

SMART & E-P POSITIONER



**Precision and reliable valve control with
Shinhwa Engineering.**



SP740



SP760



SP520

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Certifications



IECEx(Ex ia)



KCs(Ex ia)



CE



Patent



Patent



IECEx(Ex d, tb)



KCs(Ex d)



KCs(Ex tb)



KCs(Ex d)



KCs(Ex tb)

SP740 Smart Valve Positioner



- High reliability
- Single or Double acting actuator
- Quick and easy operation
 - Auto calibration
 - Simple Initialization
 - Self diagnostic function
- LCD and 4 button local control
- Enclosure IP66
- Global approvals for explosion protection
Ex ia IIC T5/T6
(IECEx, ATEX, KCs, NEPSI)
- Vibration and impact resistance
- HART communication

SP760 Smart Positioner (Explosion proof Type)



- Explosion proof Housing
(Zone 1 and Division 1 installation)
- Single or Double acting actuator
- Quick and easy operation
 - Auto calibration
 - Simple Initialization
 - Self diagnostic function
- LCD and 4 button local control
- Enclosure IP66
- Global approvals for explosion protection
Ex db IIC T6/T5 Gb, Ex tb IIIC T80°C/ T90°C Db
(IECEx, ATEX, KCs , NEPSI)
- Vibration and impact resistance
- HART communication

SP520 Electro-Pneumatic Positioner



- Compact design, rugged construction
- Quick and Precise response operation
 - Highly precise zero adjustment
 - Ease setting and calibration
 - Wide range of zero setting
- Easy and precise calibration with zero and Span adjustment
- Enclosure IP66
- Global approvals for explosion protection
Ex db mb IIB/IIC T5/T6 Gb, Ex ia II B T6 Gb)
(IECEx, ATEX, KCs, NEPSI)
- Vibration and impact resistance

SP740 Smart Valve Positioner



FEATURES

- High reliability
- Single or Double acting actuator
- Quick and easy operation
 - Auto calibration
 - Simple Initialization
 - Self diagnostic function
- LCD and 4 button local control
- Enclosure IP66
- Global approvals for explosion protection (IECEX, ATEX, KCs, NEPSI)
- Vibration and impact resistance
- HART communication

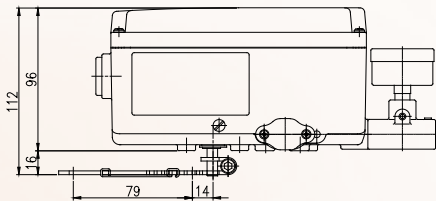
Model	SP740S (Single)		SP740D (Double)	
	Linear	Rotary	Linear	Rotary
Motion Type	Linear	Rotary	Linear	Rotary
Input Signal	4~20mA DC			
Impedance	Max.450Ω @ 20mA DC			
Air Connection	PT 1/4, NPT 1/4			
Pres. Gauge Connection	PT 1/8, NPT 1/8			
Conduit Entry	PF(G) 1/2(Standard), NPT1/2(Option)			
Supply Pressure	0.14~0.7 MPa (1.4~7 bar)			
Explosion Proof Grade	Ex ia IIC T5/T6			
Enclosure	IP66			
Ambient Temperature	-30~80℃			
Linearity	±0.5% F.S.			
Hysteresis	±0.5% F.S.			
Sensitivity	±0.2% F.S			
Repeatability	±0.3% F.S.			
Cam Characteristic	Linear(L), Square(S), Square root(R), User Set (16 Point)			
Humidity	5~95% RH at 40℃			
Communication(Optional)	HART Communication			
Feedback Signal (Option)	4~20mA (DC 10~30V)			
Material	Aluminum Diecasting			
Weight	2 kg (4.4 lb)			



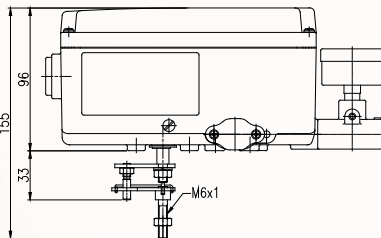
1. Input signal (4~20mA DC)
Feedback signal (4~20mA DC, 2Wire)
2. Limit switch Terminal
3. Limit switch (Option)
4. Indicator needle
5. LCD
6. Button (4)
7. Pressure gauge

MODEL SELECTION

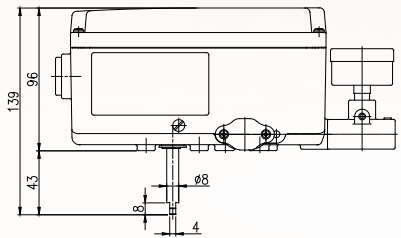
Model	SP740	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Acting Type	Single Double	S D							
Motion Type	Linear 20 ~ 80 mm		L1						
	80 ~ 160 mm		L2						
Motion Type	Rotary Standard		R0						
	Fork Lever		R1						
	Namur		R2						
Feedback	None			0					
	Position transmitter(4 ~ 20 mA DC)			1					
Output safe Position	Fail safe				1				
	Fail Lock				*				
Explosion Protection	None					1			
	Explosion proof(IP66)					2			
Connection	Air – PT1/4", Conduit – G(PF)1/2"						G		
	Air – NPT1/4", Conduit – NPT1/2"						N		
Position L/S	None							0	
	2 × SPDT							1	
Option	None								0
	HART communication								H



LEVER TYPE

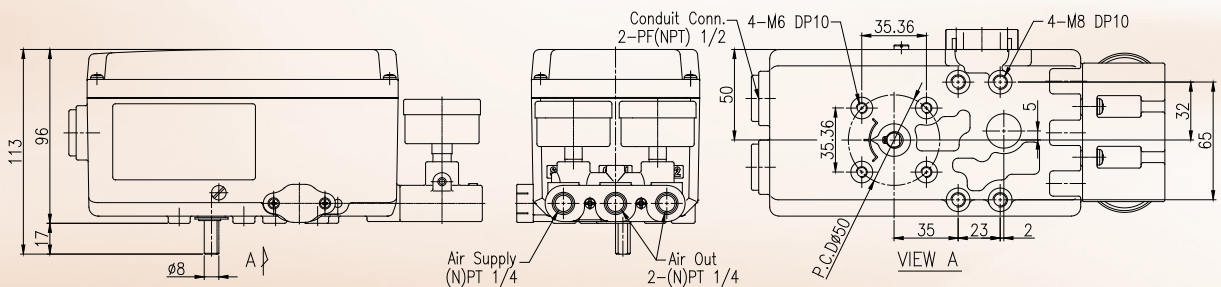


FORK LEVER TYPE



NAMUR TYPE

DIMENSIONS



SP760 Smart Positioner (Explosion proof Type)



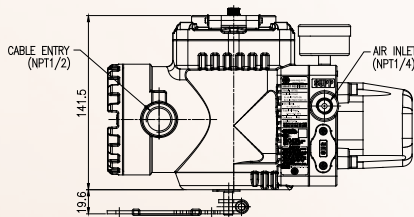
FEATURES

- High reliability
- Explosion proof Housing (Zone 1,2 and Division 1,2 installation)
- Single or Double acting actuator
- Quick and easy operation
 - Auto calibration
 - Simple Initialization
 - Self diagnostic function
- LCD and 4 button local control
- Enclosure IP66
- Global approvals for explosion protection
Ex db IIC T6/T5 Gb, Ex tb IIIC T80°C/ T90°C Db (IECEX, ATEX, KCs, NEPSI)
- Vibration and impact resistance
- HART communication

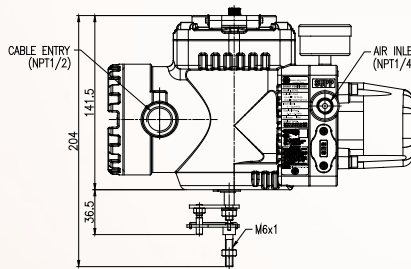
Model	SP760S (Single)		SP760D (Double)	
	Linear	Rotary	Linear	Rotary
Input Signal	4~20mA DC			
Impedance	Max.450Ω @ 20mA DC			
Air Connection	PT 1/4, NPT 1/4			
Pres. Gauge Connection	PT 1/8, NPT 1/8			
Conduit Entry	PF(G) 1/2(Standard), NPT1/2(OPTION)			
Supply Pressure	0.14~0.7 MPa (1.4~7 bar)			
Explosion Proof Grade	Ex d IIC T6/T5, Ex tb IIIC T80°C/T90°C (KCs) Ex db IIC T6/T5 Gb, Ex tb IIIC T80°C/T90°C Db (IECEX) II 2G Ex db IIC T6/T5 Gb, II 2D Ex tb IIIC T80°C/T90°C Db (ATEX) Ex db IIC T6/T5 Gb, Ex tb IIIC T80°C/T90°C Db (NEPSI)			
Enclosure	IP66			
Ambient Temperature	-30~80°C			
Linearity	±0.5% F.S.			
Hysteresis	±0.5% F.S.			
Sensitivity	±0.2% F.S.			
Repeatability	±0.3% F.S.			
Cam Characteristic	Linear(L), Square(S), Square root(R), User Set (16 Point)			
Humidity	5~95% RH at 40°C			
Communication(OPTION)	HART Communication			
Feedback Signal (OPTION)	4~20mA (DC 10~30V)			
Material	Aluminum Diecasting			
Weight	3.2 kg (7.1 lb)			

MODEL SELECTION

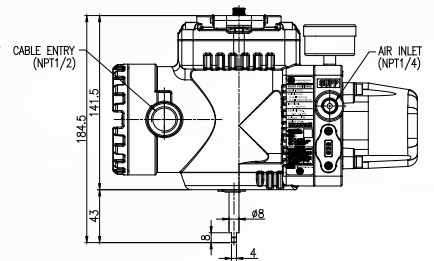
Model	SP760	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Acting Type	Single Double	S D							
Motion Type	Linear 20 ~ 80 mm		L1						
	80 ~ 160 mm		L2						
	Rotary Standard		R0						
	Fork Lever		R1						
	Namur		R2						
Feedback	None			0					
	Position transmitter(4 ~ 20 mA DC)			1					
Output safe Position	Fail safe				1				
	Fail Lock				*				
Explosion Protection	None Explosion proof(IP66)					0			
	Explosion proof (KCs)					1			
	(Ex db IIC T6/T5 Gb)					2			
	(Ex tb IIIC T80°C/T90°C Db)					3			
						4			
Connection	Air – PT1/4", Conduit – G(PF)1/2" Air – NPT1/4", Conduit – NPT1/2" Air – NPT1/4", Conduit – M20						G N M		
Position L/S	None							0	
	2×SPDT							1	
Option	None								0
	HART communication								H



LEVER TYPE

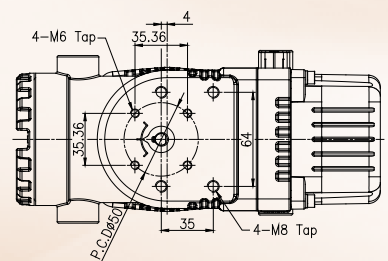
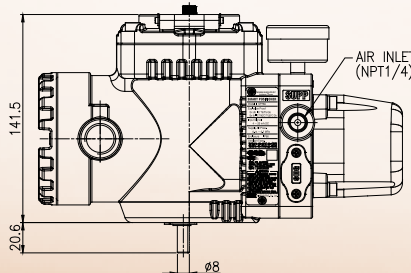
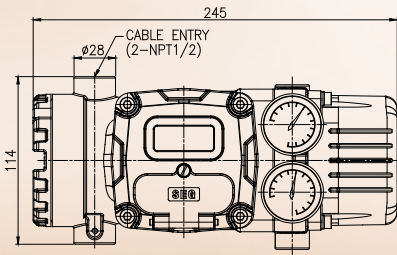


FORK LEVER TYPE



NAMUR TYPE

DIMENSIONS



SP520 Electro-Pneumatic Positioner



FEATURES

- Compact design, rugged construction
- Quick and Precise response operation
 - Highly precise zero adjustment
 - Ease setting and calibration
 - Wide range of zero setting
- Easy and precise calibration with zero and Span adjustment
- Enclosure IP66
- Global approvals for explosion protection
Ex db mb IIB/IIC T5/T6 Gb, Ex ia II B T6 Gb)
(IECEX, ATEX, KCs, NEPSI)
- Vibration and impact resistance

Model	SP520S		SP520D	
Acting Type	Single		Double	
Motion Type	Linear	Rotary	Linear	Rotary
Input Signal	4~20mA DC			
Impedance	240 ± 15 Ω			
Air Connection	Rc(PT) 1/4, NPT 1/4			
Pres. Gauge Connection	Rc(PT) 1/8, NPT 1/8			
Conduit Entry	PF(G)1/2, NPT1/2, M20x1.5			
Stroke	10~150 mm	0~90°	10~150 mm	0~90°
Supply Pressure	0.14~0.7 MPa (1.4~7 bar)			
Explosion Proof Grade	Ex db mb(dmb) II B/II C T5/T6 Gb Ex ia II B T6 Gb Ex tb IIIC T80°C/T90°C Db (IECEX), (ATEX), (KCs), (NEPSI)			
Enclosure	IP66			
Ambient Temperature	-20~70 °C (-4°F~158°F)			
Linearity	±1% F.S.		±2% F.S.	
Hysteresis	±1% F.S.			
Sensitivity	±0.2% F.S		±0.5% F.S	
Repeatability	±0.5% F.S.			
Flow Capacity	70 LPM (Sup.=0.14 MPa)			
Air Consumption	2 LPM (sup=0.14MPa), 3 LPM (sup.=0.7MPa)			
Humidity	5~95% RH at 40 °C			
Feedback Signal (Option)	4~20mA (DC 10~30V)			
Material	Aluminum Diecasting			
Weight	3 kg (6.6 lb)			
Painting	Epoxy Polyestere Powder Coating			
Color	Black			

MODEL SELECTION (LINEAR TYPE)

Model	SP520	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Acting Type	Single Double	S D							
Motion Type	Linear 10~40mm 40~90mm 90~150mm		L1 L2 L3						
Feedback	None			0					
Explosion Protection	None (IP66) Ex db mb(dmb) II B/II C T5/T6 Gb Ex ia II B T6 Gb Ex tb III C T80°C/T90°C Db				N D A T				
Explosion proof specification	None (IP66) KCs IECEX ATEX NEPSI					0 1 2 3 4			
Connection	Air – Rc(Pt)1/4, Conduit – G(PF)1/2 Air – NPT1/4, Conduit – NPT1/2 Air – NPT1/4, Conduit – M20x1.5						G N M		
Position L/S	None							0	
Orifice	None Ø1 Ø2								0 1 2



LINEAR TYPE



ROTARY TYPE

MODEL SELECTION (ROTARY TYPE)

Model	SP520	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Acting Type	Single Double	S D							
Motion Type	Rotary Fork Lever Namur		R1 R2						
Feedback	None Position transmitter(4 ~ 20 mA DC)			0 1					
Explosion Protection	None (IP66) Ex db mb(dmb) II B/II C T5/T6 Gb Ex ia II B T6 Gb Ex tb IIIC T80°C/T90°C Db				N D A T				
Explosion proof specification	None (IP66) KCs IECEX ATEX NEPSI					0 1 2 3 4			
Connection	Air – Rc(PT)1/4, Conduit – G(PF)1/2 Air – NPT1/4, Conduit – NPT1/2 Air – NPT1/4, Conduit – M20x1.5						G N M		
Position L/S	None 2×SPDT External Limit Switch							0 1 2	
Orifice	None Ø1 Ø2								0 1 2
※ Optionable items 1. Non-Explosion Proof : Feedback, L/S, Feedback + L/S, External L/S, External (L/S + Feedback) 2. Ex db mb(dmb) : External L/S, External (L/S + Feedback) 3. Ex ia : Feedback, L/S, Feedback + L/S 4. Ex tb: External L/S, External L/S + Feedback (External equipment can be used by third-party products)									

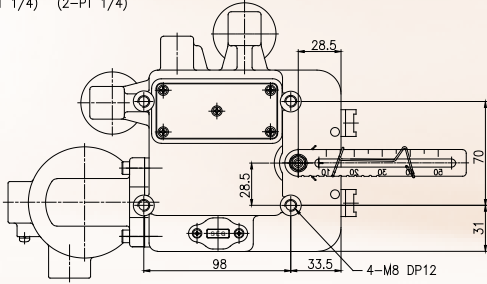
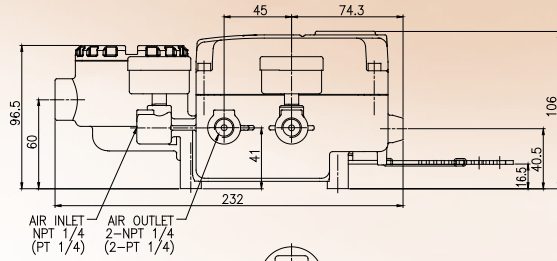
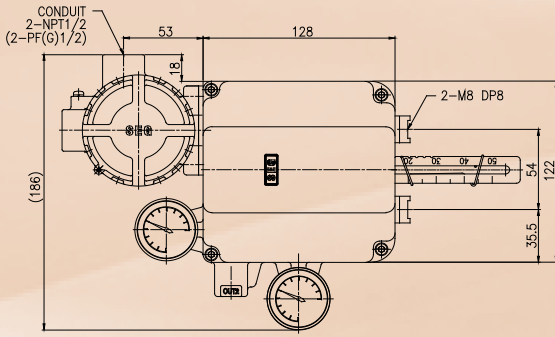


ROTARY TYPE
(Internal Limit switch)

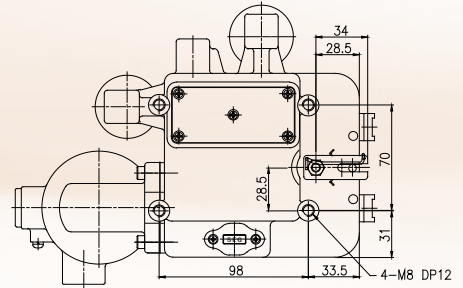
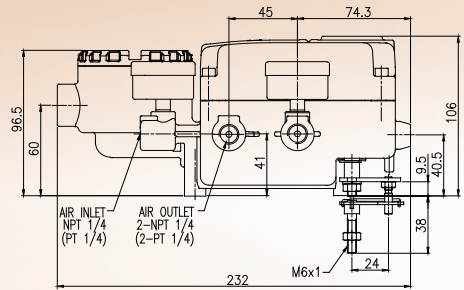
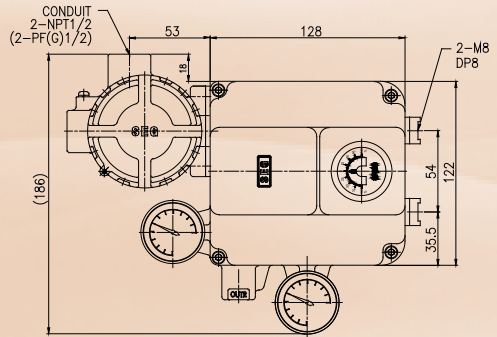


ROTARY TYPE
(External Limit switch)

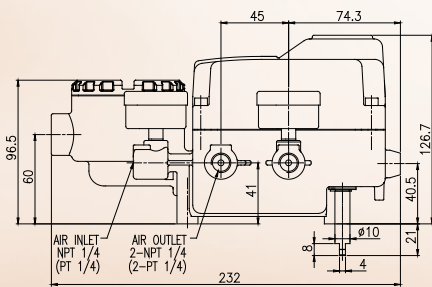
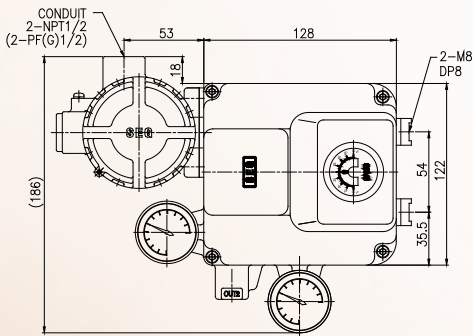
DIMENSIONS



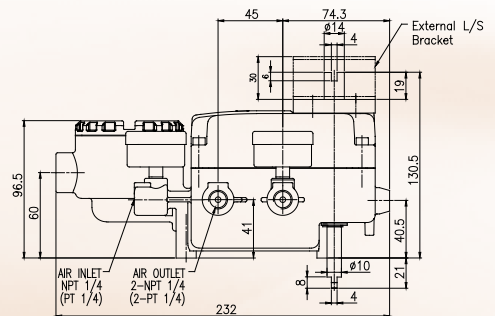
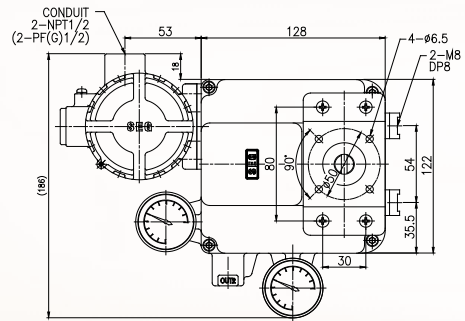
LINEAR TYPE



ROTARY TYPE



ROTARY TYPE
(Internal Limit switch)



ROTARY TYPE
(External Limit switch)

Production item

- ◆ **Motor Cylinder**
- ◆ **Electrical Actuator**
- ◆ **Pneumatic Actuator**
- ◆ **Smart Positioner**



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