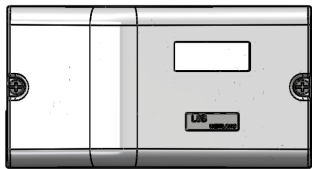


L8B-100系列

智能电气阀门定位器

智能电气阀门定位器



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产品选型表

L8B-100	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
智能阀门定位器 L8B-100系列			n	不防爆
			i	Ex ia IIC T5/T6
		S	单作用	
		D	双作用	
	L	直行程		
	R	角行程		

技术参数

输入信号	4~20mA, 两线制
电气接口	G 1/2 或 M22x1.5
行程	直行程 10~150mm, 角行程: 30~105°
气源压力	0.14~0.7MPa
气管接口	RC 1/4
直线性	±0.5%F.S
回差	±0.2%F.S
死区	±0.2%F.S
重复度	±0.2%F.S
抗震性	≤ 2G (5~400Hz)
输入阻抗	500 欧姆/20mA
输出特性	线性
环境温度	-30 ~ 85℃
环境湿度	5%~95%RH
大气压	86~106KPa
防爆等级	工厂用本质安全型
阀位反馈输出	两线制: 4~20mA, 供电电压: 9~36VDC

1. 安装

1.1 输入信号电气连接

输入信号必须为直流电流信号，负载电压必须 $>10V$ 。

输入信号：4~20mA. DC

启动电流：3.8mA

输入阻抗：500欧姆

20mA时最大压降：10v

1.2 反馈信号电气连接

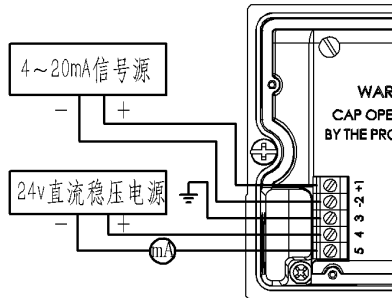
内置阀位反馈输出在定位器故障或无电源供应时，其输出信号为不确定值，请勿将此信号用作关键连锁信号。

反馈信号类型：直流4~20mA 两线制

供电电压：9~36V. DC

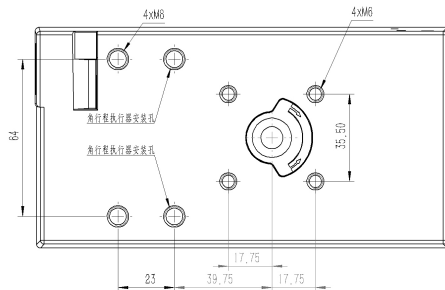
负载电阻：MAX 700 Ω (24V)

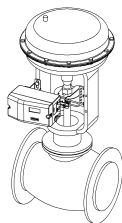
默认带信号反馈功能，反馈信号出厂时已经过校准。



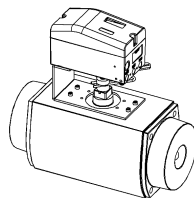
1.3 机械安装

当阀门处于50%开度时，尽量使反馈杆处于全程行程摆幅的中间位置，并且将反馈档杆尽量对准反馈杆标尺相应刻度以达到最好的运行效果。

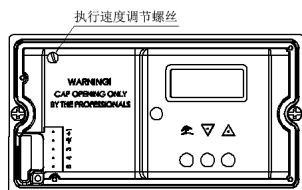




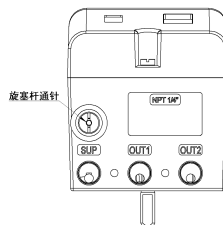
直行程安装示意图



角行程安装示意图



执行速度调节螺丝



旋塞杆通针示意图

1.4 快速故障排除

如遇到定位器正常工作中突然不动作或动作异常，可尝试往内按一下旋塞杆通针疏通恒节流孔以排除故障。

2. 开始使用

2.1 自动整定

使用此功能时输入信号需 $\geq 16\text{mA}$ 。

在自动整定时，阀门将遍历全部行程范围。为避免产生意外情况，应采取一些必要的安全措施。

自动整定前准备：

- 连接好压缩空气源，根据执行器型号调整好气压。
- 连接好输入信号。
- 将输入信号置于 16mA 。

长按“ Δ ”键，直至阀门开始动作后松开按键，定位器进入自动整定状态。自动整定完成后，阀门将停在75%位置处，整个过程约需要5分钟。

2.2 调整执行速度

使用此功能时输入信号需 $\geq 16\text{mA}$ 。

智能阀门定位器

长按“▽”键，当阀门开始动作时松开按键，定位器进入执行速度调整状态。点按“△”键阀门将在零位与满度位置之间运行，轻微旋转执行速度调节螺丝（见1.3节）可改变阀门打开/关闭速度。完成后长按“△”键3~5秒进入自动整定状态。

2.3 调整阀门行程

使用此功能时输入信号需 $\geq 16\text{mA}$ 。

1. 正常运行时长按“△”+“▽”键3~5秒，屏幕出现“A].xxx”后放开按键。
2. 然后点按“△”键，定位器进入总行程调整状态。出厂时此项默认为100%。
3. 点按“△”或“▽”键调整总行程百分比。例：tr 100, tr 099, tr 098...
4. 按一下“👉”键确认更改并返回正常运行状态。

2.4 手动运行

使用此功能时输入信号需 $\geq 16\text{mA}$ 。

1. 正常运行时长按“△”+“▽”键3~5秒，屏幕出现“A].xxx”后放开按键。
2. 然后点按“▽”键，定位器进入手动运行状态。
3. 按“△”或“▽”键设定需要的开度。例：PL 050, PL 051, PL 052...
4. 按一下“👉”键定位器将返回正常运行状态。

2.5 输入信号校准

1. 首先将给定信号置于0mA（或断开信号），然后按住“👉”键
2. 将给定信号置于4mA，定位器进入输入信号校准状态，然后放开“👉”键。
3. 当屏幕显示“EP 04”时，将给定信号置于4mA，然后按一下“👉”键完成4mA信号校准；当屏幕显示“EP 12”时，将给定信号置于12mA，然后按一下“👉”键完成12mA信号校准；当屏幕显示“EP 20”时，将给定信号置于20mA，然后按一下“👉”键完成20mA信号校准。至此输入信号校准完成。
4. 完成校准后定位器自动回到自动运行状态，必需重新进行一次自动整定（见2.1自动整定）才可以正常使用。

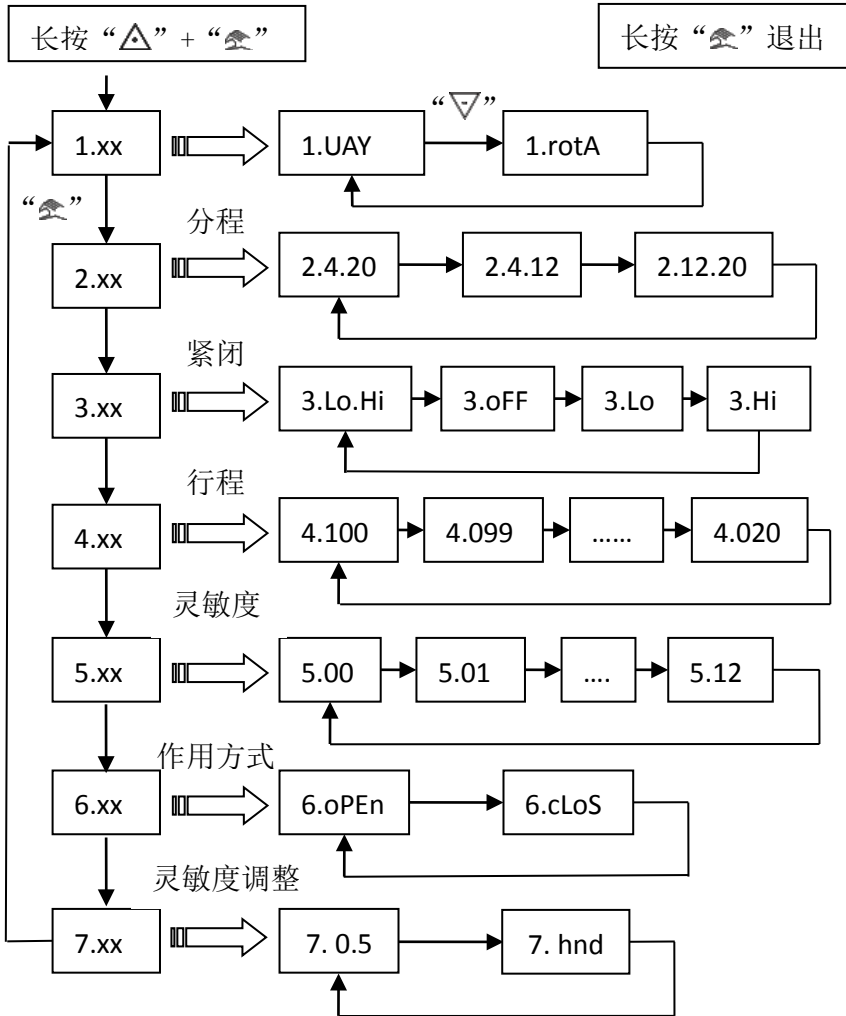
2.6 反馈信号校准

校准时输入信号需 $\geq 16\text{mA}$

1. 运行中“▽”+“👉”3~5秒后放开按键，定位器进入反馈电流校准状态。
2. 当屏幕显示Fb04时，按“△”或“▽”键可微调4mA时的反馈信号，然后按一下“👉”键完成4mA信号校准；在屏幕显示Fb12时，按“△”或“▽”可微调12mA时的反馈信号，按一下“👉”键完成12mA信号校准；在屏幕显示Fb20时，按“△”或“▽”可微调20mA时的反馈信号；按一下“👉”键完成反馈信号校准。
3. 完成校准后定位器自动回到自动运行状态。

3. 改变内部参数

使用此功能时输入信号需 $\geq 16\text{mA}$ 。



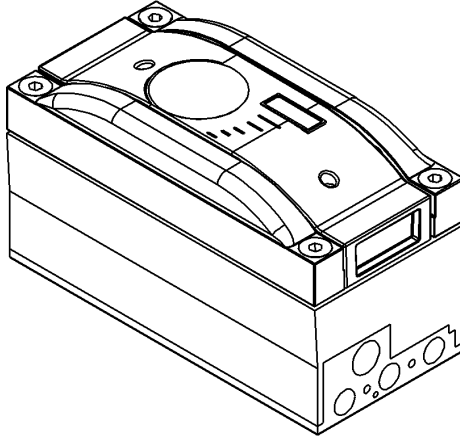
同时按住“ Δ ” + “ ∇ ” + “ ∇ ”键3秒以上，系统恢复默认参数。

默认参数：

分程：无分程4-20mA
 紧闭：零位与满度
 行程：100%

灵敏度：00
 作用方式：气开式
 灵敏度调整：0.5

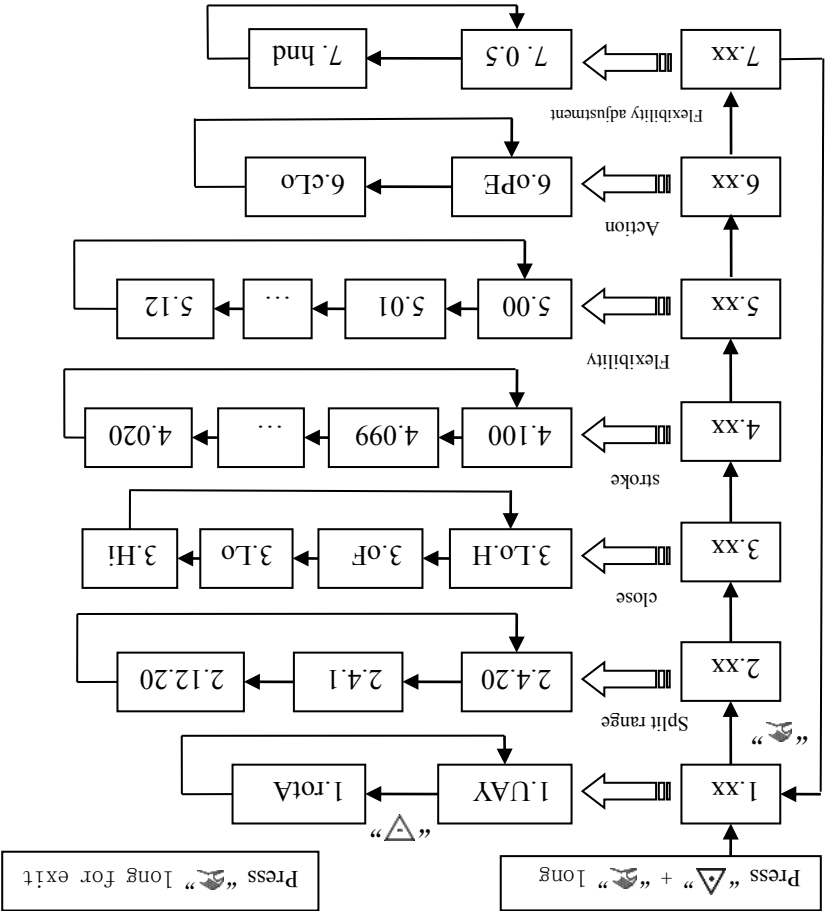
L8B-300隔爆型智能阀门定位器



L8B-300	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
智能阀门定位器 L8B-300系列			i	Ex ia IIC T6
			d	Ex d IIB T6
		S	单作用	
		D	双作用	
	L	直行程		
	R	角行程		

3. Change of Internal Parameter

Input signal should be $\geq 16mA$ when the function is used



'△', '▽', '+', '☞' keys can be pressed for more than 3 seconds at the same time, the system can restore default parameters.

Default parameter:

- Split range: No split range 4-20mA
- Closeness: zero position and full-scale
- Stroke: 100%
- Flexibility: 00
- Action: air-to-open
- Flexibility adjustment: 0.5

3. When "EP 04" is displayed on the screen, the locator is set to be 4mA, then '↵' key can be pressed for completing 4mA signal calibration; When "EP 12" is displayed on the screen, the given signal is set to be 12mA, then '↵' key is pressed to complete 2mA signal calibration; when EP 20 is displayed on the screen, the given signal is set to be 20mA, '↵' key can be pressed to complete 20mA signal calibration, and then input signal calibration is completed.
4. The locator can automatically return to automatic operation state after calibration, auto-tuning should be conducted again for normal use (see 2.1 auto-tuning).
- 2.6 Feedback Signal Calibration Input signal should be $\geq 16mA$
- '△' + '↵' key can be pressed for 3 to 5 seconds in operation, which can be released then, and the locator can be operated in feedback current calibration state. When Fb04 is displayed on the screen, '△' or '▽' key can be pressed for tuning feedback signal at 4mA, then '↵' key can be clicked for completing 4mA signal calibration; when Fb12 is displayed on the screen, '△' or '▽' key can be pressed for tuning feedback signal at 12mA, '↵' key can be pressed for completing 12mA signal calibration; When Fb20 is displayed on the screen, '△' or '▽' key can be pressed for tuning feedback signal at 20mA. Feedback signal calibration can be completed by pressing '↵' key. The locator can automatically return to automatic operation state after calibration is completed.

2.2 Adjustment of Implementation Speed

Input signal should be $\geq 16\text{mA}$ when the function is used.

' Δ ' key is pressed long and released when the valve is operated. The locator is operated in implementation speed adjustment state. ' Δ ' key is clicked, the valve can be operated between zero position and full-scale position. Adjustment screw of implementation speed can be slightly rotated (see section 1.3) for changing the valve opening/closing speed. ' Δ ' key can be long pressed for 3 to 5 to enter auto-tuning state after completion.

2.3 Adjustment of Valve Stroke

Input signal should be $\geq 16\text{mA}$ when the function is used.

1. ' Δ ' + ' Δ ' is pressed for 3 to 5 seconds during normal operation, which can be released when 'A' :xxx' is displayed on the screen.
 2. Then ' Δ ' key is clicked, the locator can be operated in the full-stroke adjustment state. The item is defaulted to be 100% before leaving from the factory.
 3. ' Δ ' or ' Δ ' key can be clicked for adjusting full-stroke percentage, such as tr 100, tr 099, tr 098...
 4. ' Δ ' key is pressed for confirming change and returning to normal operation state.

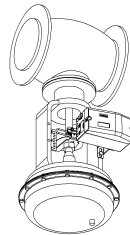
2.4 Manual Operation

Input signal should be $\geq 16\text{mA}$ when the function is used.

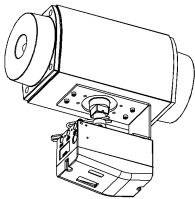
1. ' Δ ' + ' Δ ' is pressed for 3 to 5 seconds during normal operation, which can be released when 'A' :xxx' is displayed on the screen.
 2. Then ' Δ ' key is clicked, the locator can be operated in manual operation state.
 3. ' Δ ' or ' Δ ' key can be pressed for setting demanded openness, such as PL 050, PL 051, PL 052...
 4. ' Δ ' key is pressed, and the locator can return to the normal operation state.

2.5 Input Signal Calibration

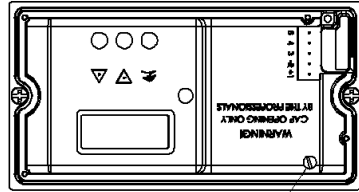
1. Firstly, the given signal is set in 0mA (or signal is disconnected), and then the ' Δ ' key can be pressed;
 2. The given signal is set to be $\geq 4\text{mA}$, locator is operated in input signal calibration state.



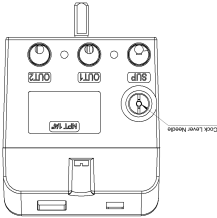
Linear Actuator Installation Schematic Diagram



Rotary Actuator Installation Schematic Diagram



Adjustment screw of implementation speed



Cock Rod Needle

1.4 Rapid Troubleshooting

If the locator does not act or acts abnormally during normal work, the cock rod needle can be pressed inwards for dredging the constant throttling orifice and eliminating trouble.

2. Use Starting 2.1 Auto-tuning

The valve will travel through the whole stroke during auto-tuning. Some necessary safety measures should be adopted to avoid some accidental conditions.

Input signal should be $\geq 16\text{mA}$ when the function is used.

Preparation before Auto-tuning

- a. Compressed air source should be connected, air pressure should be adjusted according to actuator model.
- b. Input signal is connected.
- c. Input signal is placed at 16mA.

' Δ ' key is pressed long and released until the valve is operated. The locator can be operated in auto-tuning state. The valve should be stopped at 75% position after auto-tuning. The whole process lasts for about 5 minutes.

1. Installation

1.1 Input Signal Electric Connection

Input signal must be DC current signal, and load voltage must be >10V.

Input signal: 4 to 20 mA DC

Starting at: 3.8 mA

Impedance: 500 ohm

Load voltage at 20mA: 10V

1.2 Feedback Signal Electric Connection

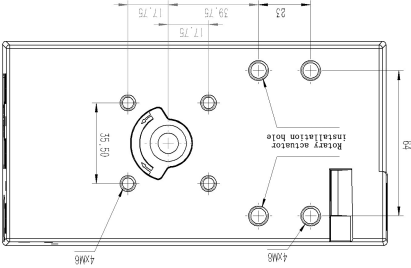
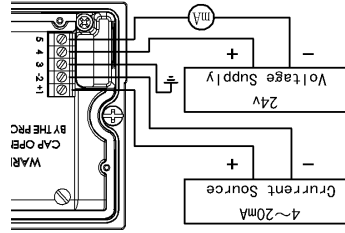
The output signal is uncertain value in internal valve position feedback output when positioner fails or there is no power supply. The signal should not be used as key interlock signal.

Feedback signal type: DC 4 to 20mA two-wire system

Power supply voltage: 9 to 36V DC

Load resistance: MAX 700 Ω (24V)

Feedback signal with signal is defaulted, and the feedback signal has been calibrated before leaving from factory.



1.3 Mechanical Installation

When the valve is opened at 50%, the feedback rod is located in the middle of full-stroke swing as far as possible. The feedback rod should be aligned with corresponding scale of feedback rod ruler as far as possible for reaching best operation effect.

Product Model Selection Table

L8B-100	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
L8B-100 Series Smart Valve Positioner	<input type="checkbox"/>	<input type="checkbox"/>	n	Non-explosion-proof	
	<input type="checkbox"/>	<input type="checkbox"/>	i	Ex ia IIC T5/T6	
			S	Single-action	
			D	Double-action	
	L	Linear			
	R	Rotary			

Technical Parameter

Input signal	4 to 20mA, two-wire system
Electric interface	G 1/2 or M22x1.5
Stroke	Straight trip 10 to 150mm, Angle trip: 30 to 105 Degrees
Gas source pressure	0.14 to 0.7MPa
Pneumatic interface	RC 1/4
Deviation	±0.5%F.S
Tolerance band	±0.2%F.S
Dead band	±0.2%F.S
Repeatability	±0.2%F.S
Seismic vibration	≤ 2G (5 to 400Hz)
Input impedance	500ohm/20mA
Output characteristic	Linearity
Ambient temperature	-30 to +85 °C
Relative Humidity	5% to 95%RH
Atmospheric pressure	86 to 106KPa
Explosion protection	Intrinsic safety for factory
Feedback signal output	Two-wire technology: 4 to 20mA; Supply voltage: 9 to 36VDC

Catalog

Product Model Selection Table	II
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L8B-100 Series

Smart Valve Positioner Instruction

