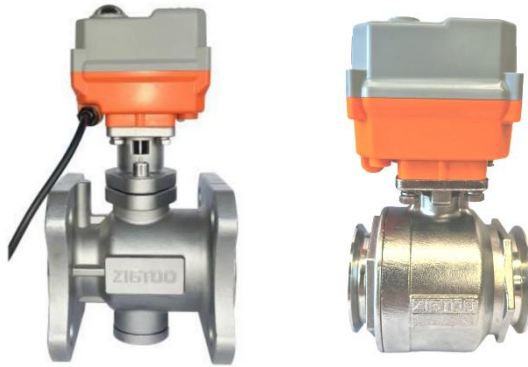


A1003-... Electric Ball Valve Series



**Electric Ball Valve
A1003-...series
PN16**

Performance & Features:

The electric control ball valve of A1003 series is an electric modulating ball valves, composed of an electric actuator with a torque rating of 10–400 Nm and a V-type ball valve body. It can accurately control the medium flow in the system to achieve temperature control, pressure regulation and energy conservation.

Analog feature: After calibration, the valve will adjust its opening angle according to the input voltage signal.

- ◆ Nominal diameter: DN15...DN150; IP54 or IP67;
- ◆ Control mode: Proportional control
- ◆ Equal percentage flow characteristic
- ◆ Optional functions: Fail Open, Fail Close or Fail Hold after signal loss
- ◆ Stainless steel V-type ball, providing superior regulation performance.
- ◆ Actuators easy to install and remove, as well as convenient for wiring and maintenance.

Applications:

This series of valves can be used in central air conditioning, heating and chilled water systems, building automation systems, steam humidification systems, etc.

Model Designation:

For example: A1003FM-80-16P/ Actuator Model and Control Type

1. "A10" Electric Thermostatic Valve Series;
2. "0" 2-way Valve; "3" 3-way Valve;
3. "3" V-Type Modulating Ball Valve Structure;
4. "F" : Flanged Connection; "T" : Threaded Connection; "C": Clamp (Quick-installation);
5. "M" Modulation Type; "S" On-Off Type;
6. "-80" Nominal Diameter DN20;
7. "16" Nominal Pressure PN16;
8. "P" : Stainless Steel;



Technical Specification

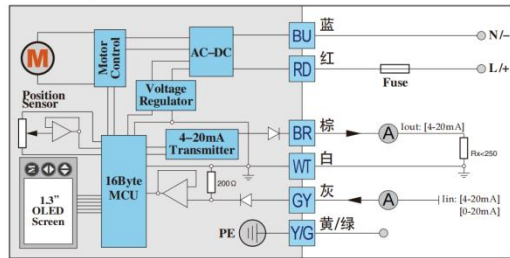
PN (Nominal Pressure)	PN16
Body	Stainless steel
Seal	EPDM/ PTFE
Core, Stem	Stainless steel

Actuator Parameters

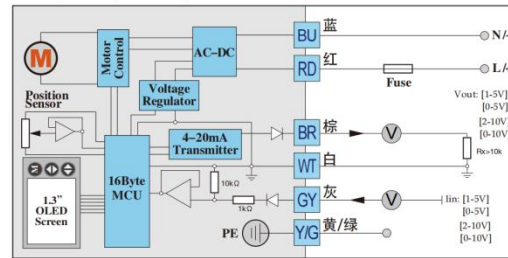
ZTC02...Series Actuator (Modulation type)

Wiring Diagram: (I)

4-20mA/0-20mA



0-5V/1-5V/0-10V/2-10V



控制说明-【不带故障信号输出-7芯线】

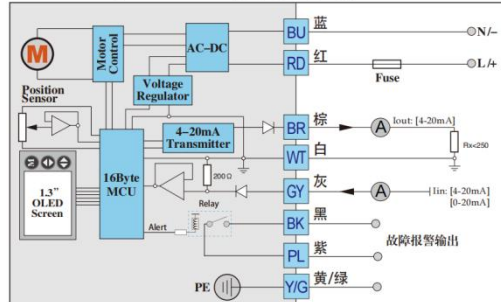
- 1、**RD/BU**为供电端。
- 2、**GY/WT/BR**为控制反馈端，此三线禁止接电源，※否则会导致控制模块损坏。
- 3、使用之前请确认工作电压，※否则会导致控制模块损坏。
- 4、**GY**是控制输入端：4-20mA，0-20mA，0-5V，0-10V，2-10V，输入阻抗参考所对应接线图。
- 5、**BR**是反馈输出端：4-20mA。
- 6、 $V_{out}=I_{out} \cdot R_x$
 Δ R_x 建议使用低温漂电阻
 Δ $V_{out} \leq 8V$ 故而 $R_x \leq 400\Omega$ （推荐 $V_{out}=5V$ ，即 $R_x=250\Omega/0.25W$ ）。
- 7、※4-20mA/1-5V/2-10V可通过“用户设置”设置无控制信号阀门执行的动作：全开、全关、保持。其他控制方式入0-20mA，0-5V/0-10V则设置无效。
- 8、0-10V输出带载能力 $\geq 10K\Omega$ ，而且导线长度和电阻会对精度有影响，请用较小的导线电阻。



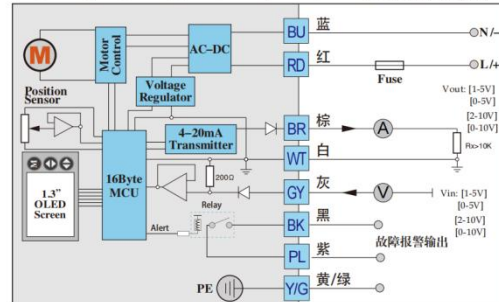
图1 (7芯导线示意图)

Wiring Diagram: (I)

4-20mA-A/0-20mA-A【带故障信号输出】



0-5V-A/1-5V-A/0-10V-A/2-10V-A【带故障信号输出】



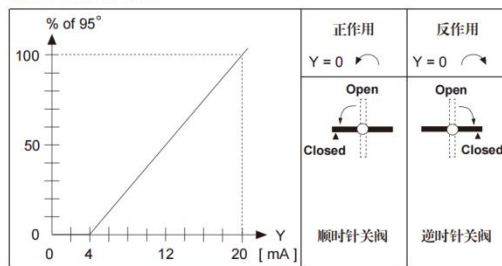
控制说明-【带故障信号输出-9芯线】

- 1、为供电端。
- 2、为控制反馈端，此三线禁止接电源，※否则会导致控制模块损坏。
- 3、**RD/BU**之前请确认工作电压，※否则会导致控制模块损坏。
- 4、**GY/WT/BR**控制输入端：4-20mA，0-20mA，0-5V，0-10V，2-10V，输入阻抗参考所对应接线图。
- 5、是反馈输出端：4-20mA。
- 6、 $V_{out}=I_{out} \cdot R_x$
 Δ R_x 建议使用低温漂电阻
 Δ $V_{out} \leq 8V$ 故而 $R_x \leq 400\Omega$ （推荐 $V_{out}=5V$ ，即 $R_x=250\Omega/0.25W$ ）。
- 7、※4-20mA/1-5V/2-10V可通过“用户设置”设置无控制信号阀门执行的动作：全开、全关、保持。其他控制方式入0-20mA，0-5V/0-10V则设置无效。
- 8、执行器被卡住或者其他运转故障，故障信号输出。触点带载能力：0.1A/DC24V，50mA/230V。
- 9、0-10V输出带载能力 $\geq 10K\Omega$ ，而且导线长度和电阻会对精度有影响，请用较小的导线电阻。



图2 (9芯导线示意图)

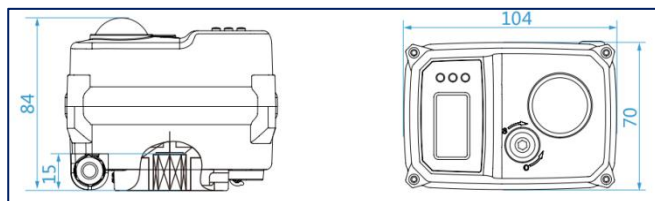
转角-控制信号示意图



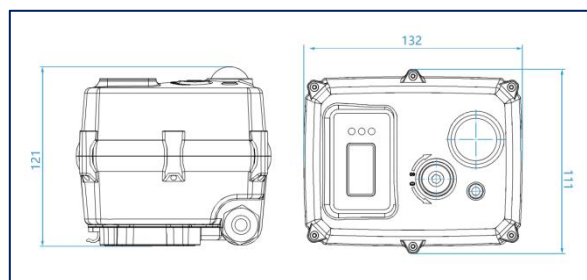
Dimension Chart

Actuator Dimension Chart

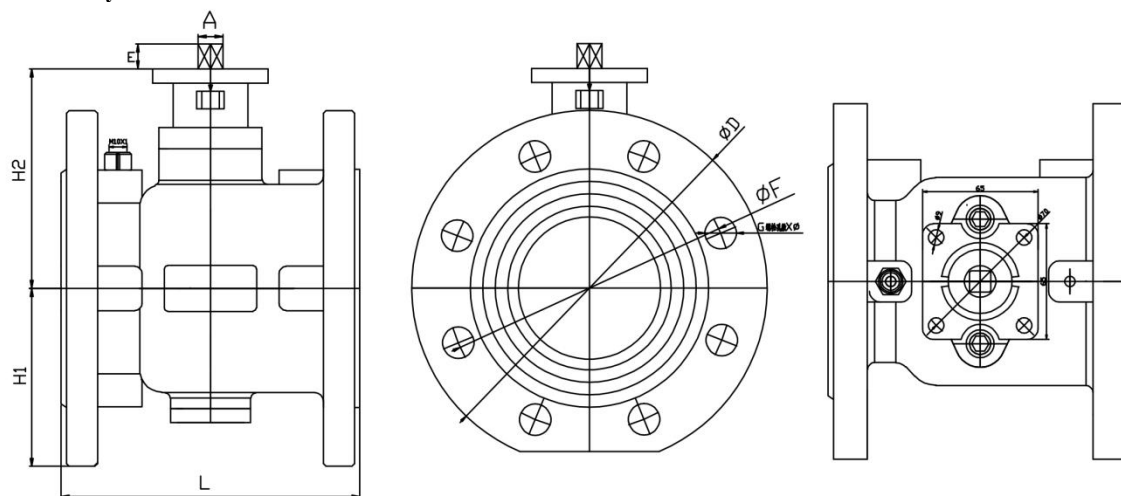
ZTC-02 Type:



ZTC-05 Type:



Valve Body Dimension Chart



Nominal Diameter	H1	H2	D	L	E	F	G	A	KVS value
DN40	61	119.5	150(118)	136	14	110	4×18	14×14	25
DN50	66	121	165(137)	136	14	125	4×18	14×14	50
DN65	73	127.5	185(143)	136	14	145	4×18	14×14	63
DN80	92	138.5	200	169	14	160	8×18	14×14	100
DN100	101	154.5	220	183	14	180	8×18	14×14	140
DN125	115	167	250	214	14	210	8×18	14×14	230
DN150	135.5	180	285	248	14	240	8×22	14×14	320