A20-S Series 2 Way SS304 Timer Drain Valve

INSTRUCTION MANUAL

DELCO

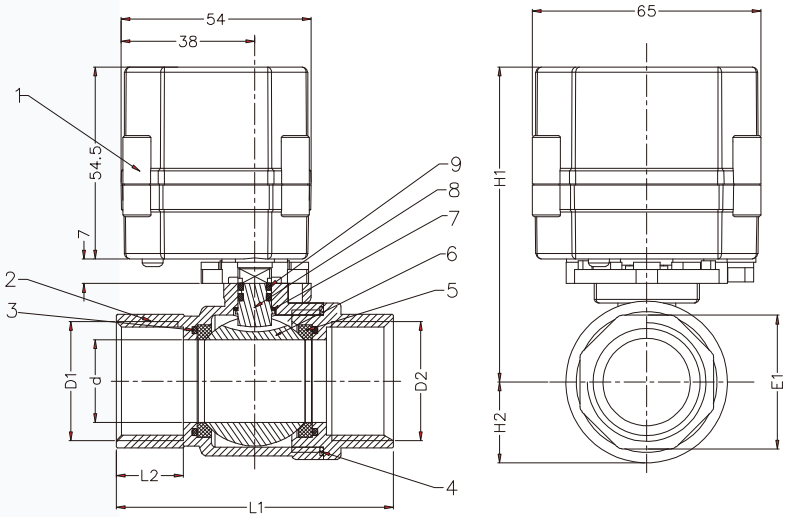
Specialized Control Valve Manufacturer

A20-S SERIES 2 Way SS304 Timer Drain Valve

Introduction

Precision small electric ball valve, the connection between the ball valve and the actuator adopts a direct connection method. The electric actuator has a built-in servo system and does not require a separate servo amplifier. It can control the operation by inputting a 4-20mA signal and a 220V AC power supply. It has the advantages of simple connection, compact structure, small size, light weight, low resistance, stable and reliable action.

Main Parts Materials



UNIT:mm

NO.	Name	Material
01	Actuator	PPO
02	Body & Cover	Stainless Steel
03	O-Ring	FKM
04	Swaling	PTFE
05	Swaling	PTFE
06	Ball	Stainless Steel
07	Gasket	PTFE
08	Stem	Stainless Steel
09	O-Ring	FKM

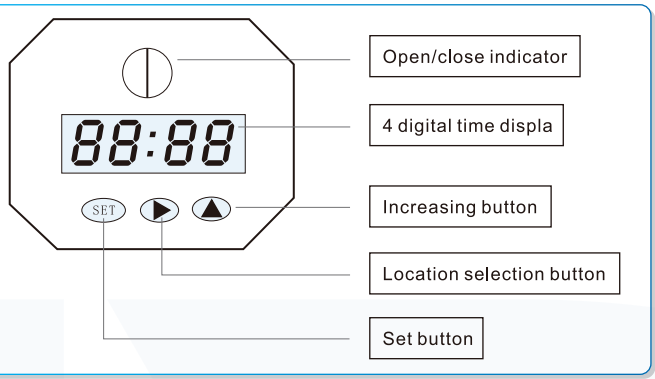
Dimension

DESCRIPTION	D1/D2	d±0.3	L1±1	L2±1	E1±0.5	H1±1	H2
8-S2-C	1/4"	10	51	12	21	82.5	14
10-S2-C	3/8"	10	51	12	21	82.5	14
15-S2-C	1/2"	15	62	14	25	84.5	17
20-S2-C	3/4"	20	72	17	31	88	20
25-S2-C	1"	25	79	18	38	91	24.5

Technical Parameters

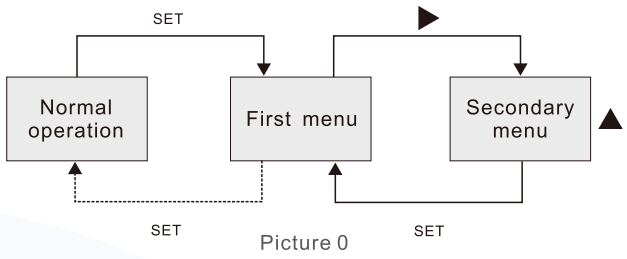
Valve Size	NPT/BSP 1/2" 3/4" 1" (Optional)
Maximum Working Pressure	1.0 MPa
Circulation Medium	Fluid，air
Valve Open/Closed Time	≤ 7S
Working Voltage	DC5V、DC12V、DC24V、DC/AC9-24V、AC/DC110-230V
Keeping Valve Open Time	00:00:00~99:59:59 S
Keeping Valve Closed Time	00:00:00~99:59:59 S
Working Current	≤500mA
Life Time	70000 times (testing pressure is 0.4MPa, medium is water)
Valve Body Material	SS304 SS316(Optional)
Actuator Material	PPO
Sealing Material	FKM & PTFE
Actuator Rotation	90°
Torque Force	4N.m
Cable Length	0.5m ,1.5m(Optional)
Environment temperature	-15℃ ~ 50℃
Liquid Temperature	2℃ ~ 90℃
Manual Operation	Yes
Open/Close Indicator	Yes
Protection Class	IP67

Description Operatoc Panel



Operating Manual

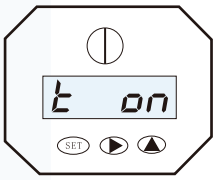
Actuator parameter setting have two menu structures on below:
Function code (fist menu),
The setting parameters of function code (secondary menu)



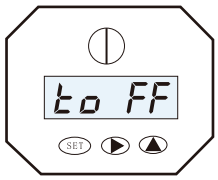
Picture 0

Secondary Menu Operation Flowchart

Function Code	Content	Value	Unit	Remarks
TON	Valve Keeping Open Time	00:00:00-99:59:59	H:M:S	
TOFF	Valve Keeping Open Time	00:00:00-99:59:59	H:M:S	
PONS	Power-On Action	ON/OFF	14	
CNT	Valve Keeping Open Time	0-9999	Times	The total number of open & close times from use to view the menu

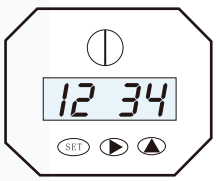


Picture1



Picture2

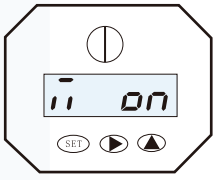
1、Press SET 4 seconds and enter to first menu, the screen display picture 1 text (t on) , indicating enter to set the valve keeping open state .
Press SET again, the screen display picture 2 text (t o FF) ,indicating enter to set the valve keeping closed state .



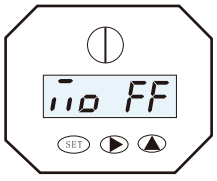
Picture3

Picture4

2、Press then the ▶ after entering the stetting state , showing the valve keeping time for setting (Set the valve keeping open time in ton state. Set the valve keeping closed time in toFF state) . Select flashing bit by pressing ▶ , and change the numerical by pressing ▲ .When " : " is flashing , indicate setting "HS (hours) :MS(minutes)", and change the flashing fit by pressing ▶ .When the " : " is bright , indicate setting " MS(minutes) :SS(seconds) " . The data will be deposited in the valve controller after completing the setting .Press SET when finish setting , will return fist menu , press SET again , enter to next fist menu to set parameters .



Picture5



Picture6

3、Press the SET & ▶ , the screen display picture 5 , indicating open the valve manually.
Press the SET & ▲ , the screen display picture 6, indicating closed the valve manually .
Exit manual mode to press the SET & ▶ or SET & ▲ . And go the power -on action .
4、Press SET to enter the setting menu, the interface shows Cnt, Press ▶ to enter, at this time the screen shows the on-off valve,The number of times, one open and one close count,close and open valve by manually does not count, up to 9999 times. Press ▶ on the counting screen, and the number flashes. Thenpress ▲ to clear the counting.
5、After three times, the screen displays ERR1 and the buzzer alarms. Press any key to manually disactivate the alarm and press ▶ to exit the alarm mode.

Actuator Model

A20-A
No indicator &
manual override

A20-B
With indicator &
manual override

A20-C
Indicator only

Naming Scheme For Electric Ball Valve

A100 T32 S2 C

Actuator model

A20
A100
A150
B150
E20(Battery power)

Control type

T : on/off type
M: Modulating type
S : Timer drain type
L : Lora wireless control

Valve size

DN8 ,DN10 ,DN15
DN20,DN25 ,DN32
DN40,DN50

Valve body channel

2 way
3 way

Valve material

B : Brass
S : Stainless steel
P : PVC or plastic
N: Nickel plated brass

Manual override & Indicator

A:No indicator &manual override
B:With indicator &manual override
C:Indicator only

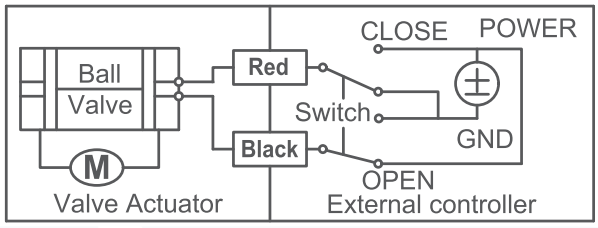
Manual Operation Instruction

- The manual function can only use in the power failure situation
- Lift the manual knob and confirm the direction of rotation. The valve is opened in the direction of “O" and closed in the direction of"S". Stop rotating after observing the indication mark in place.
- Press the handwheel after manual operation ,otherwise the gearwill be damaged

Manual Operation Instruction

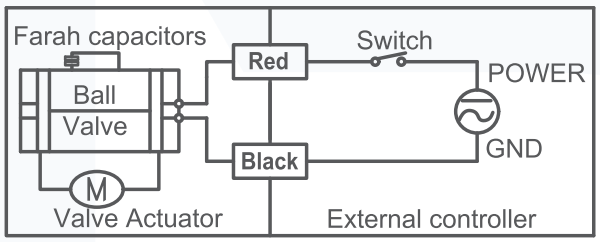
Wiring Diagram

CR 201 Wiring Diagram（2 Wires Control）



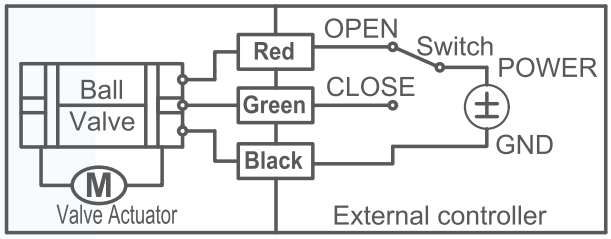
·Red connect with positive, the Black connect with negative, the valve closed, the actuator automatically power off after in place , the valve remains fully closed position
·Black connect with positive, the Red connect with negative, the valve open, the actuator automatically power off after in place, the valve remains fully open position
* Suitable Working Voltage: DC5V,DC12V,DC24V
* Exceeding the working voltage is forbidden

CR 202Wiring Diagram（2 Wires Control-Capacitors return in of the power is failure）



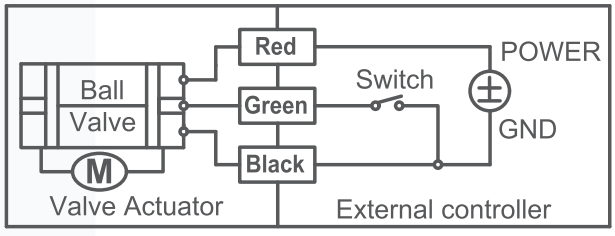
·When SW is closed , the valve OPEN. the actuator automatically power off after in place
·When SW is open, the valve CLOSED, the actuator automatically power off after in place
* Suitable Working Voltage: AC/DC9-24V AC/DC110-230V
* Exceeding the working voltage is forbidden

CR 301 Wiring Diagram（3 Wires Control）



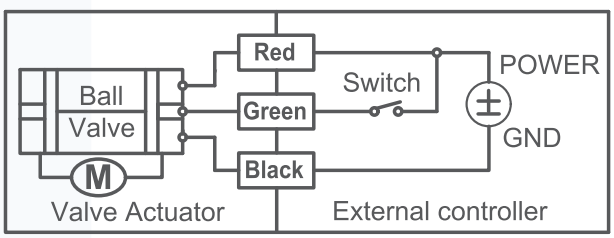
·Red & Green connect with positive, Black connect with negative
·When OPEN(Red) & SW connected , the valve OPEN, the actuator automatically power off after in place , valve remains fully open position
·When CLOSE(Green) & SW connected, the valve CLOSED, the actuator automatically power off after in place, valve remains fully closed position
* Suitable Working Voltage: DC5V,DC12V,DC24V
* Exceeding the working voltage is forbidden

CR 302 Wiring Diagram（3 Wires Control）



·Red connect with positive, the Black & Green 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: DC9-24V
* Exceeding the working voltage is forbidden

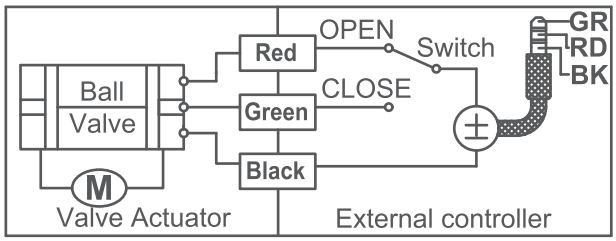
CR 303 Wiring Diagram（3 Wires Control）



·Red & Green connect with positive, the Black 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: DC12V,DC24V,AC/DC9-24V,AC/DC110-230V,AC/DC9-29V
* Exceeding the working voltage is forbidden

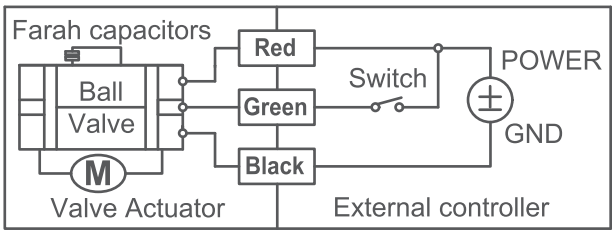
Wiring Diagram

CR 304 Wiring Diagram（3 Wires Control）



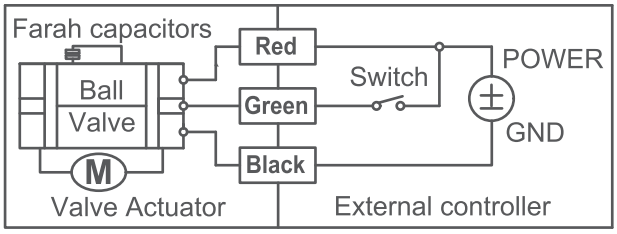
·Red & Green connected with positive, and the Black connected with negative
·When Red & SW connected, the valve closed, the actuator automatically power off after in place , remains fully closed position
·When Green & SW connected, the valve open, the actuator automatically power off after in place , remains fully open position
* Suitable Working Voltage: DC5V,DC12V, DC9-24V
* Exceeding the working voltage is forbidden

CR 305 Wiring Diagram（3 Wires Control-Capacitors return incase of the power is failure）



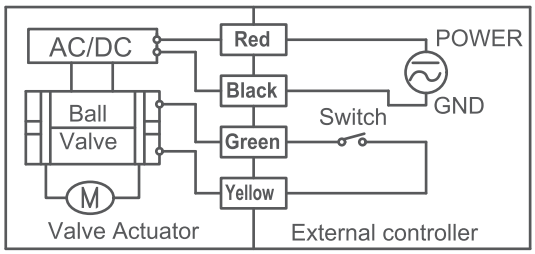
·Red & Green connect with positive, the Black connect with negative
·SW CLOSED, the valve OPEN, the actuator automatically power off after in place
·SW OPEN, the valve CLOSED, the actuator automatically power off after in place
When external power off, the valve CLOSED, the actuator automatically power off after in place
* Suitable Working Voltage: AC/DC9-24V,AC/DC110-230V
* Exceeding the working voltage is forbidden

CR 306 Wiring Diagram（3 Wires Control-Capacitiors return in case of the power is failure）



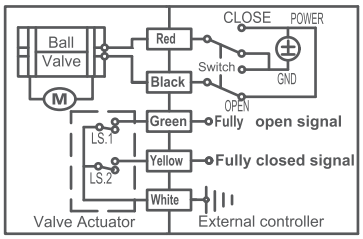
·Red & Green connect with positive, the Black connect with negative
·SW CLOSED, the valve OPEN, the actuator automatically power off after in place
·SW OPEN, the valve CLOSED, the actuator automatically power off after in place
When external power off, the valve OPEN, the actuator automatically power off after in place
* Suitable Working Voltage: AC/DC9-24V,AC/DC110-230V
* Exceeding the working voltage is forbidden

CR 401 Wiring Diagram（4 Wires Control）



·Red & Black are connected to the power, Green & Yellow are connected to the controlled wiring
·When the SW is closed , the valve open
·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 muitiple motorized valves are working in paralled , must put the same color control wiring together, otherwise the valve could not working normally

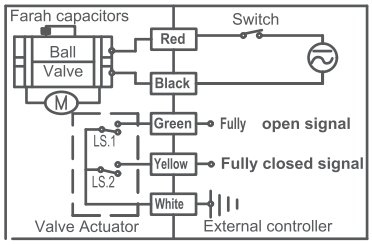
CR 501 Wiring Diagram（5 Wires Control with feedback signal）



·Red connect with positive, the Black connect with negative, the valve closed, the actuator automatically power off after in place
·Black connect with positive, the Red connect with negative, the valve open, the actuator automatically power off after in place
·Green & White connect with the valve's fully open signal wiring
·Yellow & White connect with the valve's fully closed signal wiring
Suitable Working Voltage:DC5V,DC12V,DC24V
Exceeding the working voltage is forbidden

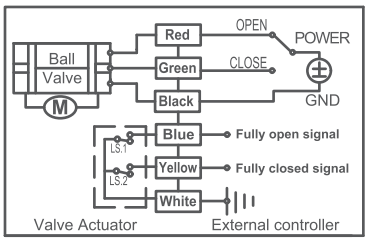
Wiring Diagram

CR 502 Wiring Diagram（5 Wires Control-Capacitors return in case of the power is fallure & feedback signal）



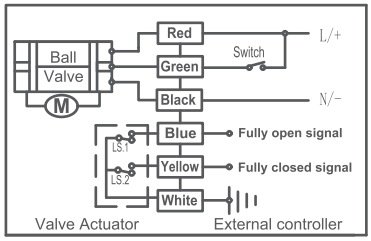
·When SW is closed , the valve OPEN. the actuator automatically power off after in place
·When SW is open, the valve CLOSED, the actuator automatically power off after in place
·Green & White connect with the valve's fully open signal wiring
·Yellow & White connect with the valve's fully closed signal wiring
* Suitable Working Voltage: AC/DC9-24V, AC/DC110V-230V
* Exceeding the working voltage is forbidden

CR 602 Wiring Diagram（6 Wires Control with feedback signal）



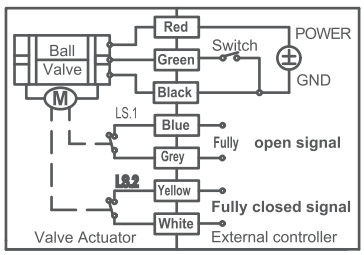
·Red & Green connect with positive, the Black connect with negative
·When Red & SW connected, the valve OPEN, the actuator automatically power off after the valve fully open
·When Green & SW connected, the valve CLOSED, the actuator automatically power off after the valve fully closed
·Blue & White connect with the valve's fully open signal wiring
·Yellow & White connect with the valve's fully closed signal wiring
* Suitable Working Voltage: ,DC12V,DC24V AC24V DC12-24V
* Exceeding the working voltage is forbidden

CR 603 Wiring Diagram（6 Wires Control with feedback signal）



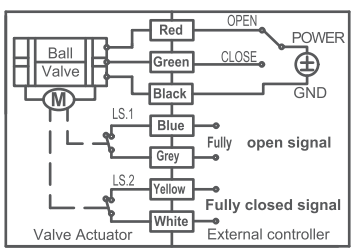
Red & Green connect with positive, the Black connect with negative
·SW CLOSED, the valve OPEN, the actuator automatically power off after in place
·SW OPEN, the valve CLOSED, the actuator automatically power off after in place
·Blue & White connect with the valve's fully open signal wiring
·Yellow & White connect with the valve's fully closed signal wiring
* Suitable Working Voltage: DC12V, DC24V
* Exceeding the working voltage is forbidden
* Feedback signal load capacity: 1, voltage: DC0-35V, 2, the maximum current is 0.4A.

CR 701 Wiring Diagram（7 Wires Control with feedback signal）



·Red connect with positive
·Green connect with SW and negative wiring
·Black connect with negative wiring
.When SW close. the valve OPEN, and keeping fully open
.When SW open. the valve CLOSED, and keeping fully closed
.Blue & Grey connect with the valve's fully open signal wiring
.Yellow & White connect with the valve's fully closed signal wiring
* Suitable Working Voltage: DC9-24V
* Exceeding the working voltage is forbidden
* Feedback with load ability:
①The Max. off voltage: DC36V AC220V

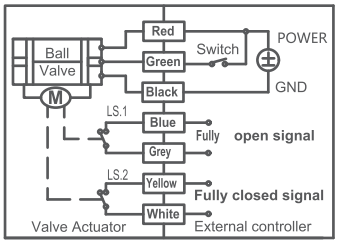
CR 702 Wiring Diagram（7 Wires Control with feedback signal）



·Red & Green connect with positive, the Black connect with negative
·When Red & SW connected, the valve OPEN, the actuator automatically power off after the valve fully open
·When Green & SW connected, the valve CLOSED, the actuator automatically power off after the valve fully closed
·Blue & Grey connect with the valve's fully open signal wiring
·Yellow & White 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: ≤0.4A

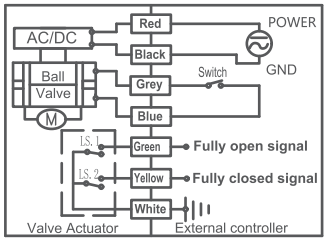
Wiring Diagram

CR 703 Wiring Diagram（7 Wires Control with feedback signal）



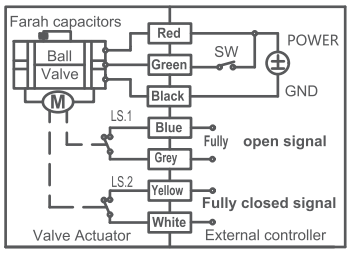
·Red & Green connect with positive, the Black connect with negative
·SW CLOSED, the valve OPEN, the actuator automatically power off after in place
·SW OPEN, the valve CLOSED, the actuator automatically power off after in place
·Blue & Grey connect with the valve' s fully open signal wiring
·Yellow & White connect with the valve' s fully closed signal wiring
* Suitable Working Voltage: DC12V,DC24V,AC/DC9-24V,AC110-230V
* Exceeding the working voltage is forbidden

CR704 Wiring Diagram（7 Wires Control with feedback signal）



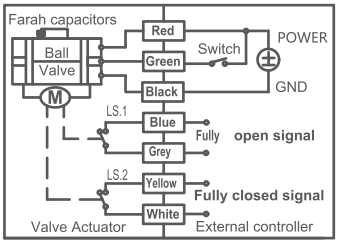
·Red & Black are connected to the power, Blue & Grey are connected to the controlled wiring
·When the SW is closed , the valve open
·When the SW is open , the valve closed
·Green & White connect with the valve's fully OPEN signal wiring
·Yellow & White connect with the valve's fully CLOSED signal wiring
Suitable Working Voltage: AC/DC110V-230V
Exceeding the working voltage is forbidden

CR705 Wiring Diagram（7 Wires Control-Capacitors return in case of the power is failure &feedback signal）



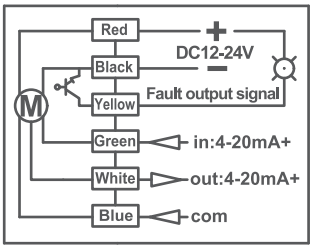
·Red & Green connect with positive, the Black connect with negative
·SW CLOSED, the valve OPEN, the actuator automatically power off after in place
·SW OPEN, the valve CLOSED, the actuator automatically power off after in place
·When external power off, the valve **closed**, the actuator automatically power off after in place
·Blue & Grey connect with the valve's fully open signal wiring
·Yellow & White connect with the valve's fully closed signal wiring
* Suitable Working Voltage: AC/DC9-24V,AC/DC110-230V
* Exceeding the working voltage is forbidden

CR706 Wiring Diagram（7 Wires Control Capacitors return in case of the power is failure & feedback signal）



·Red & Green connect with positive, the Black 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
·When external power off, the valve **open**, the actuator automatically power off after in place
·Blue & Grey connect with the valve's fully open signal wiring
·Yellow & White connect with the valve's fully closed signal wiring
* Suitable Working Voltage: AC/DC9-24V,AC/DC110-230V
* Exceeding the working voltage is forbidden

A150 SERIES MODULATING VALVE WIRE DIAGRAM



·Red connect +, Black -.
·Green connect input signal +(4-20mA, 0-5V, 0-10V) , Black connect input signal-.
·Yellow connect err output signal.Yellow & Red are disconnected when there is err.
·White connect 4-20mA output .

Seeking For Global Distributors

DELCO

Specialized Control Valve Manufacturer

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