ASCEND TORQUE



ALP

系列定位器

ALP SERIES POSITIONER

爱圣拓克(无锡)流体控制集团有限公司
Ascend Torque Flow Controls Co., Ltd.

产品一览/List of products

ALP-1000R series



Mechanical E-P Positioner (Rotary)
IP65, Ex d IIB T6, Ex ia IIC T6 or None Ex-proof

ALP-1000L series



Mechanical E-P Positioner (Linear)
IP65, Ex d IIB T6, Ex ia IIC T6 or None Ex-proof

ALP-1200R/L series



Mechanical P-P Positioner(Rotary/Linear)
IP65

ALP-1000R+ALS series



Mechanical E-P Positioner(Rotary)
+ Limit Switch Box
Ex d IIB T6, Ex ia IIC T6 or None Ex-proof

ALHVP-2009 series



Smart Positioner (Rotary / Linear)
IP65, Ex ia IIC T4-T6 or None Ex-proof

ALHVP-2012 series



Ex-proof Smart Positioner (Rotary / Linear)
IP65, Ex d IIC T6

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ALP-1000R系列/ALP-1000R Series

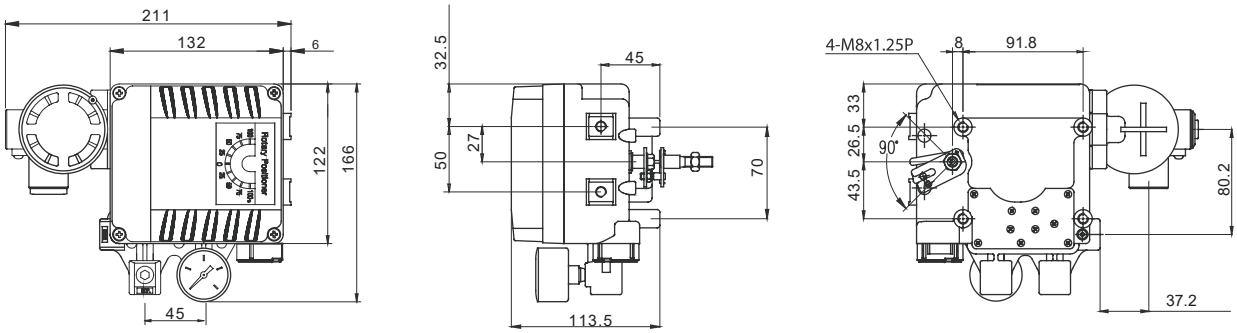


ALP-1000R系列角行程机械式E-P定位器设计用于为各种阀门提供精确定位，接收4~20mA信号，可提供4~20mA反馈。 它具有调整简单，反馈速度快，易于安装和维护的特点。

ALP-1000R series rotary travel mechanical E-P positioner is designed to provide accurate positioning for various kinds of valves, receive 4~20mA signal and can provide 4~20mA feedback. It features simple adjustment, rapid feedback speed and easy for mounting and maintenance.

认证/Certifications: Ex ia IICT6 and Ex d II BT6

外形尺寸/Dimension



LEVER TYPE

Namur TYPE

选型/Ordering Guide

ALP-1000	R	D	□	d	5	3

电气定位器 Mechnical E-P Positioner
ALP-1000 series

行程类型 Type of Travel
R: Rotary(角行程)

作用类型 Type of Acting
D: Double Acting 双作用
S: Single Acting 单作用

反馈单元 Feedback Unit
□: Blank, without feedback
T: 4 ~ 20mA Analog Output
M2: Limit Switch (2-SPST)

防爆类型 Ex-proof
d: Ex d IIB T6
i: Ex ia IIC T6
n: None Ex-proof

连接杆类型 Lever Type
1: M6 x 34L
2: M6 x 63L
3: M8 x 34L
4: M8 x 63L
5: NAMUR

节流孔/Orifice
1: 0.7mm
for below 90cm^3 of actuator
2: 1.0mm
for 90-180cm^3 of actuator
3: none
for over 180cm^3 of actuator

ALP-1000L系列/ALP-1000L Series

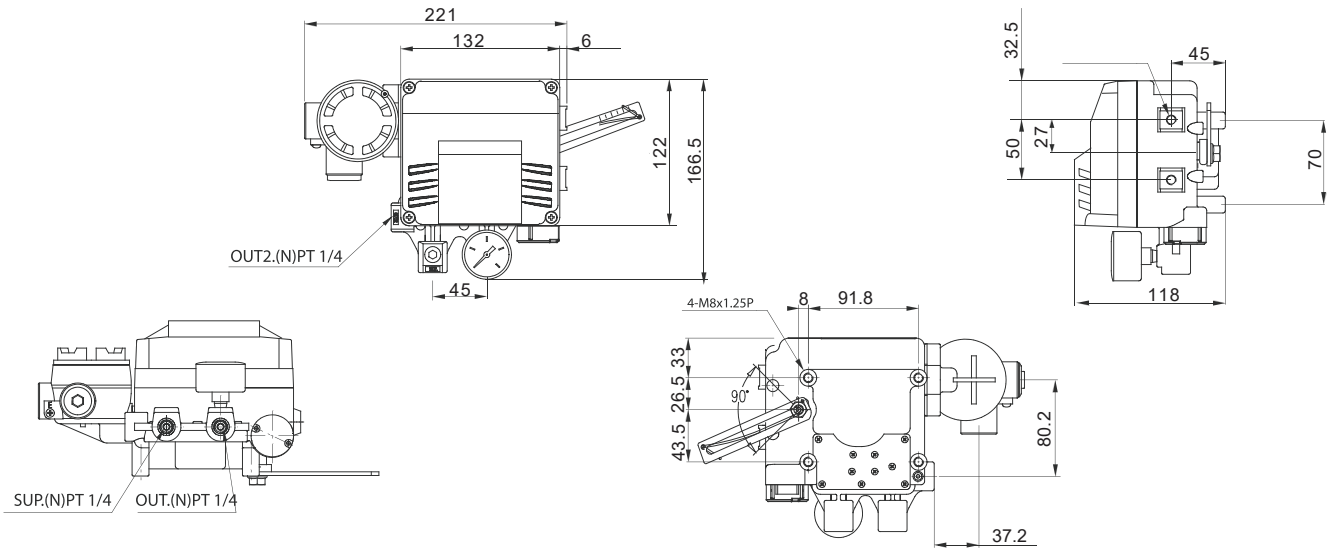


ALP-1000L系列直线行程机械E-P定位器采用国际上最先进的板式结构和部件标准化的插件技术，操作可靠，控制精度高，调试简单，维护方便。本产品具有正反作用切换容易，单反作用切换方便等特点，具有响应快，反馈杆连接简单等特点。

ALP-1000L series linear travel mechanical E-P positioner is designed to adopt the internationally most advanced plate structure and part standardized plug-in technology, which features reliable operation, high control precision, simple commissioning and convenient maintenance. This product is easily switched between positive and negative action and between single and double action and is characterized by fast response, simple connection of feedback rod.

认证/Certifications: Ex ia IIC T6 and Ex d IIB T6

外形尺寸/Dimension



选型/Ordering Guide

ALP-1000	L	D	□	d	5	3

电气定位器 Mechnical E-P Positioner
ALP-1000 series

行程类型 Type of Travel
L: Linear(直行程)

作用类型 Type of Acting
D: Double Acting 双作用
S: Single Acting 单作用

反馈单元 Feedback Unit
□: Blank, without feedback
T: 4 ~ 20mA Analog Output
M2: Limit Switch (2-SPST)

防爆类型 Ex-proof
d: Ex d IIB T6
i: Ex ia IIC T6
n: None Ex-proof

连接杆长度 Lever Type
1: 10-40mm
2: 30-70mm
3: 60-100mm
4: 100-150mm

节流孔/Orifice
1: 0.7mm
for below 90cm^3 of actuator
2: 1.0mm
for 90-180cm^3 of actuator
3: none
for over 180cm^3 of actuator

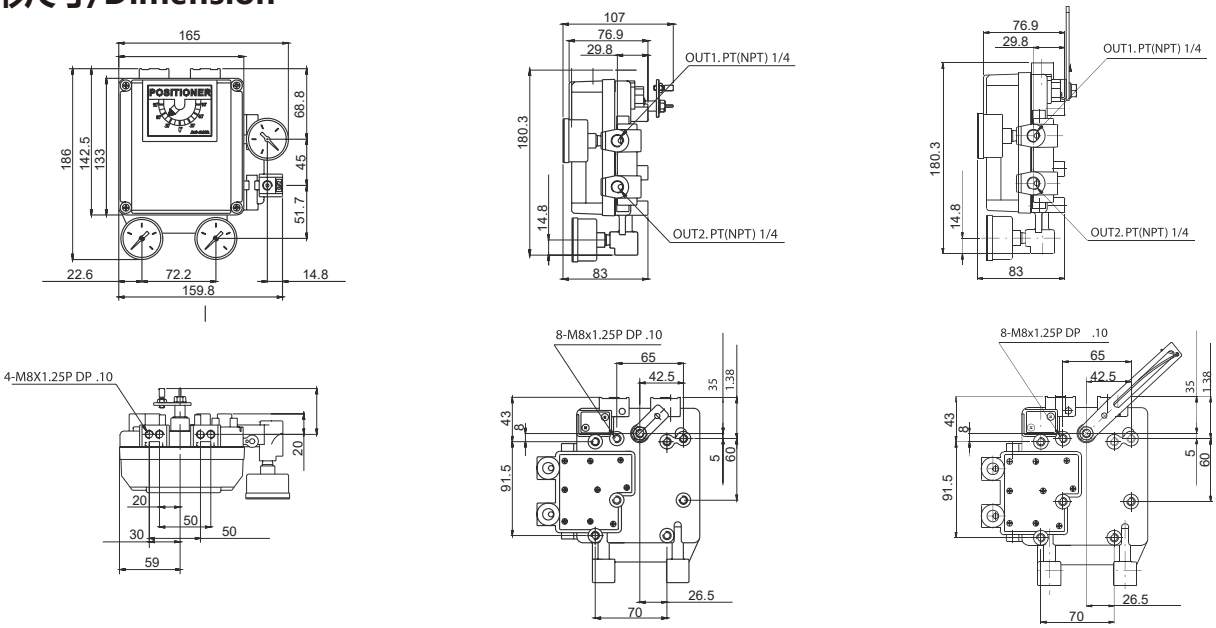
ALP-1200 P-P系列/ALP-1200 P-P Series



ALP-1200 P-P定位器包括角行程和直行程。 它是一种通过操作旋转行程气动执行器从气动控制器或控制系统和控制阀位置接收3~15psi气压信号或操作直线行程可调式阀门位置的装置。 采用国际最先进的板式结构和部分标准化插件技术，运行可靠，控制精度高，调整方便，维护方便。

ALP-1200 P-P positioner consists of rotary travel and linear travel. It is a device to receive 3~15psi air pressure signal from pneumatic controller or control system and control valve position or operate linear travel adjustable type valve's valve position by operating rotary travel pneumatic actuator. It is designed to adopt the internationally most advanced plate structure and part standardized plug-in technology and features reliable operation, high control precision, easy adjustment and convenient maintenance.

外形尺寸/Dimension



选型/Ordering Guide

ALP-1200	L	D	□	n	4	3

气气定位器
Mechnical
P-P Positioner
ALP-1200 series

行程类型
Type of Travel
R: Rotary(角行程)
L: Linear(直行程)

作用类型
Type of Acting
D: Double Acting
双作用
S: Single Acting
单作用

反馈单元
Feedback Unit
□: Blank, without feedback
T: 4 ~ 20mA Analog Output
M2: Limit Switch (2-SPST)

防爆类型
Ex-proof
n: None Ex-proof

连接杆类型
Lever Type

直行程/Linear
1: 10-40mm
2: 30-70mm
3: 60-100mm
4: 100-150mm

角行程/Rotary
1: M6 x 34L
2: M6 x 63L
3: M8 x 34L
4: M8 x 63L
5: NAMUR

节流孔/Orifice
1: 0.7mm
for below 90cm^3 of actuator
2: 1.0mm
for 90-180cm^3 of actuator
3: none
for over 180cm^3 of actuator

ALP-1000 P-P系列/ALP-1000 P-P Series



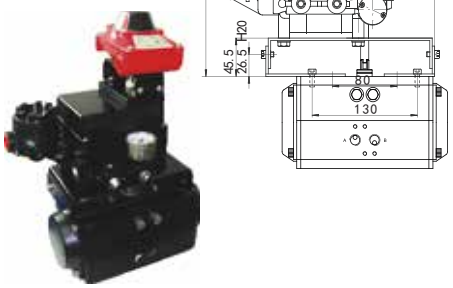
ALP-1000系列电气定位器将角行程定位器和ALS系列限位开关结合使用，在控制阀门位置的同时，实现开关模拟信号输出和4~20mA阀位反馈。产品符合Ex d IIB T6防爆要求，适用于工况复杂的环境和易燃易爆环境。设计简洁，调试简单，安装维护方便。

ALP-1000+ series E-P positioner combines rotary travel positioner and limit switch box and can control the valve position while achieving output of switch analog signal and 4~20mA valve position feedback. It complies with Exd II BT6 explosion-proof and is more applicable for complicated environment and inflammable and explosive environment. With concise design, the plug-in technology makes it easy for mounting and maintenance and simple for commissioning.

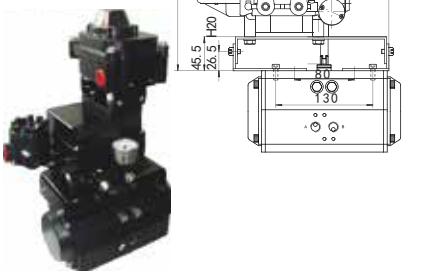
认证/Certifications: Ex d IIB T6 and Ex ia IIC T6

外形尺寸/Dimension

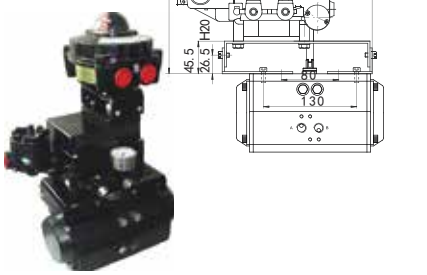
ALP-1000RDd53+ALS200M2(2-SPDT)



ALP-1000RDd53+ALS300M2T
(2-SPDT, 4-20mA Position Transmitter)



ALP-1000RDd53+ALS400M2T
(2-SPDT, 4-20mA Position Transmitter)



选型/Ordering Guide

ALP-1000	L	D	□	d	5	3+ALS series

气气定位器
Mechnical
P-P Positioner
ALP-1000 series

行程类型
Type of Travel
R: Rotary(角行程)

作用类型
Type of Acting
D: Double Acting
双作用
S: Single Acting
单作用

反馈单元
Feedback Unit
□: Blank, without feedback
T: 4~20mA Analog Output
M2: Limit Switch (2-SPST)

防爆类型
Ex-proof
d: Ex d IIB T6
i: Ex ia IIC T6
n: None Ex-proof

连接杆类型
Lever Type
1: M6 x 34L
2: M6 x 63L
3: M8 x 34L
4: M8 x 63L
5: NAMUR

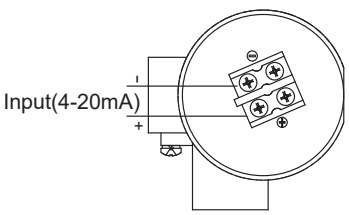
节流孔/Orifice
1: 0.7mm
for below 90cm^3 of actuator
2: 1.0mm
for 90-180cm^3 of actuator
3: none
for over 180cm^3 of actuator

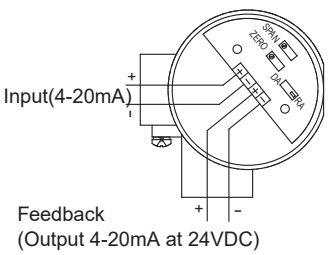
外接限位开关
External Limit Switch Box
请参阅ALS200/300/400选型
Please refer to the ordering guide of ALS200/300/400 series Limit switch box

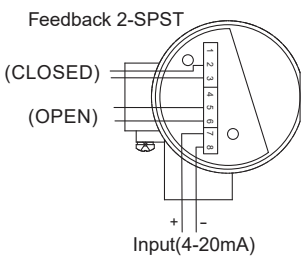
机械定位器技术数据 / Technical Data of Mechanical Positioner

型号/MODEL		ALP1000	ALP1200
输入信号	Input signal	4-20mADC(5-15mADC)	0.2~1kgf/cm2 (3~15psi)
阻抗	Impedance	250±15Ω	/
供应压力	Supply pressure	1.4~7kgf/cm2 (20~100psi)	1.4~7kgf/cm2 (20~100psi)
行程	Stroke	0°-90°(R), 10-150mm(L)	0°-90°(R), 10-150mm(L)
空气连接	Air connection	G(NPT)1/4	PT(NPT)1/4
仪表连接	Gauge connection	G(NPT)1/8	PT(NPT)1/8
导管	Conduit	G(NPT)1/2	/
防爆	Explosion proof	Exd IIB T6, Exia IIC T6, Non-Explosion	/
保护	Protection	IP65	IP65
环境温度	Ambient temperature	-20C~70C	-20C~70C
线性	Linearity	±1.5%	±1.5%
滞后	Hysteresis	1.50%	1.50%
灵敏度	Sensitivity	0.40%	0.40%
耗气量	Air consumption	3LPM(Sup=1.4kgf/cm2 ,20psi)	3LPM(Sup=1.4kgf/cm2 ,20psi)
流量	Flow capacity	8LPM(Sup=1.4kgf/cm2 ,20psi)	8LPM(Sup=1.4kgf/cm2 ,20psi)
材料	Material	Die Casting Aluminum	Die Casting Aluminum
重量	Weight	2.7kg(6lb) / 2.8kg(6.2lb)	1.7kg(3.7lb)

机械定位器技术数据 / Technical Data of Mechanical Positioner









ALP1000RDd53

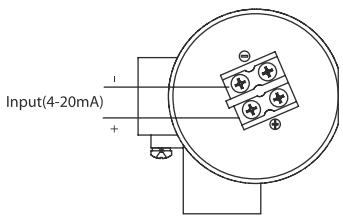


ALP1000RDTn53

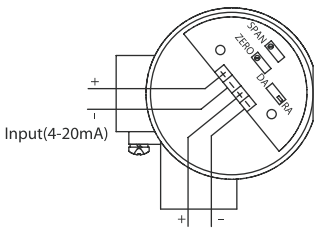


ALP1000RDM2n53

Position Transmitter (optional)		
输入类型	Input type	2 wire
输入信号	Input Signal	0°-90°
输出信号	Output Signal	4-20mADC
负载电阻	Load Resistance	0~600Ω
噪音范围	Noise Range	50mVp.p
可调范围	Adjustable Range	Zero:±10%, Span:60~110%
线性	Linearity	±1%
灵敏度	Sensitivity	±0.2%
滞后	Hysteresis	0.002
电源电压	Supply Voltage	15~30VDC
防爆	Explosion proof	None Ex-proof
Limit Switches (optional for ALP-1000)		
机械开关	Mechanical Switches	B: 5A 125-250VAC,2-SPST(Honeywell)
Limit Switches (optional for ALP-1000+)		
机械开关	Mechanical Switches	M2: 15A 125-250VAC,2-SPDT(Honeywell)
电感式传感器	Inductive Sensors	PP: 2 wire,8VDC,≤1mA,Ex ia IIC T6(P+F)
电感式传感器	Inductive Sensors	PA2/PA3: 2or3 wire,24VDC,≤150mA(ALPS)
磁铁传感器	Magnet Sensor	QA2/QA3: 2or3 wire,5 ~ 240VAC/DC,≤300mA(ALMS)

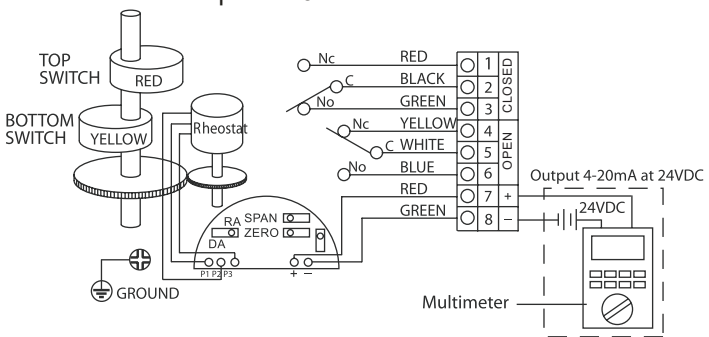


Input 4-20mA



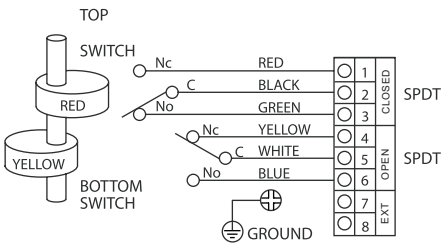
Feedback (Output 4-20mA at 24VDC)

Input& Output 4-20mA



Output 4-20mA & Limit Switch 2-SPDT

ALP1000RDd53+ALS300M2T



Limit Switch 2-SPDT

ALP1000RDFn53+ALS300M2

ALHVP系列智能定位器主要特点
ALHVP series Smart Positioner Main Features

1.高精度，高达0.5%F.S。
2.它允许在不打开外壳的情况下操作，以实现真正的本地操作在高保护水平下。
3.具有防爆基本安全性，性能安全可靠。
4.结构简单紧凑，可安装在小型执行器上。
5.具有自动调节和自动诊断功能，阀门特性曲线可以在设置中配置。
6.机械部件少，振动性好，可进行参数设定以本地或远程方式。
7.采用低功耗，低耗气，低运行成本双线系统4-20mA信号。 嵌入式防雷模块可以保护定位器免受雷击损坏。

1. High precision up to 0.5%F.S.
2. It allows to be operated without opening the shell for achieving real local operation under high protection level.
3. With essential security in explosion proofing, it has safe and reliable performance.
4. The simple and compact structure enables it to be mounted at small actuator.
5. With automatic adjustment and automatic diagnosis, the characteristic curve of valve can be configured in setting.
6. It has less mechanical parts and good vibration proofing and allows parameter setting in local or remote way.
7. With low power consumption, low gas consumption and low operating cost, it adopts dual-wire system 4-20mA signal. The embedded lightning-proof module can protect positioner from damage by lightning.





智能定位器的工作原理 / Working Principle of Smart Positioner

ALHVP智能定位器从自动控制系统接收4~20mA阀位设定信号，通过A / D转换获得阀位设定值; 同时，通过位置传感器可以获得实际的阀门信号; 通过控制软件的计算和处理，可以控制气动执行机构的进气和排气，从而驱动阀门位置到达设定点。

ALHVP智能定位器是一种基于微处理器技术的高性能电动/气动阀门定位器，可以克服阀芯上的摩擦力和不平衡力，提高调节阀的响应速度，实现快速准确的定位。 它不仅可以完全替代传统的电动/气动阀门定位器，还可以直接接入HART协议网络，实现与控制系统的信息交换。

ALHVP smart positioner receives 4 ~ 20mA valve position setting signal from automatic control system and obtain valve position setting value through A/D conversion; meanwhile, actual valve signal can be gained through position sensor; through computing and processing of control software, the gas intake and exhaust for pneumatic actuator can be controlled so as to drive the valve position to reach the setting point.

ALHVP smart positioner is a high-performance electric/pneumatic valve positioner based on microprocessor technology, which can overcome friction force and unbalanced force on valve spool, improve the response speed of regulating valve and achieve rapid and accurate positioning. It can not only substitute the conventional electric/pneumatic valve positioners completely, but also allow direct access to network of HART protocol, realize information exchange with control system.

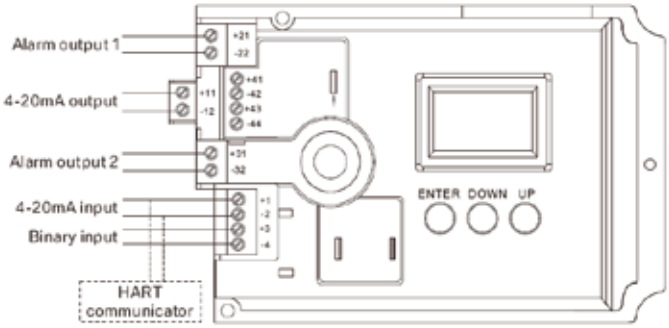
ALHVP-2009系列智能定位器/ALHVP-2009 series Smart Positioner

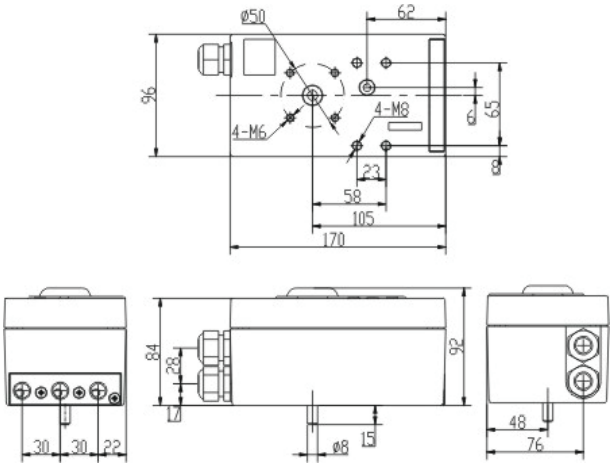


ALHVP-2009系列智能定位器可提供旋转和线性行程阀的精确定位和快速响应。 同时，通过位置传感器获得实际阀位信号；两者均由控制软件计算和处理，以控制气动执行器的进气和排气，并驱动阀门位置达到设定点。

ALHVP-2009 series smart positioner provides precise positioning and rapid response of rotary and linear travel valve. Meanwhile, it obtains actual valve position signal through position sensor; both are computed and processed by control software so as to control the air intake and air exhaust of pneumatic actuator and drive the valve position to reach the set point.

外形尺寸和接线图 /Dimension and Wiring





选型/Ordering Guide

ALHVP-2009	L	D	T	i		H	0	0	0

智能定位器 Smart Positioner
ALHVP-2009

行程类型 Type of Travel
R: Rotary(角行程)
L: Linear(直行程)

作用类型 Type of Acting
D: Double Acting 双作用
S: Single Acting 单作用

反馈单元 Feedback Unit
T: 4 ~ 20mA Analog Output
M2: Limit Switch (2-SPST)

防爆类型 Ex-proof
i: Ex ia IIC T6
n: None Ex-proof

Hart协议 Hart Protocol
H: With Hart Module
0: None

旋转指示器 Rotation Indicator
0: None

压力表 Pressure Gauges
G: With
0: None

故障保护 Fault Protection
0: Reset
1: Locking

ALHVP-2012系列智能定位器/ALHVP-2012 series Smart Positioner

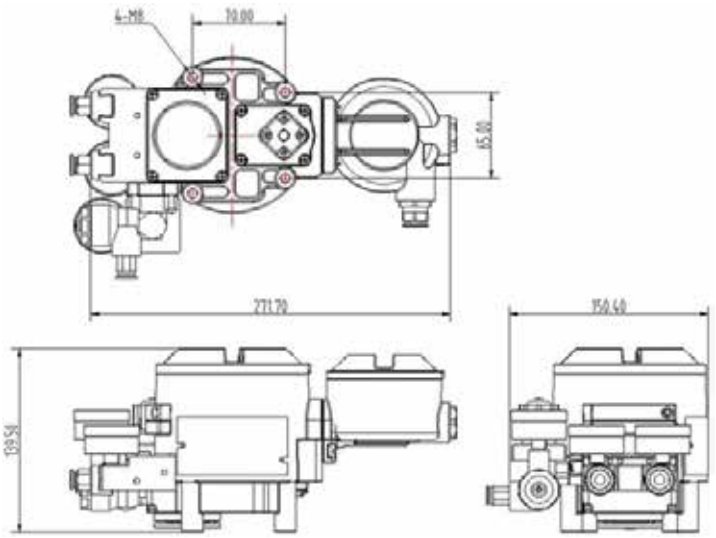


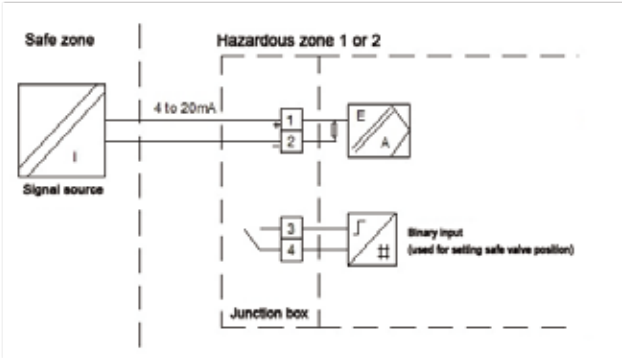
ALHVP-2012系列智能定位器具有现场二级防爆功能，性能安全可靠。 低功耗/低耗气量和内置防雷模块，可避免因雷击而损坏定位器。内置Hoerbiger压电阀技术，使用寿命长。采用二进制4~20mA标准信号，通过A / D转换获得阀位设定值; 同时，它通过位置传感器得到实际的阀门位置信号；两者均由控制软件计算和处理，以控制气动执行器的进气和排气，并驱动阀门位置达到设定点。

ALHVP-2012 series smart positioner is provided with in-situ class II explosion-proof function with safe and reliable performance. With low power consumption/low air consumption and built-in lightning-resisting module, it can avoid damage of positioner due to thunderstroke. Internally installed Hoerbiger piezoelectric valve technology, it has a long service life .It adopts binary 4~20mA standard signal and obtains valve position set value through A/D conversion; at the same time, it gets actual valve position signal through position sensor; both are computed and processed by control software so as to control the air intake and air exhaust of pneumatic actuator and drive the valve position to reach up to the set point.

认证/Certifications: Ex ia IIC T6 and Ex d IIB T6

外形尺寸和接线图 /Dimension and Wiring





选型/Ordering Guide

ALHVP-2012 L D T d H 0 0 0

智能定位器
Smart Positioner
ALHVP-2012

作用类型
Type of Acting
D: Double Acting
双作用
S: Single Acting
单作用

防爆类型
Ex-proof
d: Ex d IIC T6

Hart协议
Hart Protocol
H: With Hart Module
0: None

压力表
Pressure Gauges
G: With
0: None

行程类型
Type of Travel
R: Rotary(角行程)
L: Linear(直行程)

反馈单元
Feedback Unit
T: 4 ~ 20mA Analog Output
M2: Limit Switch (2-SPST)

旋转指示器
Rotation Indicator
0: None

故障保护
Fault Protection
0: Reset
1: Locking

智能定位器技术数据/Technical Data of Smart Positioner

智能定位器技术数据/Technical Data of Smart Positioner			
气源 Air Supply	空气压力	Air Pressure	0.14 ~ 0.7 Mpa
	漏气	Air Leakage	< 0.6L / H
	耗气量	Air Consumption	< 36L / H
输入输出 Input & Output	适合	Suitable for	Single and double acting
	行程	Stroke	Linear: 10 ~ 100mm; Rotary: 30 ~ 150º
	输入信号	Input Signal	4 ~ 20mA DC, minimum 3.6mA
	反馈输出	Feedback Output	4 ~ 20mA DC
	切换输入	Switch Input	Stem nodes, used for self-preservation interlocking function
	切换输出	Switch Output	2-way 4V 2A travel switch, 2-way electronic switch
	压电阀	Piezoelectric Valve	Average working cycles without fault > 2 billion
	输出特性	Output Characteristic	Linear、Equal percent (1:25, 1:33, 1:50) 、Quick open user defined 20 curve
	通讯模式	Communication Mode	HART Module
显示模式 Display Mode	液晶显示	LCD	2 row 7 digit LCD, 22*38mm
	打开显示	Opening Display	0-100%, rotary opening display
	压力表显示	Pressure Gage Display	2-3 gages for options
配置操作 Configuration Operation	自我调整	Self Adjusting	Self adjusting ZERO and SPAN of the valve ,Minimal dead zone (automatic value) and minimum anticipation (automatic value)
	自我诊断	Self Diagnosis	Self diagnosis for adjusting process,valve transfinite, running stop up and etc.
	手动操作	Manual Operation	Manual operation of 3 keys
准确性 Accuracy	盲区	Dead Zone	0.1 ~ 10% can be adjusted
	线性	Linearity	0.5% FS
	灵敏度	Sensitivity	0.1% FS
	重复性	Repeatability	0.2% FS
工作环境 Working Environment	工作温度	Operation Temperature	-20 ~ 70 C
	操作湿度	Operation Humidity	5 ~ 95%RH
	影响效果	Vbration Effect	15 ~ 150Hz/2g
	天气保护	Weather Protection	IP65
	防爆	Explosion Proof	Ex ia IIC T4~T6 or ExdII CT4~T6
防雷保护 Lightning Protection	电压保护	Voltage Protection	Live wire -Live wire: 65V
	电压保护	Voltage Protection	Live wire-Earth: <700V
	响应时间	Response Time	Live wire -Live wire: <4ns
	响应时间	Response Time	Live wire-Earth: <20ns
	放电电流	Discharge Current	10KA(8/20μS)
包装细节 Packing Details	重量	Weight	2 .0 Kg
	外形尺寸	Dimensions	170×86×96 mm
	材料	Material	Aluminium



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爱圣拓克(无锡)流体控制集团有限公司

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