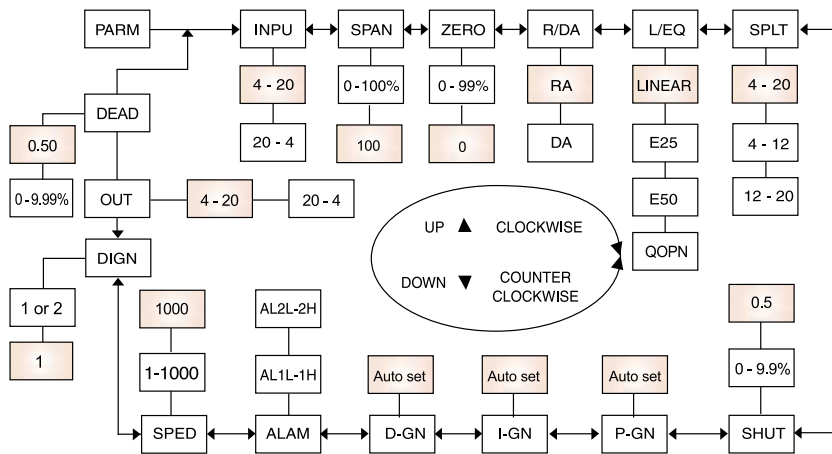
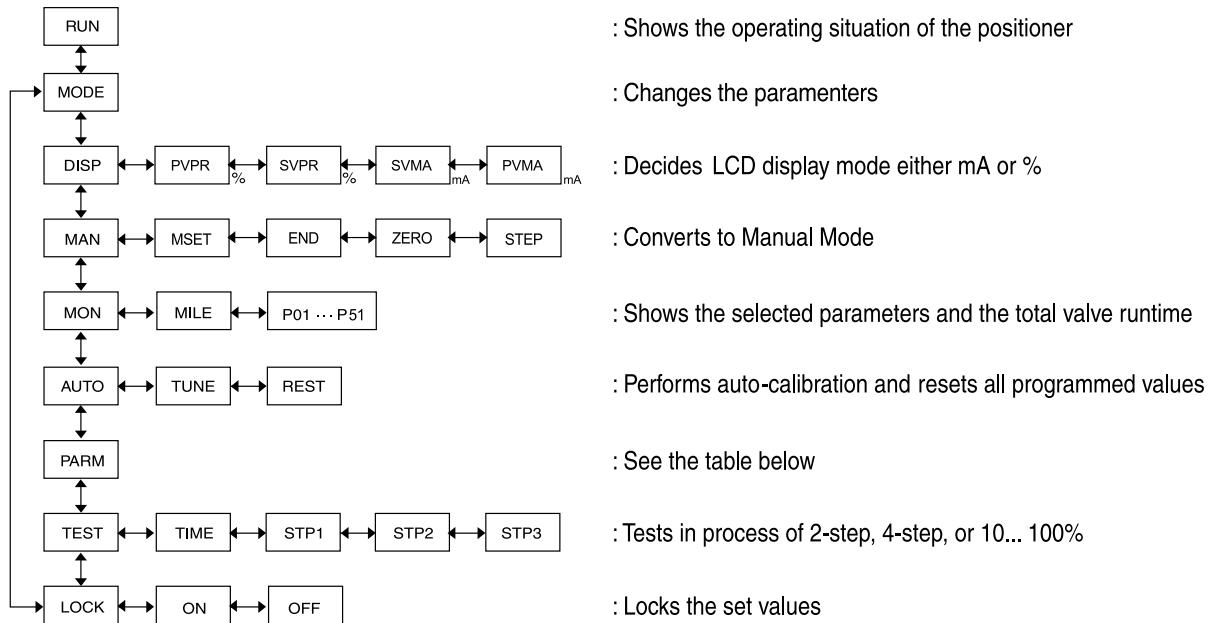
Air Connections

Confirm the rotating direction of the actuator and connect the air lines as below



	Spring Return	Double Acting
Reverse Acting	Out 1 : piped, Out2 : plugged	Out 1 : piped to Actuator port A, Out2 : piped to Actuator port B
Direct Acting	Out 1 : plugged, Out2 : piped	Out 1 : piped to Actuator port B, Out2 : piped to Actuator port A

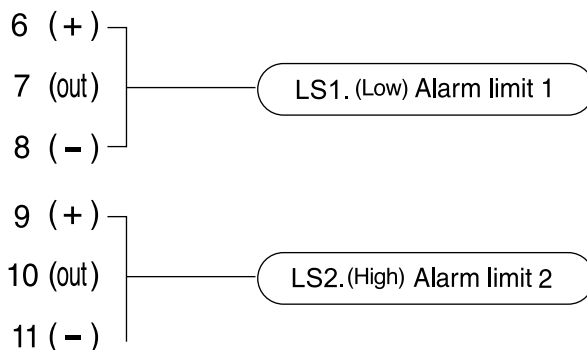
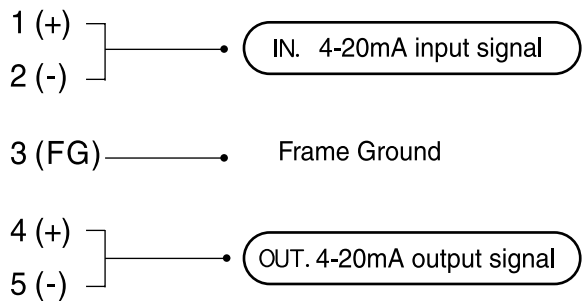
Parameters Diagram



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

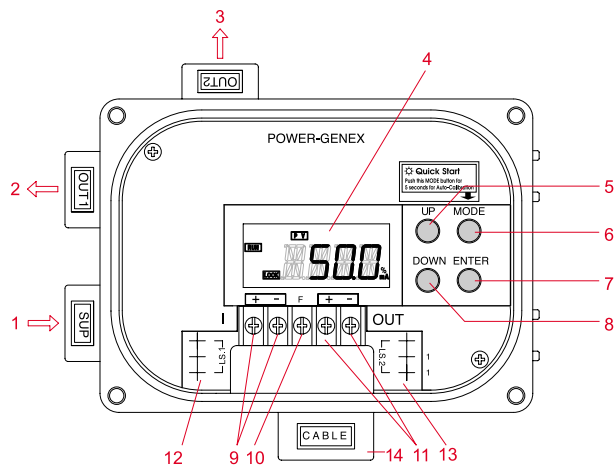


Auto - Calibration

- 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.

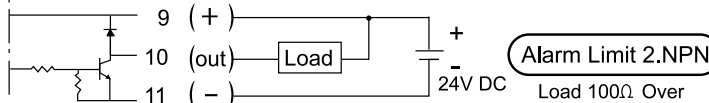
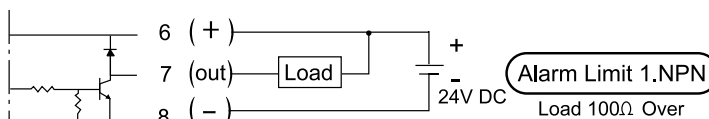
Checking Ambient Temperature

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

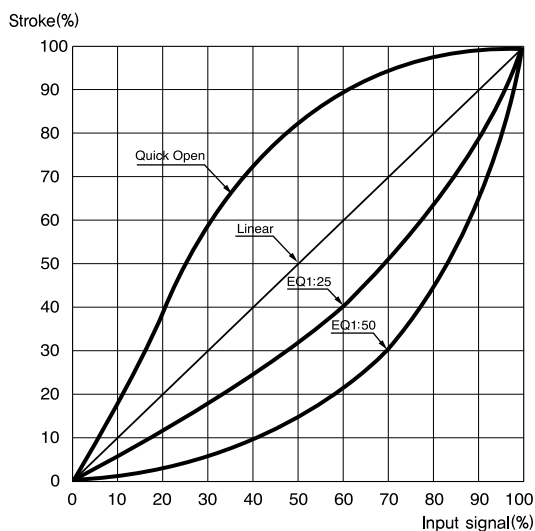


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|-----------------|-----------------------------|
| 1 : Air supply | 9 : Input signal (+, -) |
| 2 : Output 1 | 10 : Frame ground |
| 3 : Output 2 | 11 : Output signal (+ -) |
| 4 : Display LCD | 12 : Alarm limit 1 |
| 5 : Up key | 13 : Alarm limit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

Measuring Alarm Limits



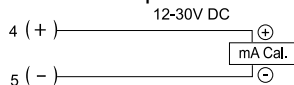
Characteristic Curves



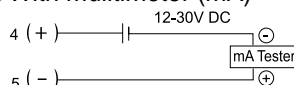
Measuring 4-20mA Output Signal

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

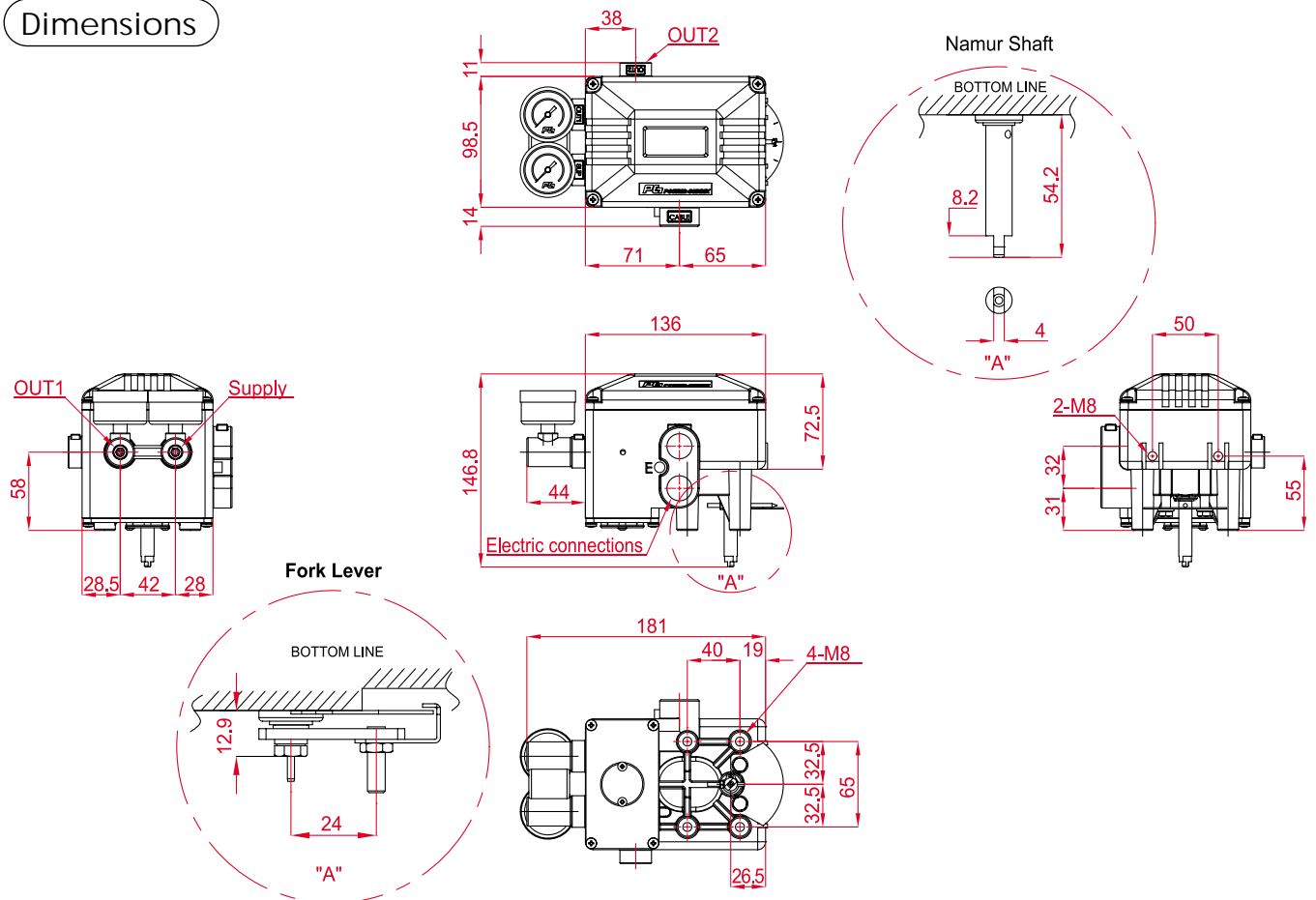
SSR

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	F : Fork lever N : NAMUR shaft (direct mounting)
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 R : Multi-size bracket for DIN VDI/VE 3845 (130 x 30 x 50 bracket on request)

Dimensions



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

How to Order

RSSR	Protection Class	Feedback Shaft	Pressure Gauge	Position Feedback	Connection Threads	HART Comm.	Cable Length
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Description	Code
Protection Class :	I : Intrinsic safety (Exia IIC T6) W : Weatherproof to IP 66
Feedback Shaft :	F : Fork lever type
Pressure Gauge :	1 : 6 bar (90 psi) 2 : 10 bar (150 psi)
Position Feedback :	N : None O : Position transmitter (4 ~ 20 mA output signal)

Description	Code
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) RSSR-WA103H-3 (weatherproof, fork lever type, 6 bar pressure gauges, position transmitter, Rc 1/4 - G 1/2, HART communication, cable 3m)

Dimensions

