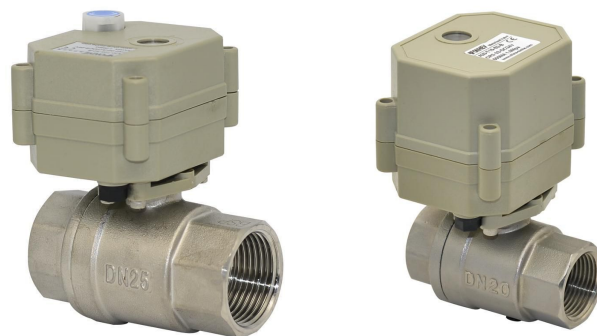




**Tonhe A20-T Series**  
**Electric Shut off Ball Valve**



**Application**

- Water meter , water leak detection system and water treatment etc equipment
- HAV and fire works. Automatic drain system
- Irrigation ect small control equipment

**TG ELECTRONICS**  
 Blåbærdalen 30 6518 Kristiansund  
 Tele:+47 91795392  
 e-post: [post@tgelectronics.no](mailto:post@tgelectronics.no) [www.tgelectronics.no](http://www.tgelectronics.no)

**Technical Parameters:**

Product size	<input type="checkbox"/> NPT/BSP 1/4" <input type="checkbox"/> NPT/BSP 1/2" <input type="checkbox"/> NPT/BSP 3/4" <input type="checkbox"/> NPT/BSP 1" <input type="checkbox"/> NPT/BSP 1 1/4" (Optional )
Maximum working pressure	1.3 MPa
Circulation medium	Fluid, air
Rated voltage	<input type="checkbox"/> DC5V/ <input type="checkbox"/> DC12V <input type="checkbox"/> DC24V <input type="checkbox"/> AC/DC9-24V <input type="checkbox"/> AC/DC-35V <input type="checkbox"/> AC110-230V

	(Optional)
Wiring control methods	<input type="checkbox"/> CR2-01 <input type="checkbox"/> CR2-02 <input type="checkbox"/> CR3-01 <input type="checkbox"/> CR3-02 <input type="checkbox"/> CR3-03 <input type="checkbox"/> CR3-04 <input type="checkbox"/> CR4-01 <input type="checkbox"/> CR5-01 <input type="checkbox"/> CR5-02 <input type="checkbox"/> CR7-01 <input type="checkbox"/> CR7-02 <input type="checkbox"/> CR7-04 (Optional)
Working current	≤500MA
Open/close time	≤5S
Life time	70000 times
Valve Body material	<input type="checkbox"/> Brass <input type="checkbox"/> Nickel plated Brass <input type="checkbox"/> 304 Stainless steel (Optional)
Actuator material	Engineering Plastics
Sealing material	EPDM & PTFE
Actuator rotation	90°
Max. torque force	2 N.m
Cable Length	0.5m,1.5m (Optional)
Environment temperature	-15℃~50℃
Liquid temperature	2℃~90℃
Manual override	<input type="checkbox"/> Yes No (Optional)
Indicator	<input type="checkbox"/> Yes No (Optional)
Protection class	IP67

### Assembly Drawing :

PART CODE :

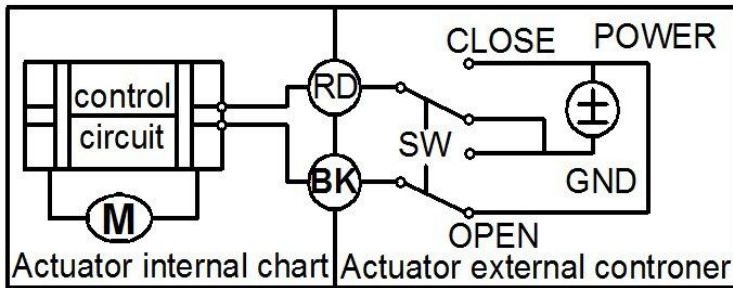
No.	NAME	Material	Specification	Quantity
9	O-ring	FEM		2
8	Stem	stainless steel	304	1
7	Gasket	PTFE		1
6	Ball	stainless steel	304	1
5	Sealing	PTFE		2
4	Sealing	PTFE		1
3	O-ring	FEM		2
2	Body Cover	stainless steel	304	1
1	Actuator	PPO		1

DESCRIPTION	D1/D2	d	L1	L2	E1	H1	H2
T25(1") Electric valve	1"	25	81	18	38	95	24
T20(3/4") Electric valve	3/4"	20	72	17	31	87	20
T15(1/2") Electric valve	1/2"	15	63	14	25	83	17

MATERIAL	DRW & DATE	TITLE	MODEL NO
QTY/SET		<b>A20</b> <b>Electric valve</b>	
FINISH	CHK & DATE		
TREATMENT	APPD & DATE		
COLOR			
UNIT	MM	SCALE	DRG NO/POD REF NO

## Wiring diagram

### CR2 01 Wiring Diagram ( 2 wires control )



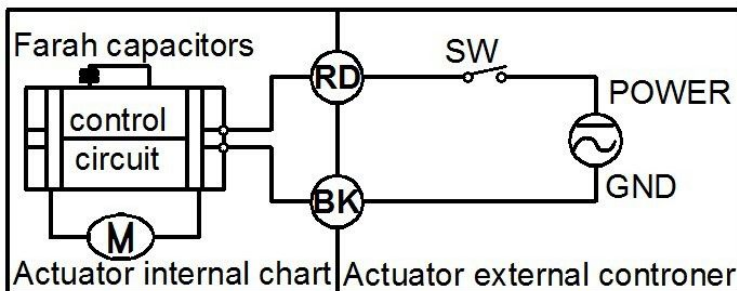
·RD connect with positive, the BK connect with negative, the valve closed, the actuator automatically power off after in place , the valve remains fully closed position .

·BK connect with positive, the RD connect with negative, the valve open, the actuator automatically power off after in place, the valve remains fully open position .

\* Suitable Working Voltage: DC5V/DC12V/DC24V

\* Exceeding the working voltage is forbidden

### CR2 02 Wiring Diagram ( 2 wires control – Spring return in case of the power is failure)



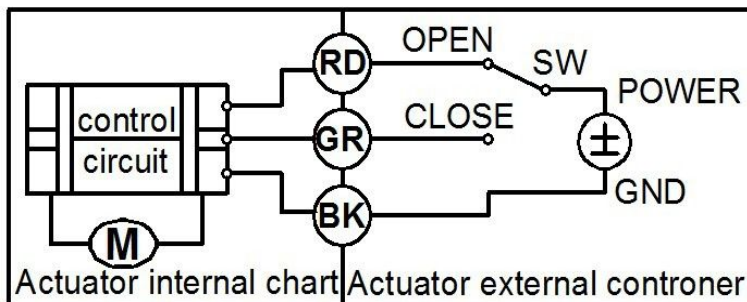
·When SW is closed , the valve open. the actuator automatically power off after in place

·When SW is open, the valve closed, the actuator automatically power off after in place

\* Suitable Working Voltage: **AC/DC9-24V, AC/DC110V-230V,AC/DC9-35V(with manual override).**

\* Exceeding the working voltage is forbidden

### CR3 01 Wiring Diagram ( 3 wires control )



·RD & GR connect with positive, BK connect with negative

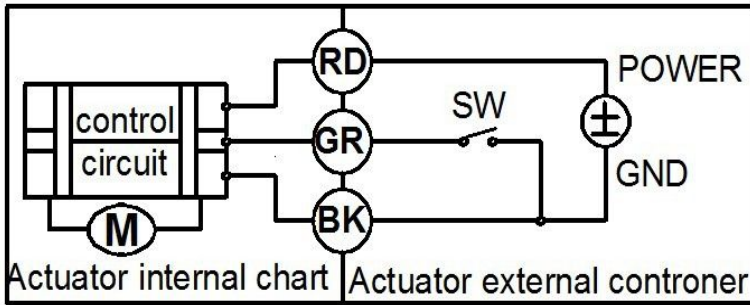
·When OPEN( RD) & SW connected , the valve open, the actuator automatically power off after in place , valve remains fully open position

·When CLOSE(GR) & SW connected, the valve closed, the actuator automatically power off after in place, valve remains fully closed position.

\* Suitable Working Voltage: DC5V/DC12V/DC24V/AC/DC9-35V

\* Exceeding the working voltage is forbidden

### CR3 02 Wiring Diagram (3 wires control )



·RD connect with positive, the BK & GR connect with negative

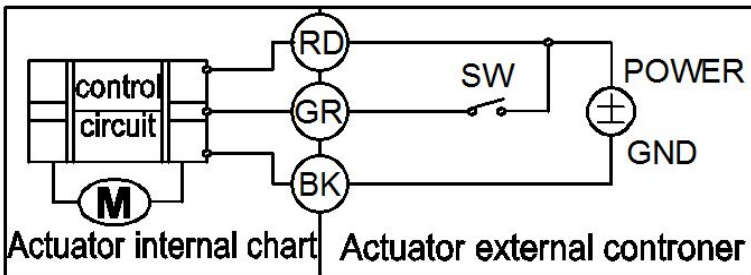
·SW CLOSED, the valve OPEN, the actuator automatically power off after in place.

·SW OPEN, the valve CLOSED, the actuator automatically power off after in place.

\* Suitable Working Voltage: DC9-35V

\* Exceeding the working voltage is forbidden

### CR3 03 Wiring Diagram (3 wires control)



·RD& GR connect with positive, the BK connect with negative.

·SW CLOSED, the valve OPEN, the actuator automatically power off after in place

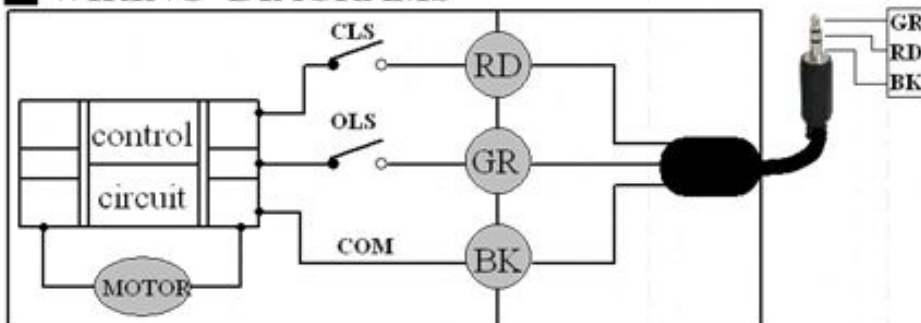
·SW OPEN, the valve CLOSED, the actuator automatically power off after in place.

\* Suitable Working Voltage: AC/DC9-35V/AC110-230V

\* Exceeding the working voltage is forbidden

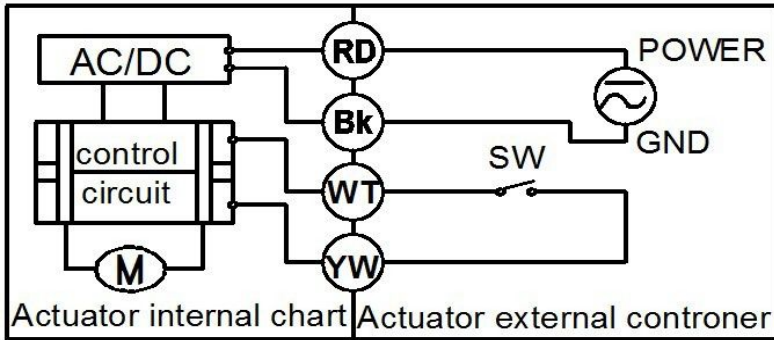
### CR3 04 Wiring Diagram ( 3 wires control )

#### ■ WIRING DIAGRAMS



- RD & GR connected with positive, and the BK connected with negative
- When RD & SW connected, the valve closed, the actuator automatically power off after in place , remains fully closed position
- When GR & SW connected, the valve open, the actuator automatically power off after in place , remains fully open position.
- \* Suitable Working Voltage: DC5V/DC12V/AC/DC9-35V
- \* Exceeding the working voltage is forbidden

### CR4 01 Wiring Diagram ( 4 wires control )



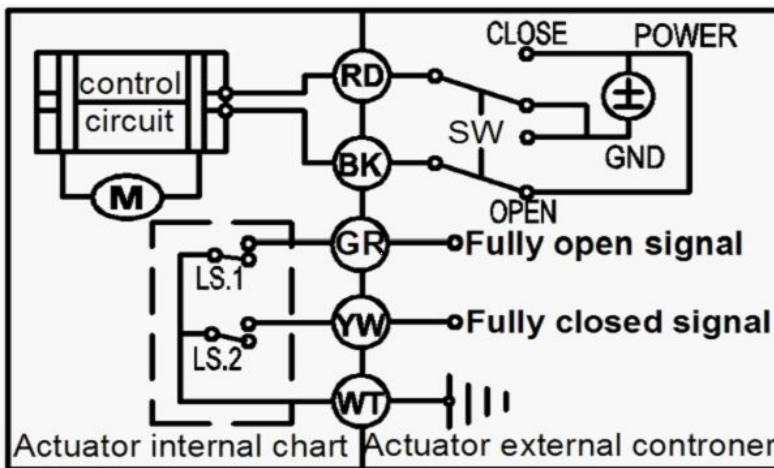
1. RD & BK are connected to the power, WT & YW are connected to the controlled wiring.
2. When the SW is closed , the valve open
3. When the SW is open , the valve closed

Suitable Working Voltage: **AC/DC110V-230V**

Exceeding the working voltage is forbidden

The control wiring with power DC5V , when multiple motorized valves are working in parallel , must put the same color control wiring together, otherwise the valve could working normally .

### CR5 01 Wiring diagram ( with feedback signal)

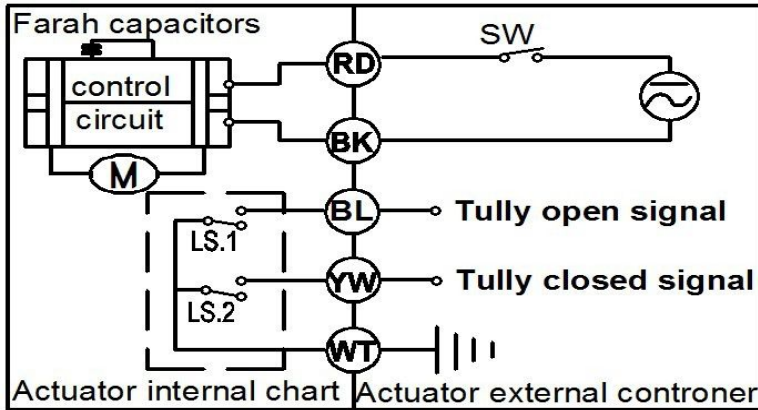


1. RD connect with positive, the BK connect with negative, the valve closed, the actuator automatically power off after in place .
- 2 BK connect with positive, the RD connect with negative. the valve open, the actuator automatically power off after in place .
- 3 GR & WT are connect when the valve open fully, YW & WT are connect when the valve closed fully

Suitable Working Voltage: DC5V/DC12V/DC24V

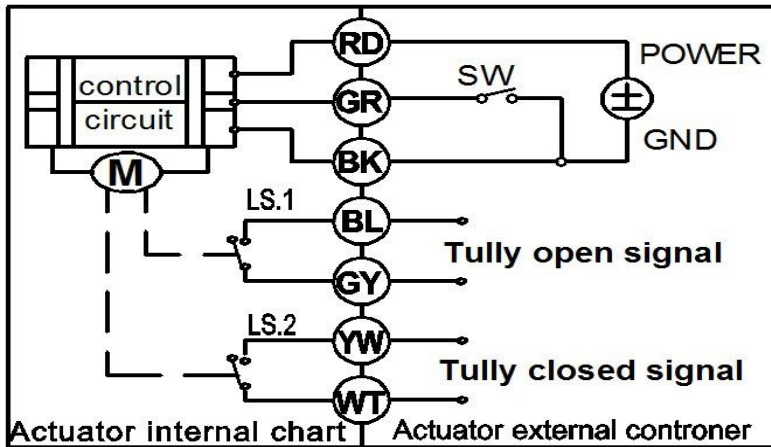
Exceeding the working voltage is forbidden

### CR5 02 Wiring diagram ( with feedback signal)



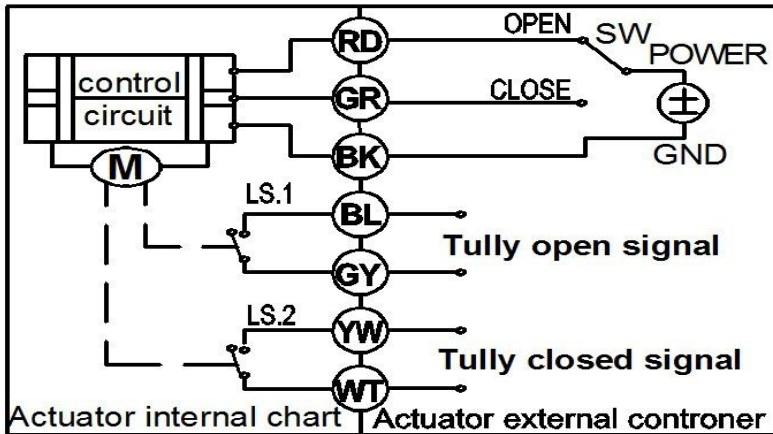
- When SW is closed , the valve open. the actuator automatically power off after in place
- When SW is open, the valve closed, the actuator automatically power off after in place
- \* BL & WT are connect when the valve open fully, YW & WT are connect when the valve closed fully
- \* Suitable Working Voltage: **AC/DC9-24V, AC/DC9-35V, AC/DC110V-230V**
- \* Exceeding the working voltage is forbidden

### CR7 01 Wiring Diagram ( 7 wires control with feedback signal )



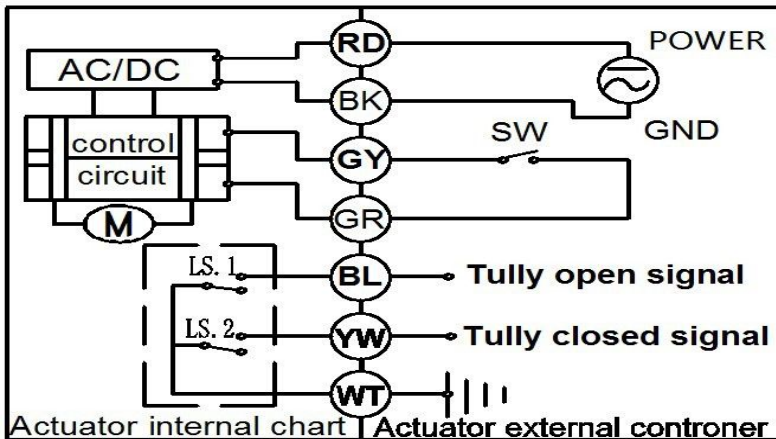
- RD connect with positive
- GR connect with SW and negative wiring
- BK connect with negative wiring
- SW open. the valve open, and keeping fully open.
- SW closed. the valve closed, and keeping fully closed.
- BL & GY connect with the valve's fully open signal wiring
- YW & WT connect with the valve's fully closed signal wiring.
- \* Suitable Working Voltage: DC5V, DC12V, DC24V, AC/DC9-35V(wide input range voltage,)
- \* Exceeding the working voltage is forbidden
- ※ Feedback with load ability:
- ① The Max. off voltage: DC36V AC220V
- ② The Max. off current:  $\leq 0.4A$

### CR7 02 Wiring Diagram ( 7 wires control with feedback signal )



1. RD & GR connect with positive, the BK connect with negative
  2. When RD & SW connected, the valve open, the actuator automatically power off after the valve fully open.
  3. When GR & SW connected, the valve closed, the actuator automatically power off after the valve fully closed,.
  4. BL & GY connect with the valve's fully open signal wiring
  5. YW & WT connect with the valve's fully closed signal wiring
- \* Suitable Working Voltage: DC5V/DC12V/DC24V  
 \* Exceeding the working voltage is forbidden
- ※ Feedback with load ability:
- ① The Max. off voltage: DC36V AC220V
  - ② The Max. off current:  $\leq 0.4A$

### CR7 04 Wiring Diagram ( 7 wires control with feedback signal )



- RD & BK are connected to the power, WT & YW are connected to the controlled wiring.
  - When the SW is closed , the valve open
  - When the SW is open , the valve closed
  - BL & GY connect with the valve's fully open signal wiring
  - YW & WT connect with the valve's fully closed signal wiring.
- Suitable Working Voltage: **AC/DC110V-230V**  
 Exceeding the working voltage is forbidden

**Quality assurance:**

This company pledged seriously:

The product sells in one year, in meets under the regular service condition, will have the quality problem free to fix or replace the products.

The following situation does not belong to the above scope:

- ◆ Unusual use
- ◆ The valve ball wears seriously
- ◆ Outside breakage.



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