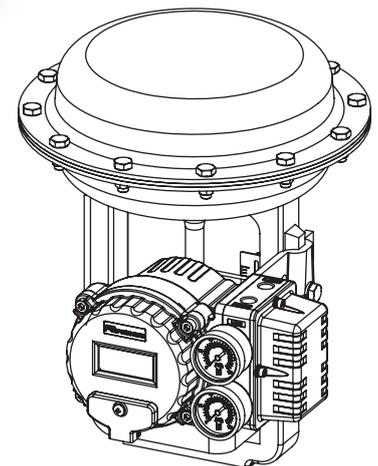


**Sturdy explosion proof housing and smart performance with innovative and ever-strong coil drive even under harsh working environments**

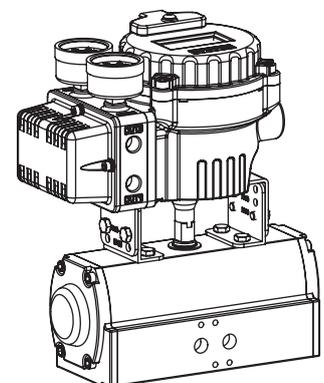


## Features

- ▶ Flameproof IECEx / ATEX / TR-CU / KC Ex d IIC T6
- ▶ 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 ~ +75 °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 IEC 60534-6-2 (VDI/VDE 3845) and providing a multi-size mounting bracket for rotary valves



**- SS3L (Linear Type)**



**- SS3R (Rotary Type)**

## Options

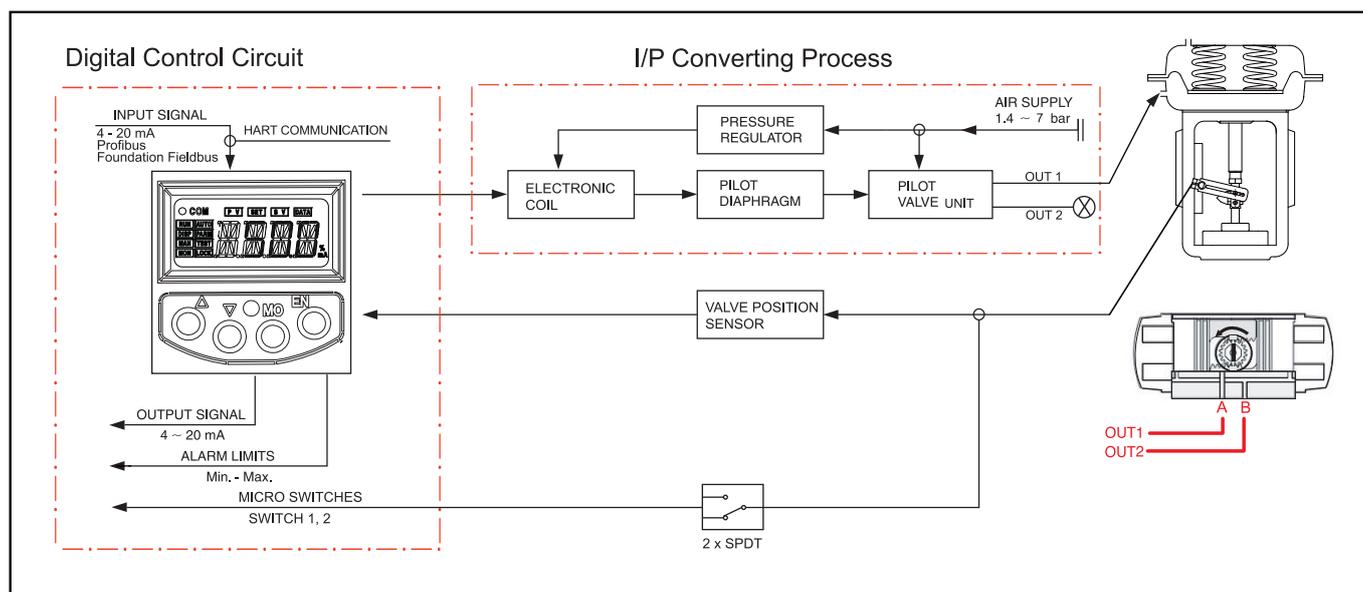
- ▶ Output position transmitter (4 - 20 mA)
- ▶ 2 x alarm limit
- ▶ Low temperature (-40°C)
- ▶ HART communication
- ▶ Profibus PA communication
- ▶ Foundation Fieldbus communication

## Specifications

Communication	Without	HART	Profibus - PA	Foundation Fieldbus
Input Signal / Bus voltage	4 - 20 mA @ 24 VDC		9 - 32 VDC	
Min. / Max. Current	3.6 mA / 50 mA		-	
Current Consumption	-		15mA	16mA
Voltage Drop (Resistance)	8.7 VDC(435Ω)	9.4 VDC(470Ω)	-	
Stroke / Angle	Linear type : 5 - 130 mm * Rotary type : 25 - 120°			
Air Supply Pressure	1.4 - 7.0 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 <sup>m</sup> /h = 2.8 scfm (Sup = 1.4 bar) 233 l/min = 14 N <sup>m</sup> /h = 8.2 scfm (Sup = 6 bar)			
Air Consumption	2.8 l/min = 0.17 N <sup>m</sup> /h = 0.1 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 ~ +75°C (- 22 ~ +167 °F) **			
Pneumatic Connections	PT(Rc) 1/4 or NPT 1/4			
Electrical Connections	2 x PF(G) 1/2 , NPT 1/2 , M20 x 1.5			
Protection Class	Flameproof IECEx / ATEX / KC Ex d IIC T6, IP66			
Body Material	Aluminum die-cast / powder-painted			
Weight	2.8 kg			

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

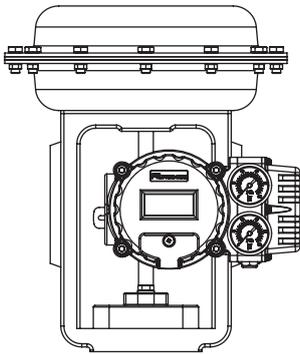
## Principle of Operation



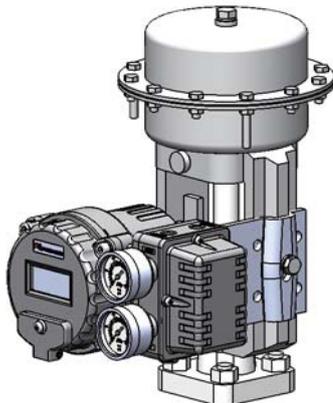
If 4-20 mA input signal (or Bus communication signal) is supplied, the micro processor compares input signal with position feedback and sends control signal to the I/P converting module. Pneumatic signal from the I/P converting module operates the valve and the valve stays at the desired position.

## Mounting to Linear Actuator

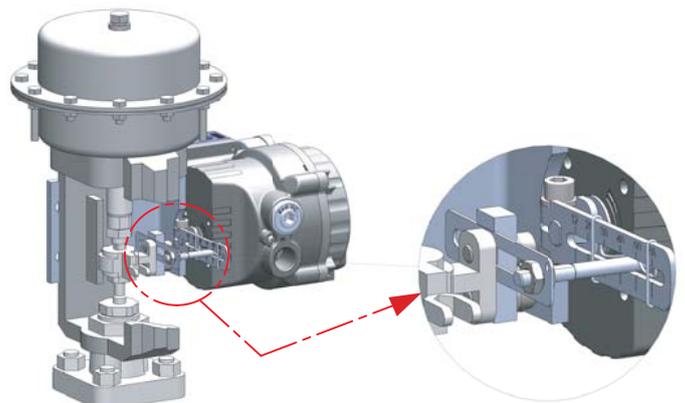
### - SS3L (Linear Type)



< Front View >

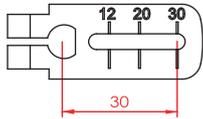


< Side View >

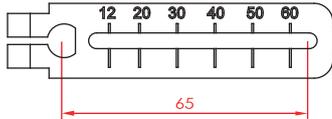


< Feedback Lever Connection >

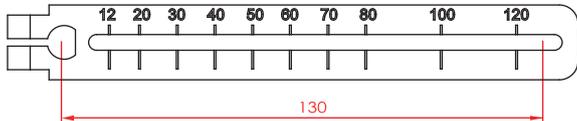
#### "A" Type



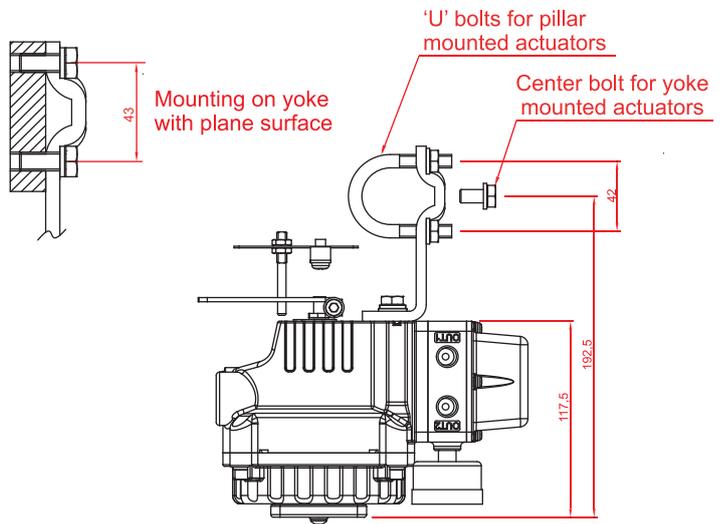
#### "B" Type



#### "C" Type



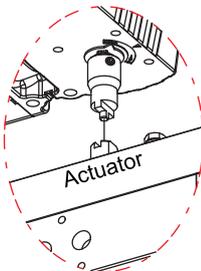
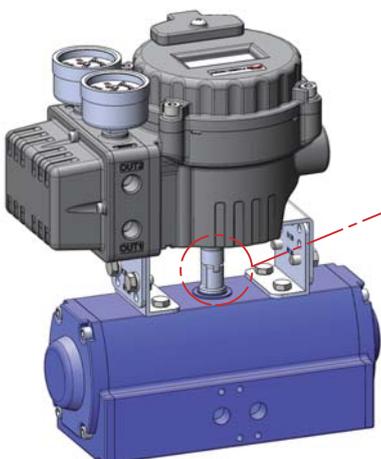
Feedback Lever



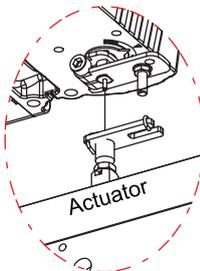
Mounting to linear actuators to IEC 60534 6-1

## Mounting to Rotary Actuator

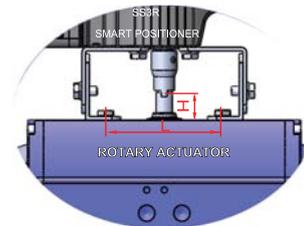
### - SS3R (Rotary Type)



NAMUR Type  
Mounting  
( VDI/VDE 3845,  
IEC 60534-6-2 )



Fork Lever Type  
Mounting

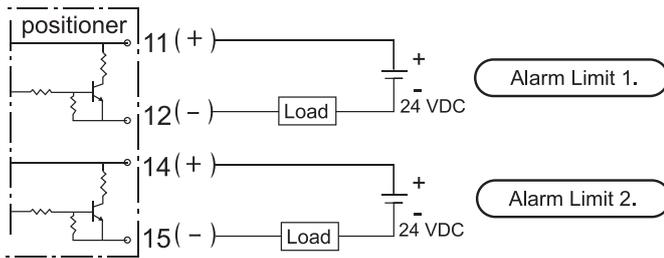


#### Size Variation of Multi-Size Bracket

- 1) 80 x 30 x 20 (H) , 4) 130 x 30 x 20 (H)
- 2) 80 x 30 x 30 (H) , 5) 130 x 30 x 30 (H)
- 3) 80 x 30 x 50 (H) , 6) 130 x 30 x 50 (H)

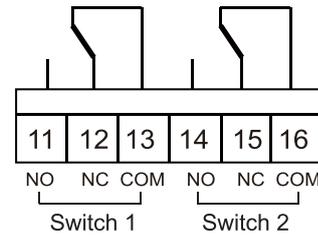
H : Rotary Actuator Shaft Height  
L : Length ( 80 or 130mm )

## Wiring Alarm Limits



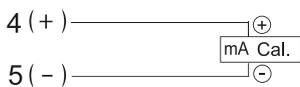
Note that 24 VDC should be supplied for power.

## Micro Switches (SPDT)

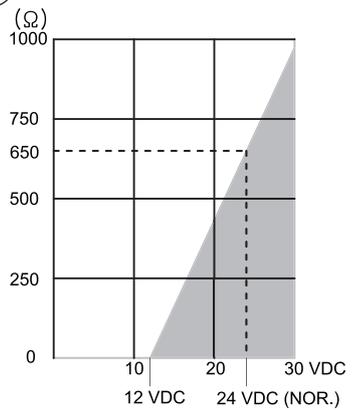
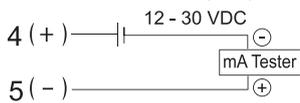


## Measuring Output Signal

① With mA loop calibrator



② With multimeter (mA)



< Transmitter Load Limitations >

### Position Transmitter

Output Signal	4 - 20 mA, 2-wire
Power Supply	12 - 30 VDC
Output Current Limit	30 mA DC
Linearity	1% F.S
Operating Temp.	-30 ~ +80 °C

## How to Order

**SS3** Actuator Operation — Protection Class — Feedback Lever — Pressure Gauges — By-pass — Position Feedback — Communication — Connection Threads — Mounting Bracket — Feedback Pin Guide Lever Set

Description	Code
<b>Actuator Operation :</b>	L : Linear type R : Rotary type
<b>Protection Class :</b>	F : Flameproof IECEX / ATEX / TR-CU Ex d IIC T6 K : Flameproof KC - Ex d IIC T6
<b>Feedback Lever :</b>	
- 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)
<b>Gauge Block :</b>	0 : Not mounted 1 : 6 bar (90 psi) 2 : 10 bar (150 psi)
<b>By-pass :</b>	N : None (standard) Y : Yes (auto/manual screw)

Description	Code
<b>Position Feedback :</b>	N : None O : Position transmitter (4~20mA output signal) L : 2 x alarm limit S : 2 x SPDT (only for rotary type) M : O + L Q : O + S (only for rotary type)
<b>Communication :</b>	N : None H : HART P : Profibus PA F : Foundation Fieldbus
<b>Connection Threads :</b> (pneumatic - electrical)	3 : PT(Rc) 1/4 - PF(G) 1/2 4 : NPT 1/4 - NPT 1/2 5 : PT(Rc) 1/4 - M20 x 1.5
<b>Mounting Bracket :</b>	N : None L : IEC 60534-6-1 (for SS3L) R : IEC 60534-6-2 (for SS3R) VDI/VDE 3845
<b>Feedback Pin Guide Lever Set :</b> (only for linear type SS3L)	0 : Not included 1 : Included