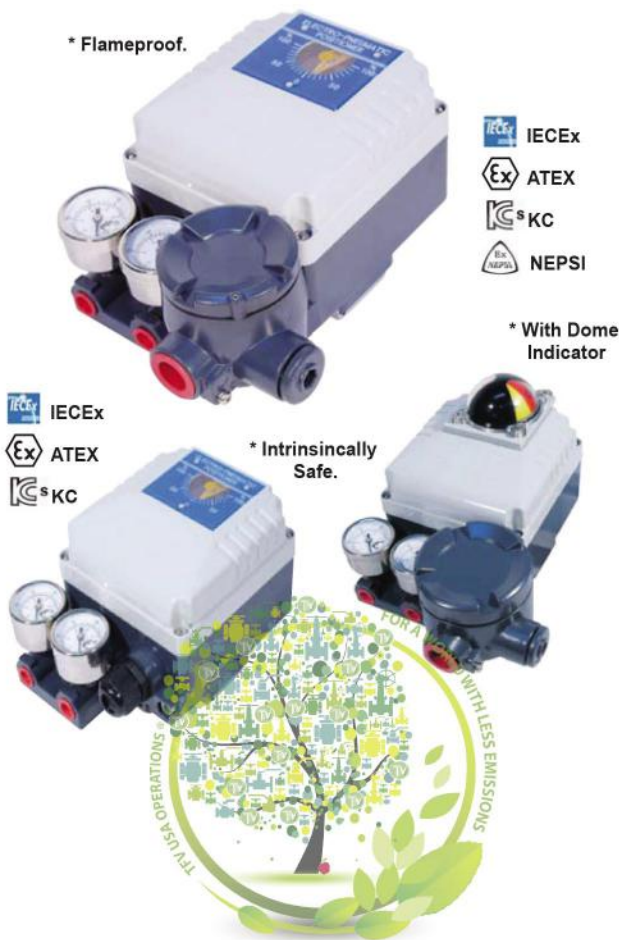


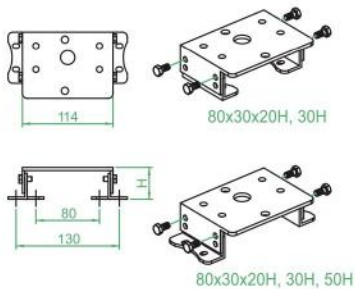
PER Series - Electro-Pneumatic Positioner (Rotary)

Schematic Representation Only



Multi-size Bracket :

TYPE	H
80 x 30 x 20H	41
80 x 30 x 30H	51
130 x 30 x 20H	41
130 x 30 x 30H	51
130 x 30 x 50H	71



Options :

- Position transmitter (4 ... 20 mA outout signal).
- 2 x SPDT Limit Switch.
- 2 x P&F proximity sensor NJ2-V3-N.
- Visual Dome Indicator.
- High temperature.

TFV PER Series are the rugged control devices which stand up to harsh environments and engineered to meet the highest and most demanding control performance that the process industries or today require.

Features :

- Easy maintenance.
- Precise calibration with simple SPAN and ZERO adjustments.
- Simple conversion to direct acting or reverse acting.
- 1/2 split range available.
- Rugged aluminium housing with corrosion-resistant coating.
- Vibration resistant design.
- Stainless Steel gauges standard.
- Restricted pilot valve orifice kit for small actuators included.

- ATEX-certified flameproof Ex md IIB T5
- KC-certified flameproof Ex dmb IIB+H₂T6
- IECEx / KC-certified flameproof Ex dmb IIC T6/T5
- NEPSI-certified flameproof Ex dmb IIB+H₂T6
- IECEx-certified intrinsically safe Ex ia IIC T6
- ATEX-certified intrinsically safe Ex ia IIC T6
- KC-certified intrinsically safe Ex ia IIC T6

Technical Specifications :

PER		
Rotary Type (Cam Feedback)		
	Single	Double
Input Signal	4~20 mA DC (Note. 1)	
Input Resistance	235 ± 15 Ω	
Air Supply	Max. 7.0 bar (100 psi) free of oil, water, and moisture	
Operating Angle	60 ~ 100° (Note. 2)	
Pneumatic Connections	PT(Rc) 1/4 or NPT 1/4	
Electrical Connections	PF(G) 1/2 or NPT 1/2	
Protection Class	Ex dmb IIB+H ₂ T6 / Ex dmb IIC T6/T5 Ex ia IIC T6 / IP66	
Ambient Temperature	-20 ~ +70°C (Note. 3)	
Pressure Gauge	Stainless steel	
Output Characteristics	Linear	
Linearity	Within ± 1.0 % F.S	Within ± 1.5 % F.S
Sensitivity	Within ± 0.5 % F.S	
Hysteresis	Within 1.0 % F.S	
Repeatability	Within ± 0.5 % F.S	
Air Consumption	5 LPM (Sup. 1.4 kgf/cm ²)	
Flow Capacity	80 LPM (Sup. 1.4 kgf/cm ²)	
Material	Aluminum die-cast	
Weight	3.5 kg (with terminal box) 3.2 kg (without terminal box)	

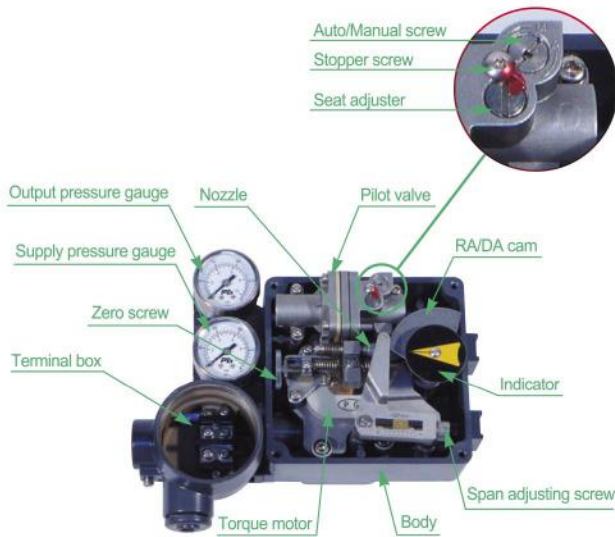
Note:

- 1) 1/2 split range is available for 4~12mA input signal or 12~20mA input signal.
- 2) Operating angle can be adjusted to 0~60° or 0~100°
up to +120°C without feedback options.
- 3) Temperature option : up to +85°C with feedback options.
up to -40°C without feedback options.

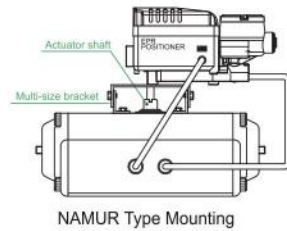
PER Series - Electro-Pneumatic Positioner (Rotary)

Schematic Representation Only

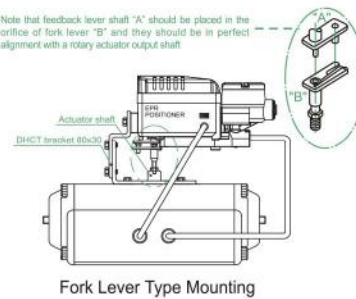
Internal View :



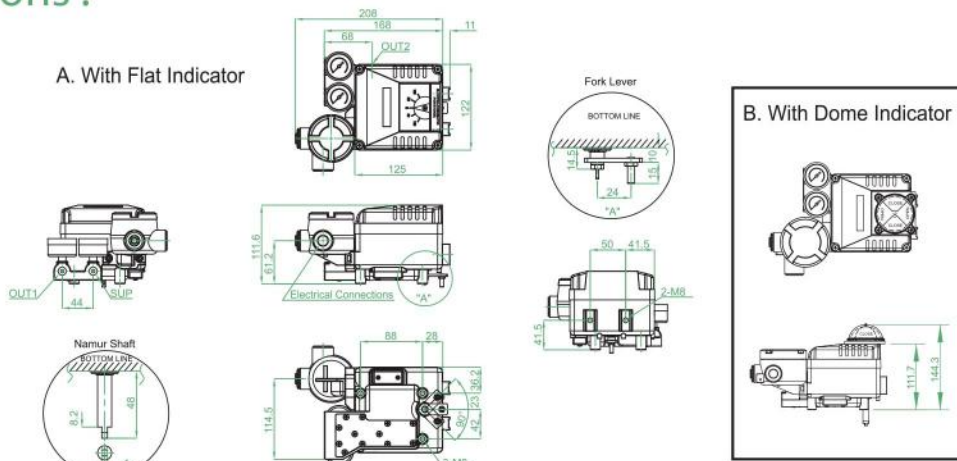
Mounting :



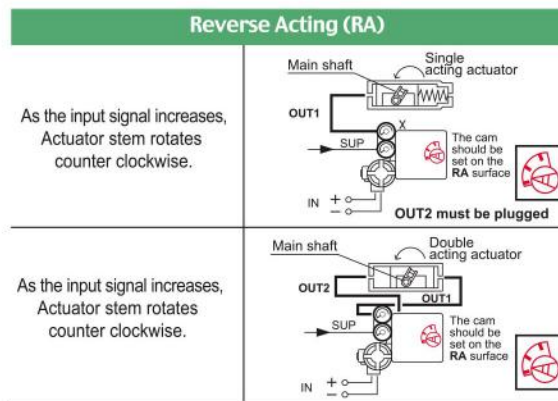
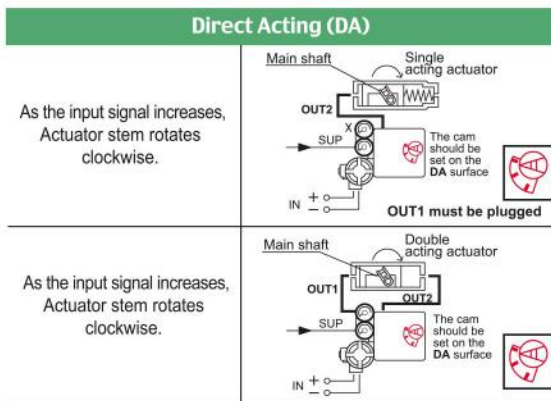
Note that feedback lever shaft "A" should be placed in the orifice of fork lever "B" and they should be in perfect alignment with a rotary actuator output shaft



Dimensions :



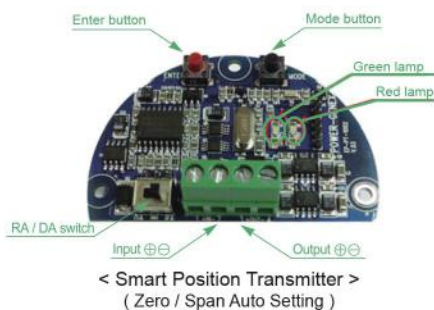
Air Connections :



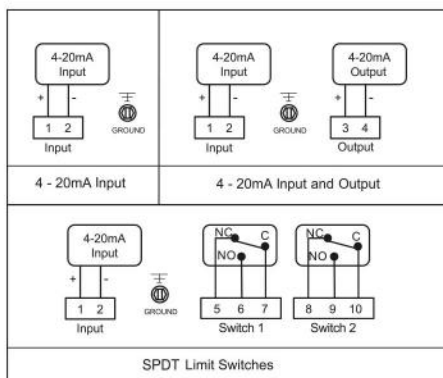
PER Series - Electro-Pneumatic Positioner (Rotary)

Position Transmitter Options (Built in Type) :

1. Board View :



3. Wiring Diagram :



4. SPDT Limit Switches :

a. Specifications

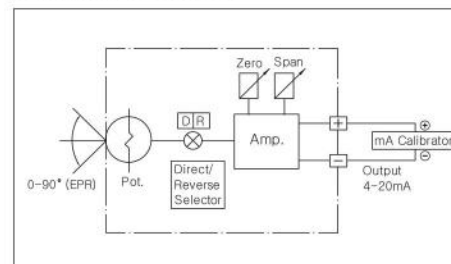
Contacts	SPDT Form C
AC Rating	16 A 1/2 HP 125/250 VAC
DC Rating	0.6 A 125 VDC / 0.3 A 250 VDC
Adjustment	Cams with set screws (L-wrench included for setting)

2. Position Transmitter (4-20mA Output Signal)

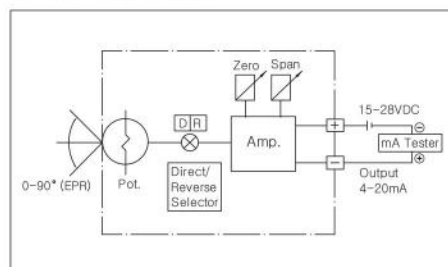
a. Specifications

Power Supply Rating	5.5-30 VDC loop power
Recommended Power Supply	24 VDC
Output Signal	4-20 mA, 2-wire
Operating Temperature	-20°C ~ +85°C
Load Impedance	0 ~ 600 ohms
Max. Output	30 mA DC
Linearity	±1.0 %
Hysteresis	1.0 % of full scale
Repeatability	±0.5 % of full scale
Adjustment	Zero and Span in terminal box

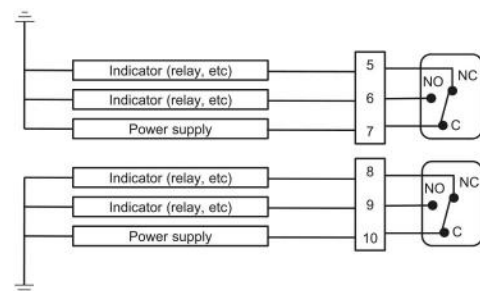
b. with mA calibrator



c. with multimeter



b. Wiring and Application



PER Series - Electro-Pneumatic Positioner (Rotary)

How to Order :

PER	Protection Class	Feedback Shaft	Pressure Gauge (SUP. OUT)	Pilot Valve Orifice	Position Feedback	Connection Threads	Dome Indicator	Operating Temp.	Mounting Bracket
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Description	Code	Description	Code
Protection Class :	X : KC flameproof Ex dmb IIB+H ₂ T6 NEPSI flameproof Ex dmb IIB+H ₂ T6 IECEX/KC flameproof Ex dmb IIC T6/T5 A : ATEX flameproof Eex md IIB T5 I : IECEX intrinsically safe Ex ia IIC T6 ATEX intrinsically safe Eex ia IIC T6 KC intrinsically safe Ex ia IIC T6 G : Weatherproof to IP66	Connection Threads : (pneumatic - electrical)	3 : PT(Rc) 1/4 - PF(G) 1/2 (standard) 4 : NPT 1/4 - NPT 1/2 5 : PT(Rc) 1/4 - M20 x 1.5
Feedback Shaft :	N : NAMUR shaft (direct mounting) A : Fork lever M6 x 40L B : Fork lever other size on request	Dome Indicator :	N : Flat indicator (standard) D : Dome indicator
Pressure Gauge :	1 : 6 bar (90 psi) 2 : 10 bar (150 psi)	Operating Temperature : (only for weatherproof type)	T : 70°C (standard) H : 120°C (without position feedback option) 85°C (with position feedback option) L : -40°C (without feedback option)
Pilot Valve Orifice :	S : Standard (Actuator volume over 180cm ³) M : Small orifice (φ1.0 or φ0.7) (Actuator volume over 90 ~ 180cm ³)	Mounting Bracket :	N : None R : Multi-size NAMUR bracket for IEC 60534-6-2 / VDI/VDE 3845 (130x30x50 bracket on request) F : PG bracket 80x30 for fork lever type E : Multi-size NAMUR bracket for fork lever type (130x30x50 bracket on request)
Position Feedback : (only for weatherproof type)	N : None (standard) O : Analog position transmitter (4 ~ 20mA output signal) S : Smart position transmitter (4 ~ 20mA output signal) L : 2 x SPDT limit switch P : 2 x proximity sensor P&F NJ2-V3-N M : O + L Q : O + P		

Electro-Pneumatic Positioner (Rotary Type), KC Flameproof Ex dmb IIB + H₂ T6, NEPSI Flameproof Ex dmb IIB + H₂ T6 & IECEX/KC Flameproof Ex dmb IIC T6/T5 NAMUR Shaft, Pressure Gauge 10 bar (150 psi), Standard Pilot Valve Orifice, Standard Position Feedback, Connection Threads NPT 1/4 - NPT 1/2, Dome indicator, Standard Operating Temperature (70°C) with Multi-size NAMUR Mounting Bracket IEC 60534-6-2 / VDI/VDE 3845.

PER-XN2S-N4DTR

