

1880 Series Intelligent Valve Positioner



1880 series intelligent valve positioner is compact designed controller for integral pneumatic control valves.

The product is easy to operate and has rich software functions. It can easily be operated via the OLED display and keypad.

The positioner adjusts the valve position quickly and accurately through detecting the position sensor signal.

- **Compact design**
- **OLED display**
- **Easy to start-up**
- **Ex nA explosion proof**

Technical data

Material	PC、PA6-GF30、SI
Power supply	24V DC \pm 10%
Set-point signal	0/4-20mA
Input resistance for set-point signal	120 Ω
Control medium	neutral gases, air DIN ISO 8573-1
Dust concentration	Class 5 (<40 μ m particle size)
Particle density	Class 5 (<10mg/m ³)
Pressure condensation point	Class 3 (<-20°C)
Oil concentration	Class 5 (<25mg/m ³)
Ambient temperature	0-70°C
Pneumatic connection	Plug-in hose connector G1/4(internal Φ 6mm)
Electrical connection	M12 3-pins B-coded(cable \varnothing 4-6mm) M12 4-pins D-coded(cable \varnothing 4-6mm)
Supply pressure	3-7 bar, specific values depending on the actuator
Air flow rate	17 l/min(input pressure of 0.6Mpa)
Stroke control range	Line 5-30mm
Installation	As required, Preferably with actuator in upright position, Screw
Protection class	IP66
Power consumption	<5W
Explosion-proof class	Ex nA II C T4

Combinations

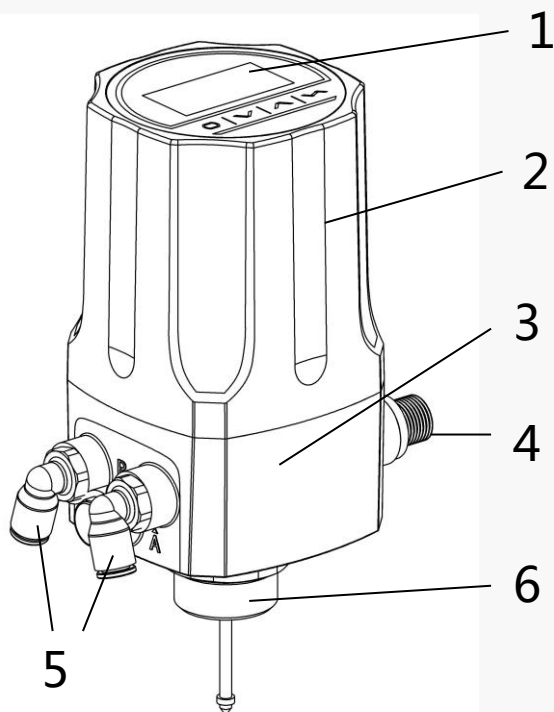


Diaphragm control valve



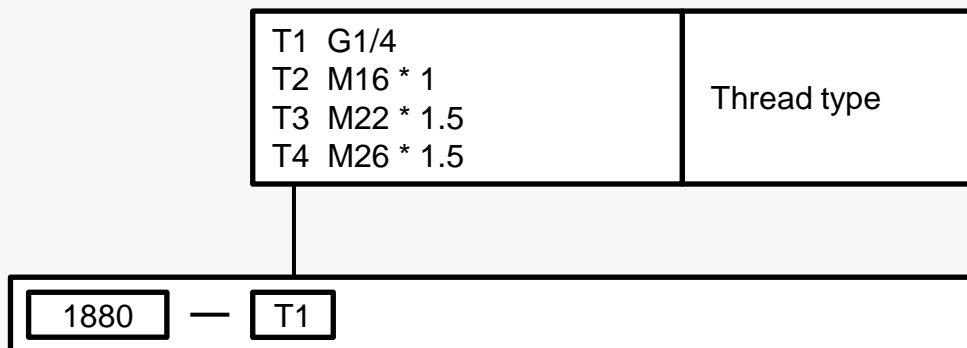
Angle seat control valve

Structure



1. Display screen and key panel
2. Transparent body casing
3. Main body casing
4. Electrical connection
5. Pneumatic connection
6. Actuator connection

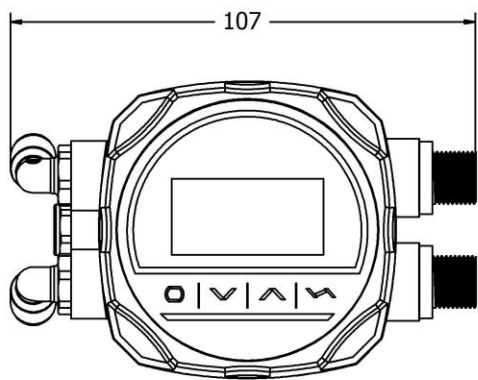
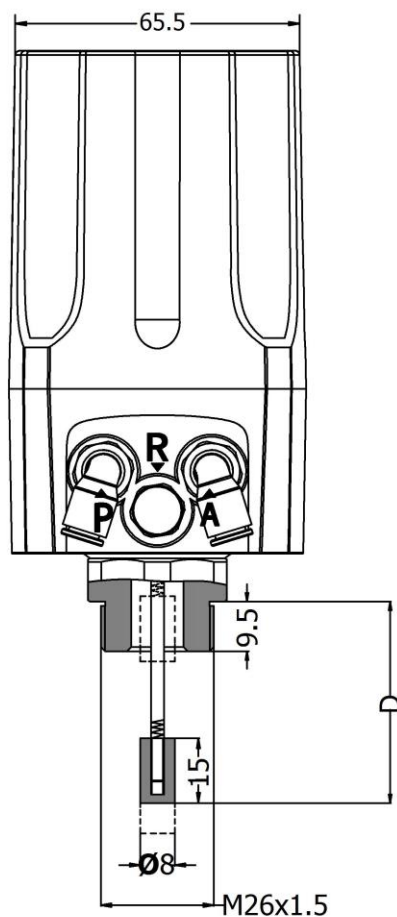
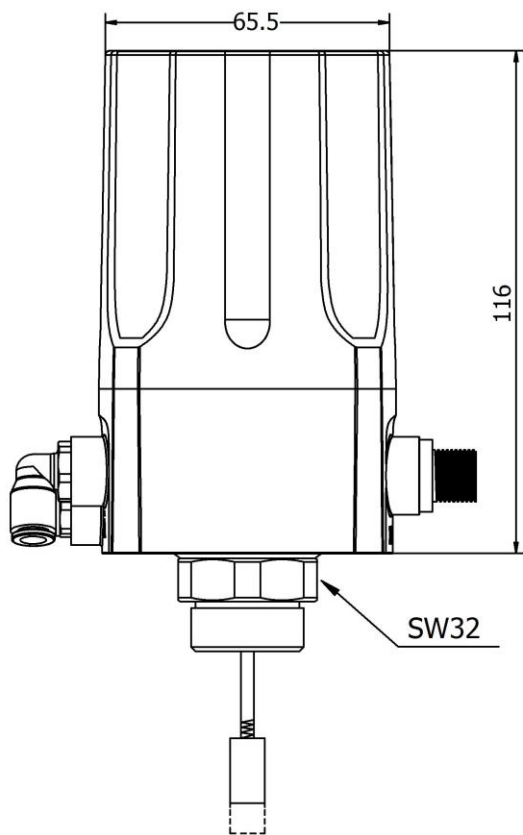
Product type selection



Remark:

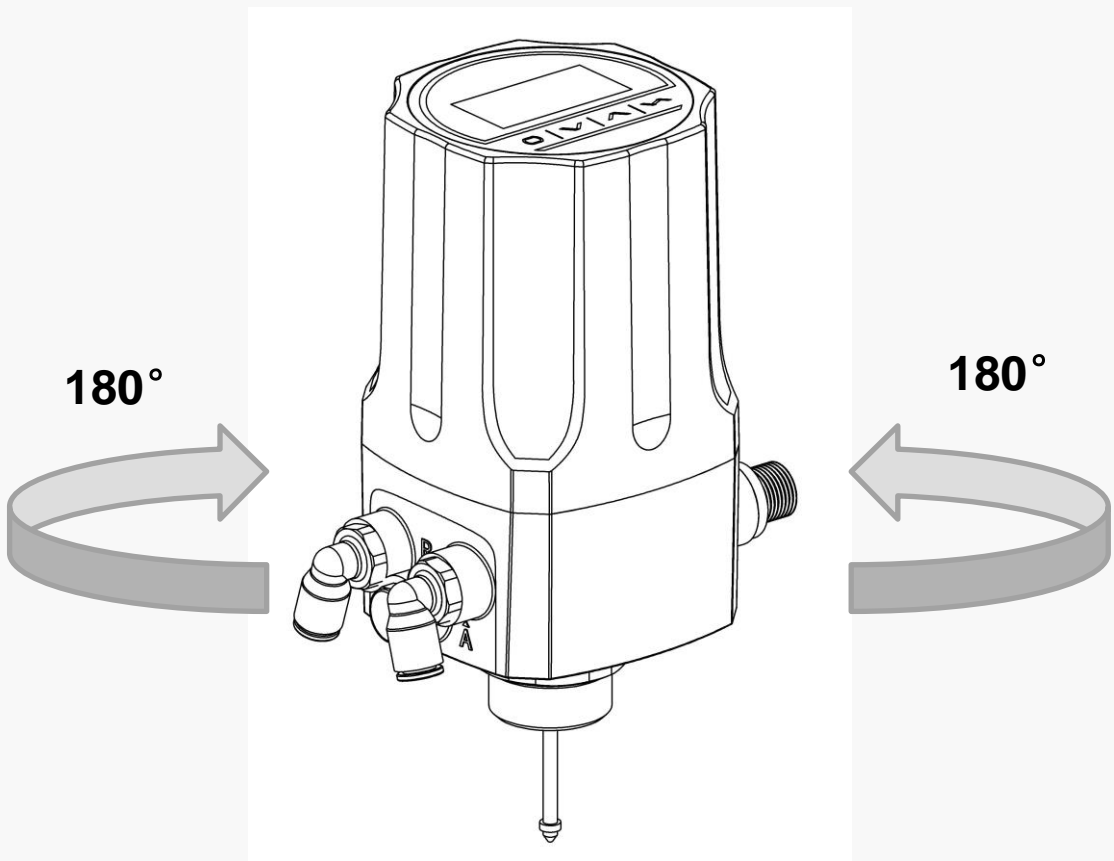
The product is only used for single-acting line stroke actuator. It is suggested to match the actuator of 40-100 mm internal gas chamber diameter.

Dimensions

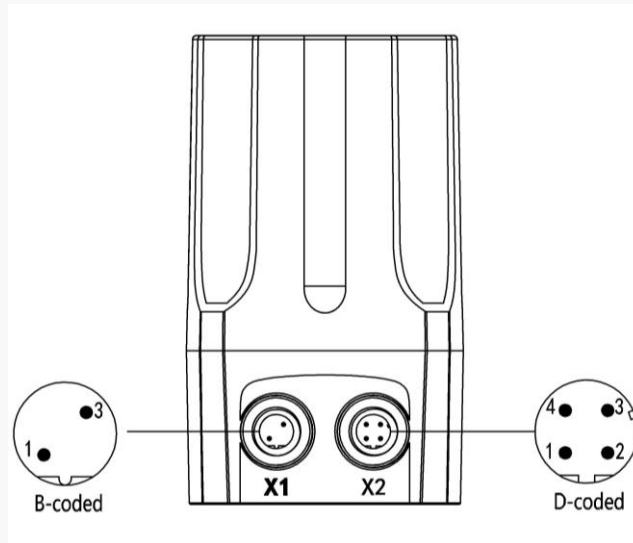


Interface angle adjustment

The angle can be adjusted between the positioner and the valve. If need to adjust the interface angle, rotate the main body casing clockwise or counter-clockwise in 180° range.



Electrical connections



X1

Pin	Description	Signal type
1	Analogue signal output +	0/4 – 20 mA
3	Analogue signal output GND	GND
4	NC	NULL

X2

Pin	Description	Signal type
1	Power supply +	+24 V
2	Power supply GND	GND
3	Set signal input +	0/4 – 20 mA
4	Set signal input GND	GND

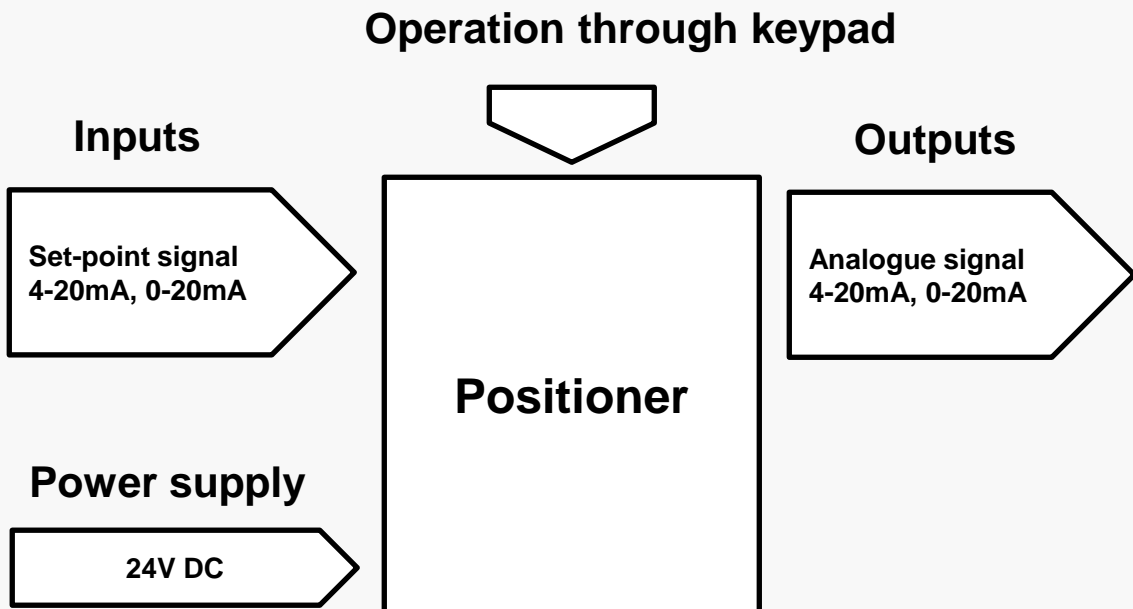
Pneumatic connections

P	Air supply enter(built-in filter, filter size 5 μm)
R	Air exhaust
A	Pilot air outlet

Additional software functions

- Selection of the transfer characteristic between set-point value and stroke.
- Sealing function for position controller.
- Effective sense of direction between input signal and set-point value.
- Limit of the mechanical stroke range.
- Setting for control parameters.
- Safety position setting for the position controller.
- Configuration of signal level fault detection.
- Configuration of the outputs.
- Calibrating the control parameters.
- Setting for manual control rate.
- Code protection.

Schematic diagram



Function comparison for all types

FUNCTION	1600	1601	1500	1880
Explosion-proof	√	√	×	√
Process control	×	√	×	×
4-20mA signal input	√	√	√	√
4-20mA signal output	√	√	○	√
Autotune	√	√	√	√
Valve position manual adjustment	√	√	√	√
Sealing function	√	√	√	√
Dead band setting	√	√	√	√
4-20mA input signal error detection	√	√	√	√
Factory setting	√	√	√	√
Characteristic curve setting	√	√	×	√
Direction of set-point value	√	×	×	√
Valve stroke range limiting	√	√	×	√
Safety position setting	√	√	×	√
Binary signal input/output	√	√	×	×
Input signal calibration	√	√	×	√
Speed setting of manual adjustment	√	√	×	√
Code protection	√	√	×	√

√	YES
×	NO
○	optional

1880系列智能电气阀门定位器

- 外形小巧紧凑
- OLED显示屏
- 快速简易启动
- Ex nA 防爆



1880系列智能电气阀门定位器是专为一体式气动调节阀所设计的，特别适用于角座阀和隔膜阀产品。

该产品操作简便，软件功能丰富，可轻松通过显示屏和按键面板进行操作。

定位器可通过检测位移传感器信号，对阀位进行快速精确调节。

技术参数

材料	聚碳酸酯 (PC) 硅橡胶(SI) 聚酰胺(PA6-GF30)
电源	直流 24V ±10%
信号输入	0/4 - 20mA
设定信号输入阻抗	120Ω
压缩空气要求 颗粒度要求 颗粒密度要求 凝点要求 油脂浓度要求	中性气体, 符合 DIN ISO 8573-1 要求 Class 5 (<40μm particle size) Class 5 (<10mg/m ³) Cass 3 (<-20°C) Class 5 (<25mg/m ³)
环境温度	0-70°C
气动接头	1/4英寸插入式软管接头(内径Φ 6mm)
电气快速接头	M12 三针 B标准(电缆直径ø 4-6mm) M12 四针 D标准(电缆直径ø 4-6mm)
气源压力	3-7 bar，具体值视执行机构而定
气体输出流量	17 l/min(输入压力为0.6Mpa)
阀门行程控制范围	直行程 5-30 mm
安装方式	倾向于安装在执行器顶端，通过螺纹和执行器连接
防护等级	IP66
功耗	<5W
防爆等级	Ex nA II C T4

组合方式

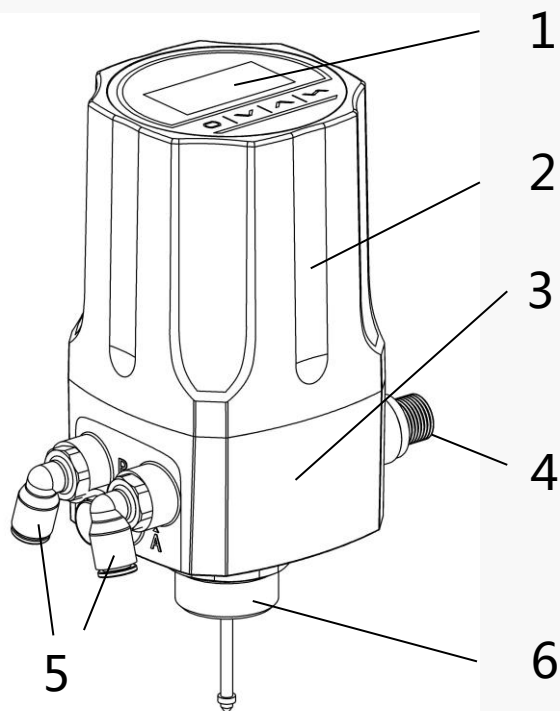


隔膜式调节阀



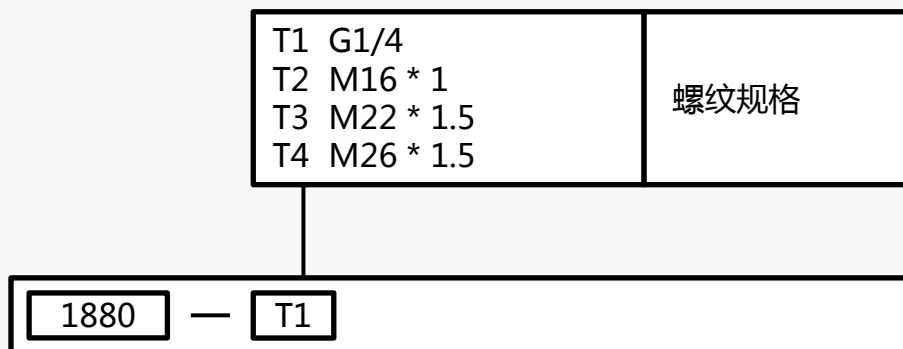
角座式调节阀

产品结构



1. 显示屏和按键面板
2. 透明外壳
3. 主壳体
4. 电气接口
5. 气动接口
6. 执行器连接件

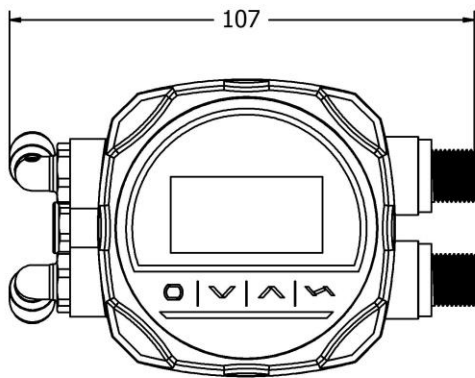
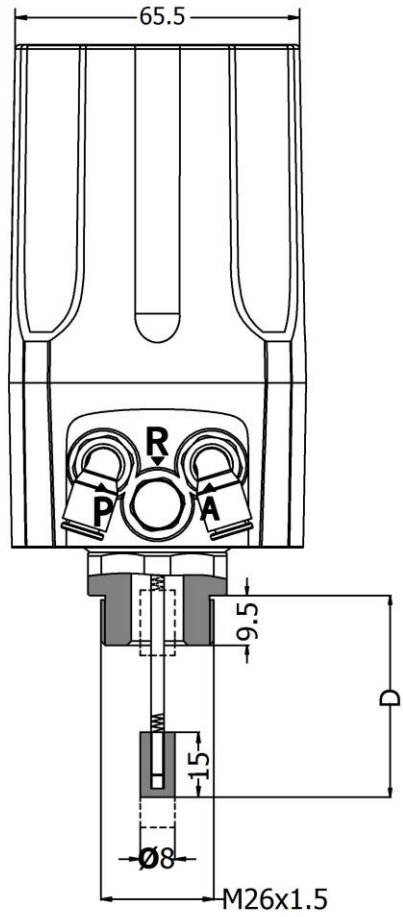
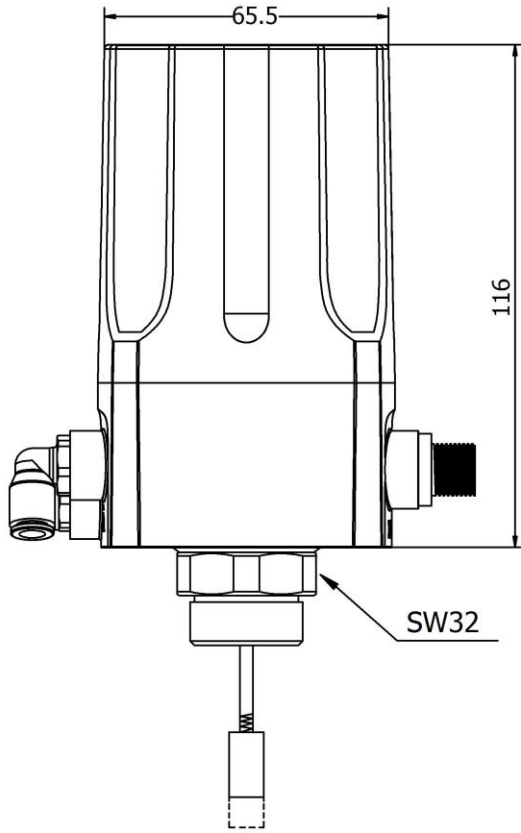
产品选型



备注：

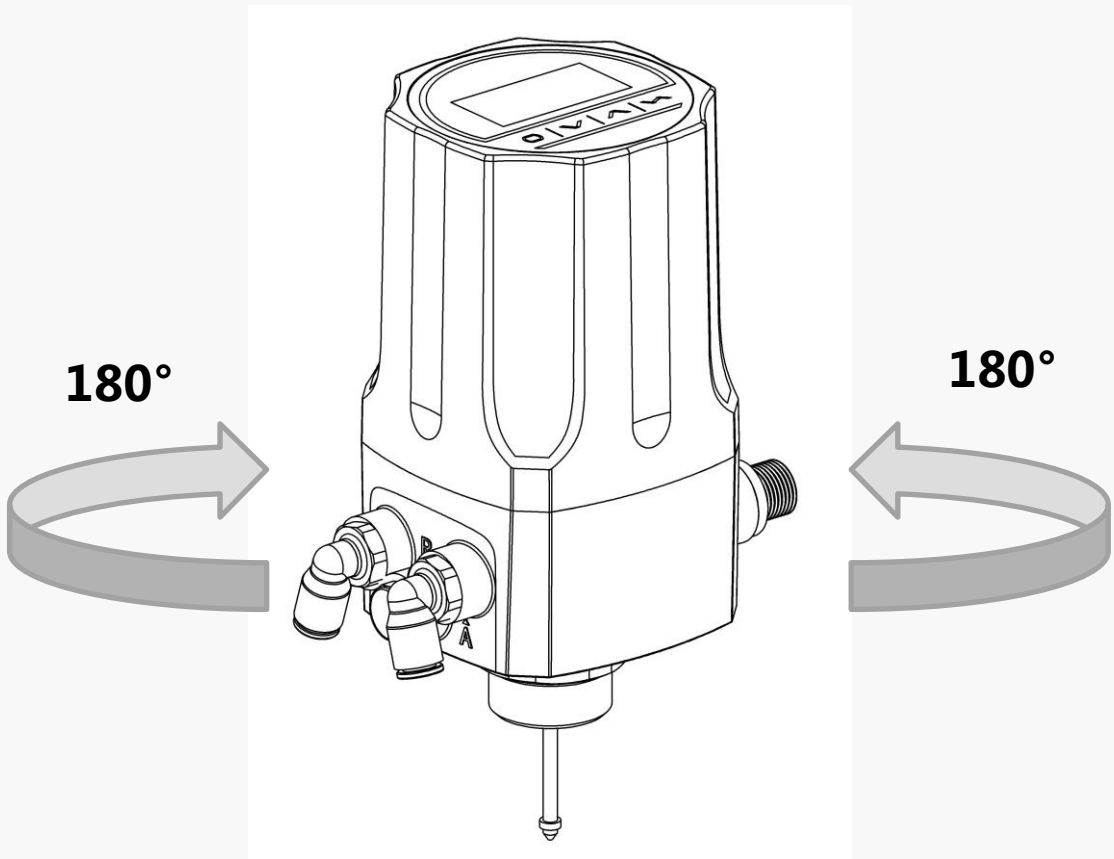
该产品只适用于单作用直行程执行器。建议匹配气室内径40-100 mm 的执行器。

机械尺寸

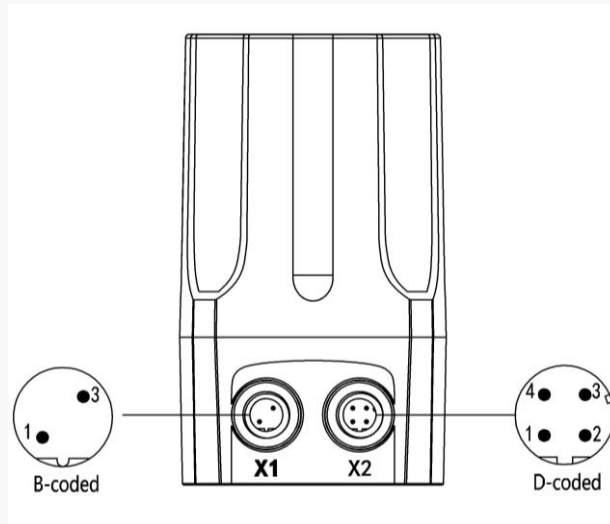


操作界面角度调整

将定位器与阀门连接之后，定位器可与阀门之间做角度调整。若需要调整定位器操作界面角度，可以顺时针或逆时针180°范围内旋转主壳体到需要的角度。



电气接口



X1

端子号	描述	信号类型
1	模拟信号输出 +	0/4 – 20 mA
3	模拟信号输出 GND	GND
4	空	无

X2

端子号	描述	信号类型
1	电源 +	+24 V
2	电源GND	GND
3	设定信号输入 +	0/4–20mA
4	设定信号输入GND	GND

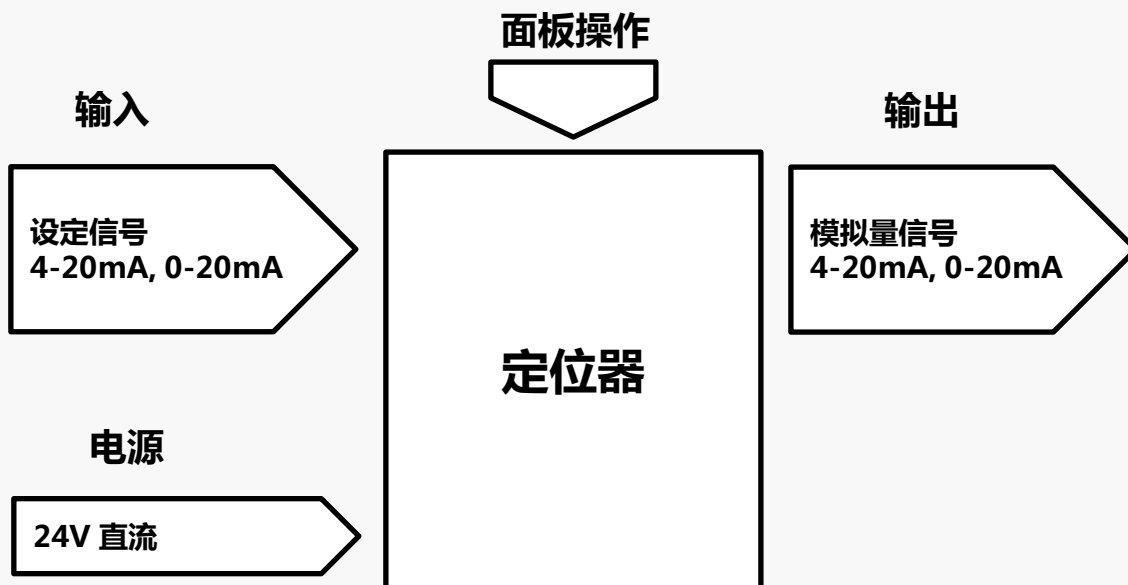
气动接口

P	气源进入 (内置滤网, 过滤尺寸5 μ m)
R	排气
A	先导气口

软件附加功能

- 阀门传输特性设置
- 紧闭功能设置
- 输入信号和设定值间的作用方向设置
- 阀门行程限制
- 密码保护功能
- 控制参数的设置
- 安全位置的设置
- 输入信号错误检测
- 输出信号功能配置
- 控制参数校正
- 手动控制速度设置
- 密码保护

原理图



各型号功能对比

功能	1600	1601	1500	1880
防爆	√	√	×	√
过程控制	×	√	×	×
4-20mA信号输入	√	√	√	√
4-20mA信号输出	√	√	○	√
自整定	√	√	√	√
手动调节阀位	√	√	√	√
紧闭功能	√	√	√	√
死区设置	√	√	√	√
4-20mA输入信号错误检测	√	√	√	√
恢复出厂设置	√	√	√	√
特性曲线设置	√	√	×	√
信号方向设置	√	×	×	√
行程限制	√	√	×	√
安全位置设置	√	√	×	√
开关量信号输入/输出	√	√	×	×
输入信号校正	√	√	×	√
手动调节速度设置	√	√	×	√
密码保护	√	√	×	√

√	有该功能
×	无该功能
○	可选