

IP6500系列定位器

IP6500 Series Intelligent Valve Positioner Brief Introduction



POWERFLOW
Expertise in flow control

IP6500 series intelligent valve positioner is used in conjunction with pneumatic actuator. The positioner receives the set-point value from the control system via the PROFIBUS PA bus and collects the position sensor signal to obtain the actual valve value. Through the calculation and processing of the control software, the inlet and exhaust air of the pneumatic actuator are controlled, so as to drive the valve position to the set point.



1 Technical Description



Ex ia linear type

- **Enclosure material**
Aluminum
- **Pressure gauge block material**
Aluminum, anodized
- **Power supply and signal transmission**
DP/PA coupler
- **Intrinsically safe power supply**
17.5V DC
- **Operating voltage range**
9~32V DC
- **Digital communication protocol**
PROFIBUS PA
- **Steady state air consumption**
 ≤ 0.4 L/min

● Stroke range

Default linear type: 10~100mm

Default rotary type: 30~100°

Separate type: 5~25mm

Optional mounting bracket: Hard connection or soft connection

Note: The stroke range of remote type is the same as that of default type

● Pneumatic data

Air quality meets ISO 8573-1 standard

Supply pressure: 0.14~0.7MPa

Solid particle size and density: Grade 3

Pressure dew point: Class 3

Oil content: Class 3

● Flow rate

Intake:

2 bar 4.8 Nm³/h

4 bar 8.0 Nm³/h

6 bar 11.2 Nm³/h

Exhaust (fail-safe):

2 bar 5.9 Nm³/h

4 bar 9.8 Nm³/h

6 bar 13.7 Nm³/h

Exhaust (fail-freeze):

2 bar 6.6 Nm³/h

4 bar 11.1 Nm³/h

6 bar 15.6 Nm³/h

● Electrical connection

1/2NPT (default) or M20x1.5

please contact with sales for other thread specifications

Pneumatical connection

1/4NPT (default) or G1/4

please contact sales for other thread specifications

● Protection class

IP66

● Vibration resistance

0.15mm, 10Hz-60Hz, 20 cycle/axis

20m/s², 60Hz-500Hz, 20 cycle/axis

Recommended range for control valve
≤ 20 m/s², no resonance peak

● Basic error & Hysteresis error

Basic error: ≤ 1%

Hysteresis error: ≤ 1%

● Ambient temperature

Normal version for non-explosion-proof:

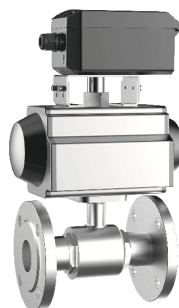
-20°C ~ +80°C

Optional version for non-explosion-proof:

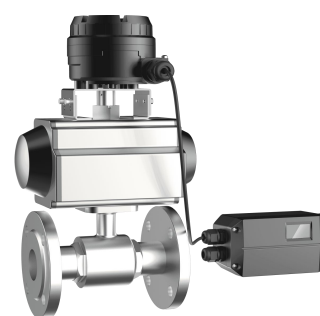
-40°C ~ +80°C



Ex ia separate type



Ex ia default rotary type



Ex ia remote rotary type

2 Advantages & applications

Advantages

- Simple mounting and one-key automatic commissioning
- Mature and reliable piezo module, imported from Germany
- Simple operation and configuration of the device using 4 buttons and LCD local display
- Numerous functions can be activated(e.g. characteristic curves and limits)
- Negligible air consumption in stationary operation
- Tight closing function
- Fail-freeze function (Optional according to product selection chart)
- One device variant for linear and rotary actuators
- Excellent shock resistance
- External remote sensor as option for extreme ambient conditions

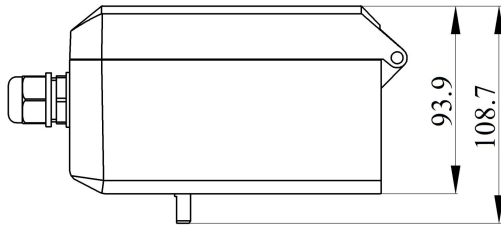
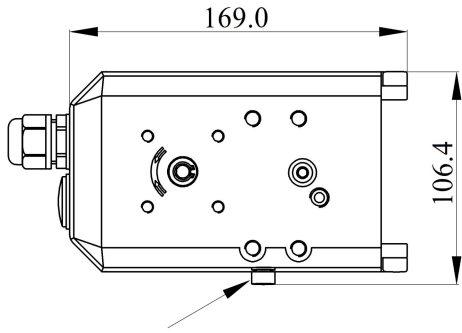
Applications

IP6500 positioner application industry :

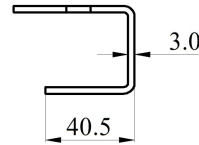
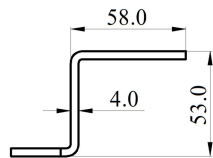
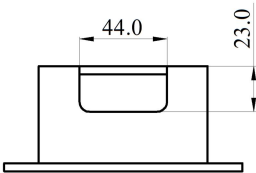
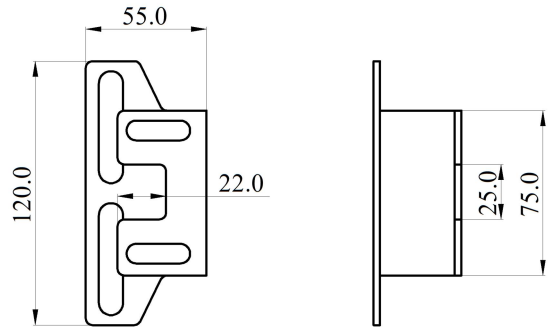
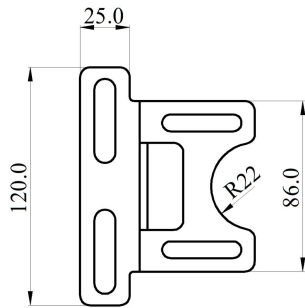
- Refining/Petrochemical/Nuclear Power/Power Plant
- Paper and glass/water and wastewater industry
- Food & beverage, pharmaceutical industry
- Marine Industry



Ex ia remote linear type



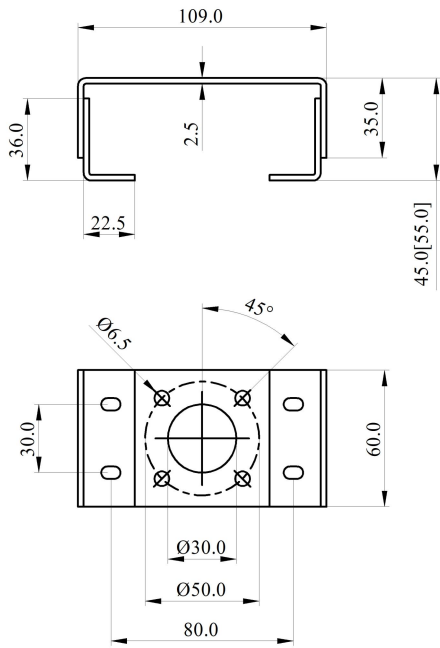
Mechanical dimension



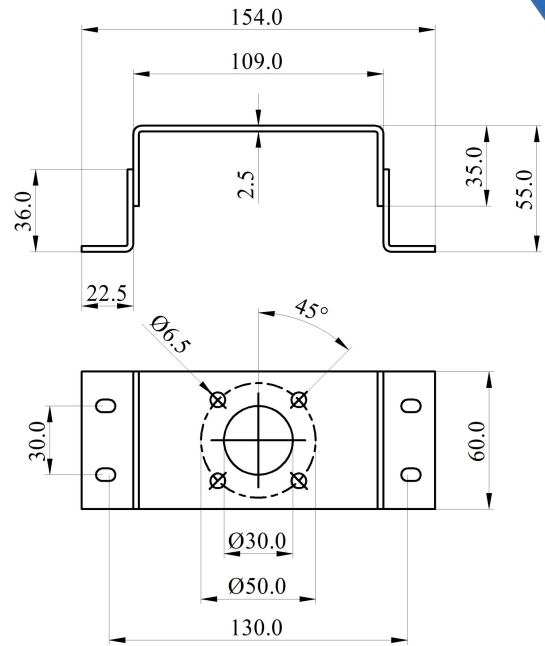
Normal linear mounting bracket

Remote linear mounting bracket

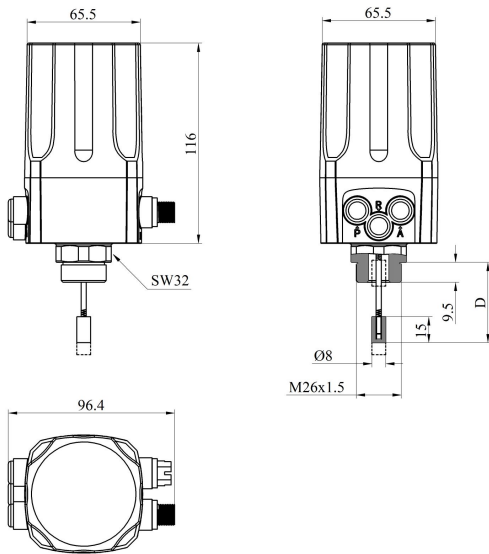
Mechanical Dimensions



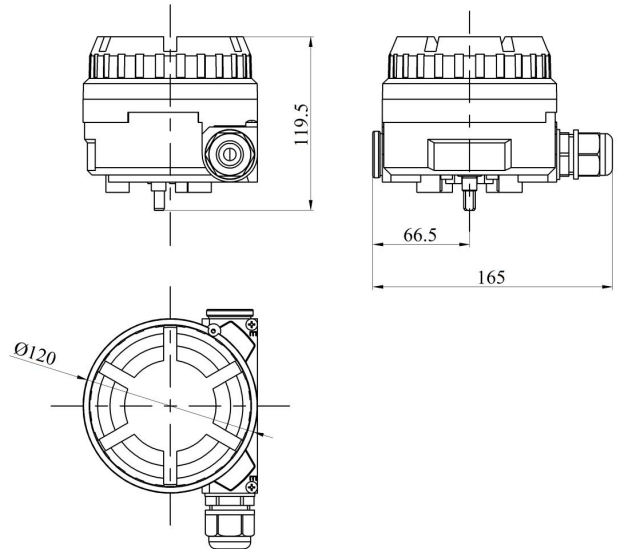
Rotary mounting bracket (Type A)



Rotary mounting bracket (Type B)

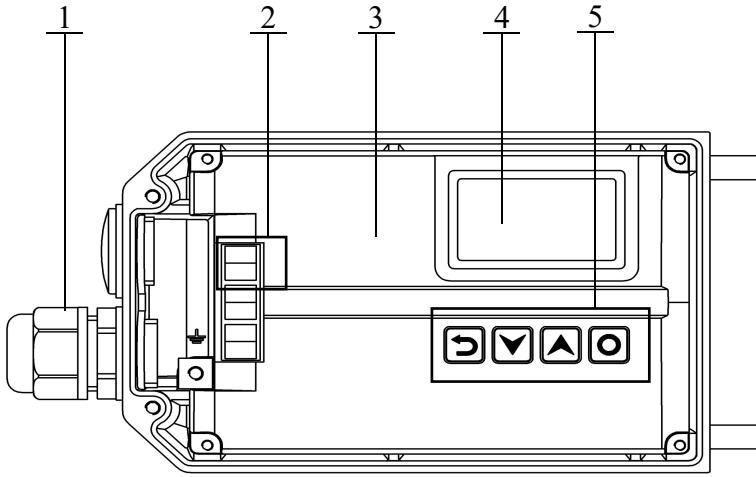


Sensor dimension for separate type



Sensor dimension for remote type

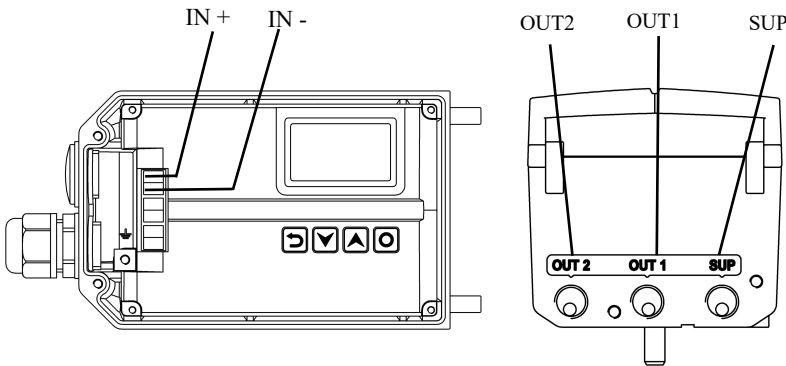
4 Structure



1. Electrical cable access
2. Electrical wiring position
3. Shell
4. LCD screen
5. Buttons

positioner structure

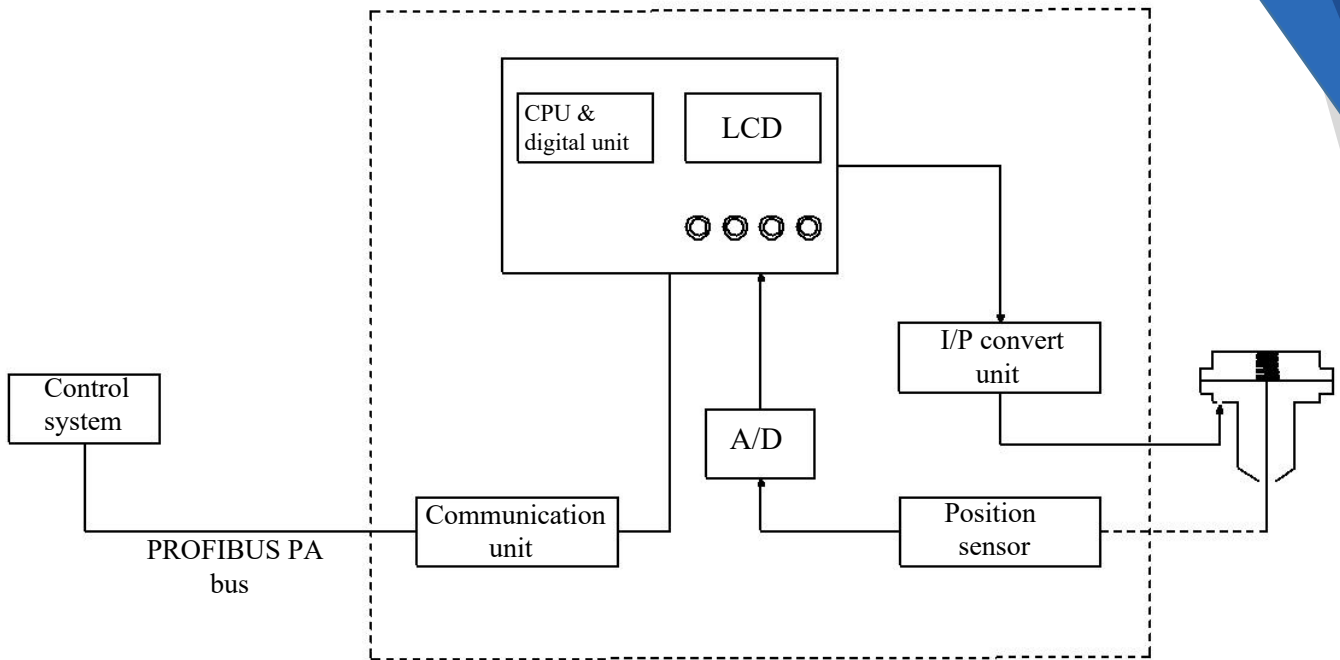
5 Connection description



Remarks:
For the separate type of the positioner, OUT1 and OUT2 are blocked and not used.

Electrical	Description
IN+	Bus signal +
IN-	Bus signal -

Pneumatic Connection	Description
SUP	Air supply enter
OUT1	Pilot air outlet 1
OUT2	Pilot air outlet 2, used for double acting type.



Additional Software Functions

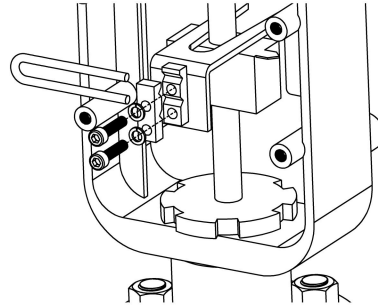
- Safe position setting.
- Dead band setting.
- Tight closing function
- Stroke limit function
- Setting and selection of characteristic curves
- Set-point value direction setting.
- Movement direction setting of displayed set value and position value
- Reset function

Advantages

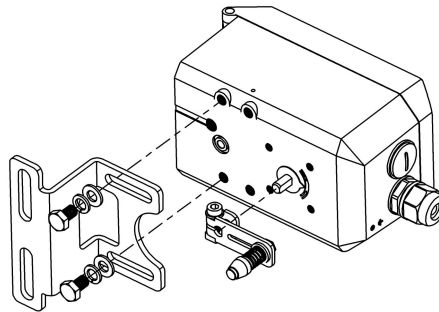
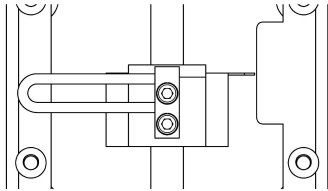
The IP6500 series intelligent valve positioner uses a microprocessor and a new type of piezo valve to replace the nozzle and baffle pressure regulating system in the traditional positioner to realize the regulation and control of the output pressure. The positioner communicates with the control system via the PROFIBUS PA bus instead of the traditional 4-20mA signal to set the valve opening. Suitable for use in Eex applications in intrinsically safe areas. The piezo valve can release a short control pulse due to its small mass, thereby achieving high precision, and the piezo valve consumes air only when the valve is deviated and performing adjustment actions, so there is a low consumption.

Linear actuator mounting components :

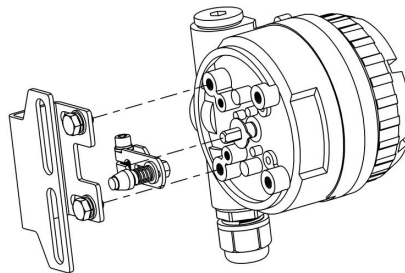
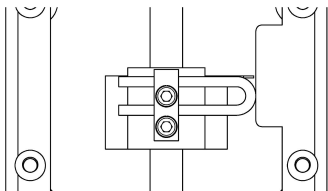
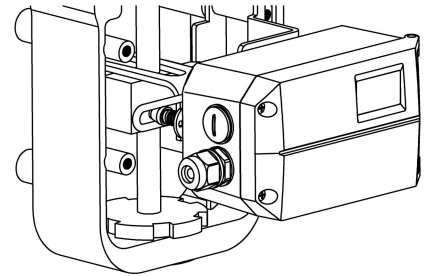
1. U-shaped rod*1
2. Clamping assembly*1
3. M6 hexagon socket screw*2
4. M6 spring washer*2
5. Feedback lever*1
6. M6 hexagon socket bolt*1
7. Linear stroke mounting bracket*1
8. M8 hexagon head bolt*2
9. M8 spring washer*2
10. M8 flat washer*2
11. Driving pin for feedback lever B*1



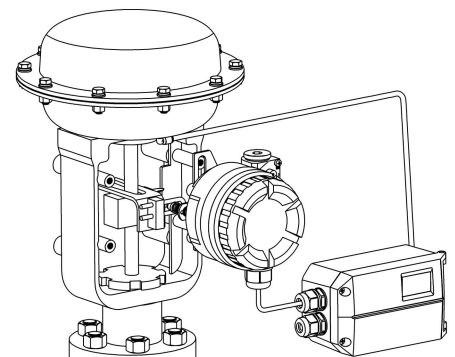
U-shaped rod installation



Linear stroke normal type



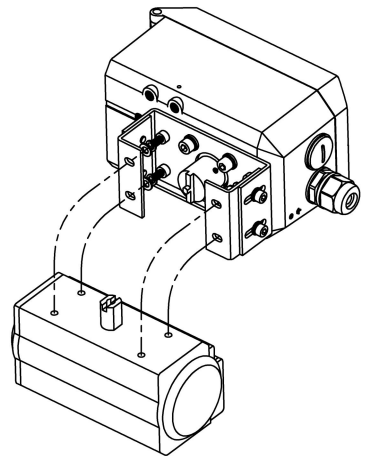
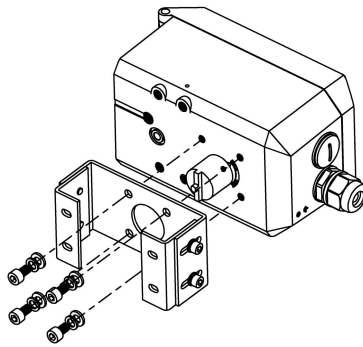
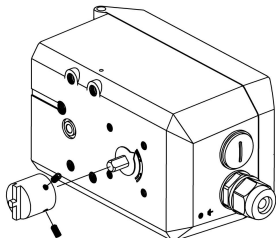
Linear stroke remote type



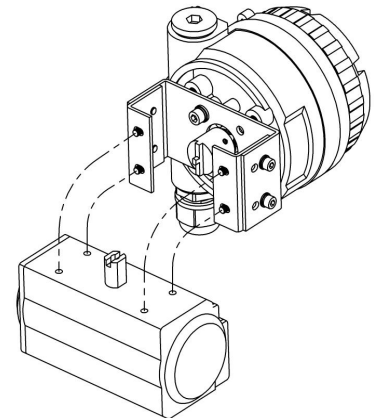
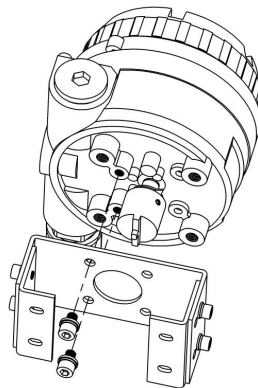
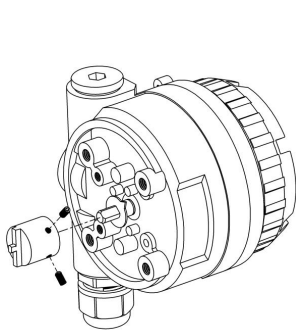
7 Mounting components

Rotary actuator mounting components:

1. Adapter*1
2. Hexagon socket set screw*2
3. Rotary stroke mounting bracket*1
4. M6 flat washer*4
5. M6 spring washer*4
6. M6 hexagon socket screw*4
7. M5 hexagon socket screw*4
8. M5 spring washer*4
9. M5 flat washer*4



Rotary stroke normal type

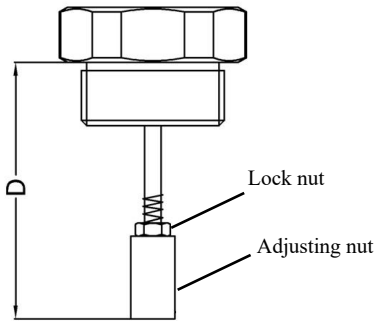
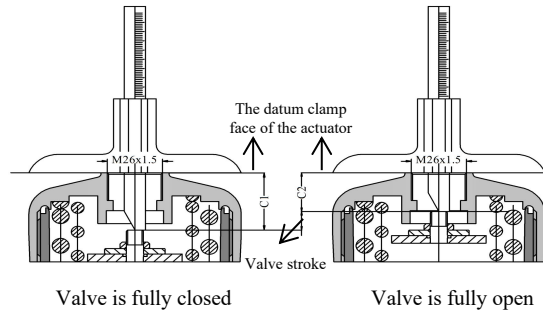


Rotary stroke remote type

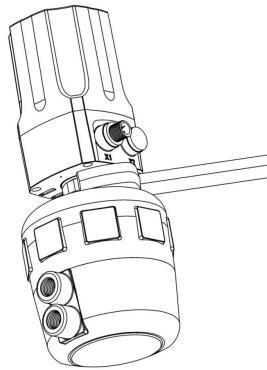
7 Mounting components

Separate type mounting components:

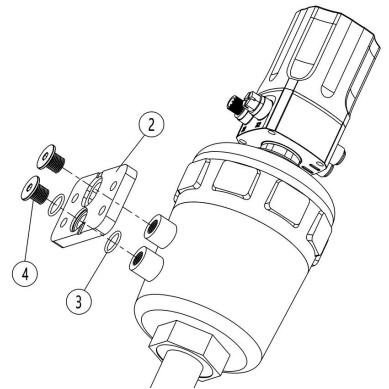
1. Sensor*1
2. Mounting plate*1
3. O-ring*2
4. Fastener*2
5. M8 hexagon head bolts*4
6. Sensor connector*1



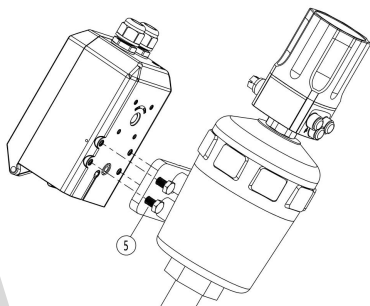
D value adjustment



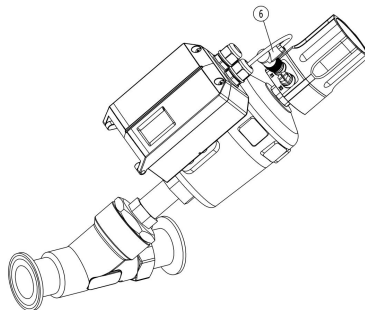
Sensor installation



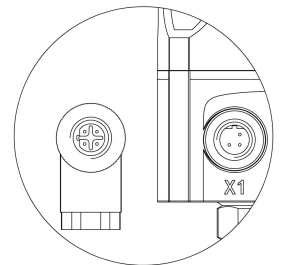
Fix the mounting plate



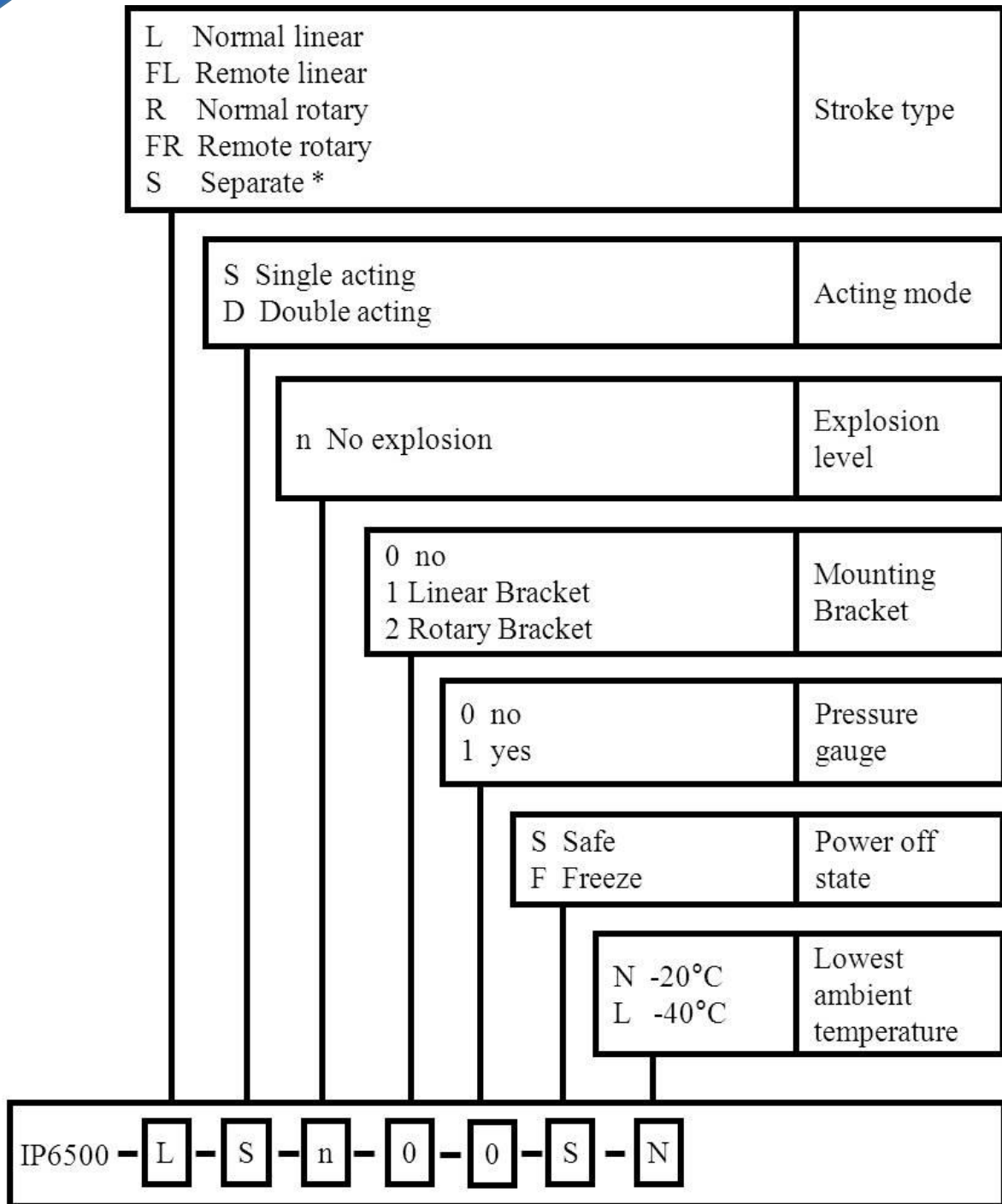
Fix the positioner



Connect the sensor



Sensor connector



Remarks:

In **Stroke type** options, the option **S(Separate)** marked with * does not support **Lowest ambient temperature** option **L(-40°C)**.