KLD20S/SJ Mini Motorized Valve Manual

Ver:25.v1.r2

1 Technical Parameters

Series	Manual Override	Max Torque	Enclosure	Operating Time	Ambient ※3 Temp	Ambient Humidity	Service Life ※4	Medium pressure	Medium Temp.
20S	yes	2N.m	IP67 F type ※1	about ※2 5-7s	-20°C<t<45°C	IP67≤85%(non-condensing) F type>85%	about 70000 cycles	1.0MPa	0~100°C ※5
20SJ	no								

※1 F type [damp-proof, adding dehumidifying heater]As Per Q/12NK 4404-2023.

※2 Running time: Due to the influence of the valve body , qualified range: ±2s.
Running time of High-Speed : 2S.

※3 Customized when Operating at Ambient Temp. t>45°C or t<-20°C.
① t < -40°C, connect power at least 15 mins (30 mins recommend) before usage.
② t < -40°C for long time, add protection to the motorized valve(both actuator and valve), eg: heating cable.

※4 The service life is the testing data in the condition of 1.0Mpa, 200L/h, tap water as working medium. Different working occasions will influence the service life.

※5 It needs to add high-temperature bracket if medium temperature is over 100 °C.
CPVC valve, the medium Temp. is 0-90°C.

2 Wiring Electrical data

Wiring	Nominal voltage	Nominal voltage range	Power consumption
B2(J)※	DC5V	DC4.5-5.5V	3W
	DC12V	DC10-15V	
	DC24V	DC9-30V	4W
B3(J)/BD3(J)※ B33(J)/B44※	DC5V	DC4.5-5.5V	3W
	DC12V	DC10-15V	
	DC24V (fast running)	DC22-30V	10W
	AC/DC24V	AC9-26V/DC9-30V	4W
	AC220V	AC95-265V/DC100-300V	5W
B5	AC/DC24V	AC9-26V/DC9-30V	4W
	AC220V	AC95-265V/DC100-300V	5W
KT2(J)/KT32(J)※	AC/DC24V	AC9-26V/DC9-30V	5W
	AC220V	AC95-265V/DC100-300V	8W
KT2H(J)※	AC/DC24V	AC9-26V/DC9-30V	10W
	AC220V	AC95-265V/DC100-300V	13W

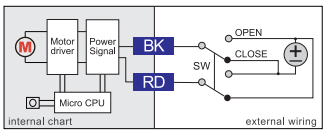
※ J：With feedback function.

3 Vibration amplitude

10 to 50HZ ≤ 1.0mm Double amplitude（Customized for special vibration occasions）.

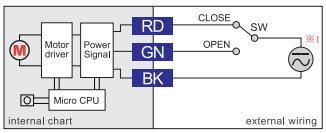
4 Wirings

B2



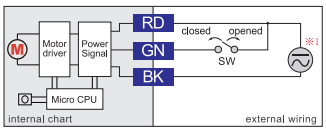
1. If SW is connected with [OPEN], the valve will open and keep on.
2. If SW is connected with [CLOSE], the valve will close and keep off.
3.Only DC power.

B3



1. If SW is connected with GN, the valve will open and keep on.
2. If SW is connected with RD, the valve will close and keep off.

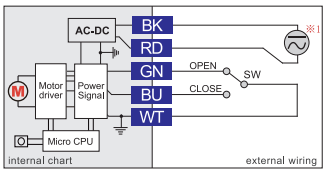
BD3



1. If SW is closed, the valve will open and keep on.
2. If SW is opened, the valve will close and keep off.

Notes: SW close means there is working current in circuit.

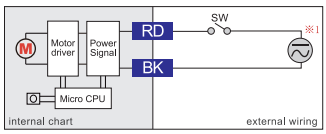
B5



1. If SW is connected with GN, the valve will open and keep on.
2. If SW is connected with BU, the valve will close and keep off.

Notes: Control cables (WT, BU, GN) are forbidden to be connected with power.

KT2 / KT2H (capacitor return)

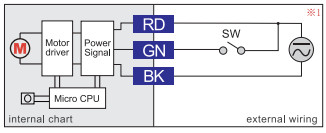


NC:Normally closed
1. If SW is closed, the valve will open and keep on.
2. If SW is opened, the valve will close and keep off.

NO: Normally open
1. If SW is opened, the valve will open and keep on.
2. If SW is closed, the valve will close and keep off.

Note: KT2: charging time>60s
(If user can not charge >60s, KT32 is recommended)
KT2H: fast charging

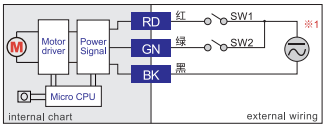
KT32 (capacitor return)



NC:Normally closed
1. If SW is closed, the valve will open and keep on.
2. If SW is opened, the valve will close and keep off.

NO: Normally open
1. If SW is opened, the valve will open and keep on.
2. If SW is closed, the valve will close and keep off.

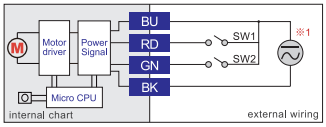
B33



SW1	SW2	Valve ball position 2-way	Valve ball position 3-way
connect	disconnect	full close	position 1
disconnect	connect	full open	position 2
connect	connect	customized position	position 3

1. Customized position can not be changed after factory setting.
2. Please refer to the "5 Flow Direction" for more valve postions.

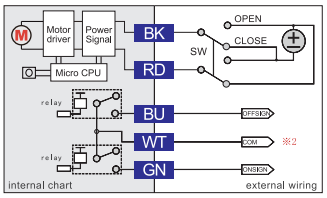
B44



SW1	SW2	Valve ball position 2-way	Valve ball position 3-way
disconnect	disconnect	full close	position1
connect	disconnect	customized position	position2
disconnect	connect	customized position	position3
connect	connect	full open	position4

1. Customized position can not be changed after factory setting.
2. Please refer to the "5 Flow Direction" for more valve postions.

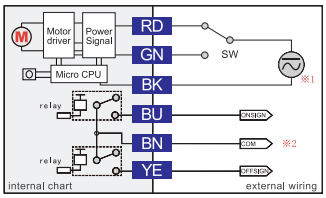
B2J



1. If SW is connected with [OPEN], the valve will open and keep on.When the valve is open completely,GN is connected with WT,giving opening signal.
2. If SW is connected with [CLOSE], the valve will close and keep off.When the valve is closed completely,BU is connected with WT,giving closing signal.
3.Only DC power.

Note: BU, WT and GN are not connected when the valve is rotating.

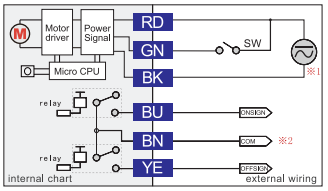
B3J



1. If SW is connected with GN, the valve will open and keep on.When the valve is open completely,BU is connected with BN,giving opening signal.
2. If SW is connected with RD, the valve will close and keep off.When the valve is closed completely,YE is connected with BN,giving closing signal.

Note: BU, BN and YE are not connected when the valve is rotating.

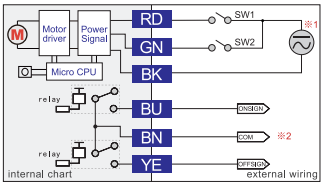
BD3J



1. If SW is closed, the valve will open and keep on.When the valve is open completely,BU is connected with BN,giving opening signal.
2. If SW is opened, the valve will close and keep off.When the valve is closed completely,YE is connected with BN,giving closing signal.

Note: BU, BN and YE are not connected when the valve is rotating.

B33J

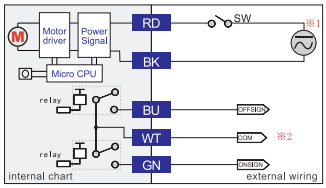


SW1	SW2	Valve ball position 2-way	Valve ball position 3-way	Feedback signal
connect	disconnect	full close	position 1	YE connect with BN
disconnect	connect	full open	position 2	BU connect with BN
connect	connect	customized position	position 3	YE BU connect with BN

1. Customized position can not be changed after factory setting.
2. Please refer to the "5 Flow Direction" for more valve postions.

Note: BU, WT and GN are not connected when the valve is rotating.

KT2J / KT2HJ

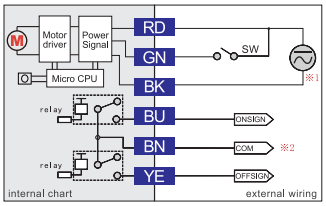


NC: Normally closed
1. If SW is closed, the valve will open and keep on. When the valve is open completely, GN is connected with WT, giving opening signal.
2. If SW is opened, the valve will close and keep off. When the valve is closed completely, BU is connected with WT, giving closing signal.

NO: Normally open
1. If SW is closed, the valve will close and keep off. When the valve is closed completely, BU is connected with WT, giving closing signal.
2. If SW is opened, the valve will open and keep on. When the valve is open completely, GN is connected with WT, giving opening signal.

Note 1: BU,WT and GN are not connected when the valve is rotating.
Note 2: KT2J: charging time ≥ 60s.（If user can not charge >60s, KT32 is recommended)
Note 3: After power cut, BU and WT will be disconnected after internal energy storage exhausted for the closing feedback.
Note4: KT2HJ: fast charging

KT32J



NC: Normally closed
1. If SW is closed, the valve will open and keep on.When the valve is open completely,BU is connected with BN,giving opening signal .
2. If SW is opened, the valve will close and keep off.When the valve is closed completely,YE is connected with BN,giving closing signal.

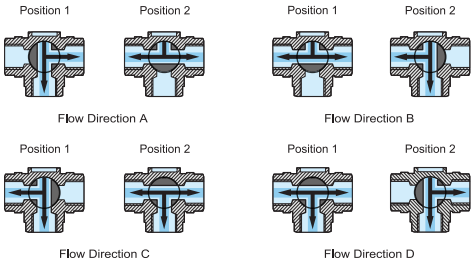
NO: Normally open
1. If SW is closed, the valve will close and keep off. When the valve is closed completely, YE is connected with BN, giving closing signal.
2. If SW is opened, the valve will open and keep on. When the valve is open completely, BU is connected with BN, giving opening signal.

Note 1: BU,BN and YE are not connected when the valve is rotating.
Note 2: After power cut, YE and BN will be disconnected after internal energy storage exhausted for the closing feedback.
If you need feedback after power cut, "S" type feedback is recommended.

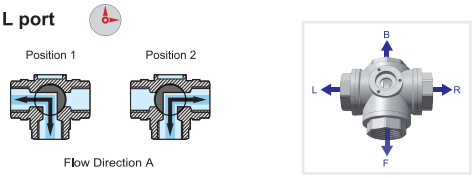
※1 ≂ means DC and AC voltage, when using DC, RD&GN is connected with positive, BK is connected with negative.
※2 The feedback signal is synchronous with valve positon.
Note 1:"J"means relay type feedback signa,after power cut the signal will disappear.
Note 2: Feedback signal contact load capacity:0.5A@30VDC, 0.1A@250VAC.

5 Flow Direction

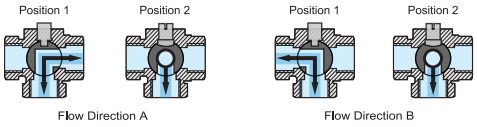
■ T port



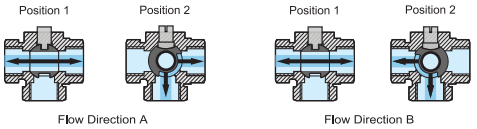
■ L port



■ single L 90°

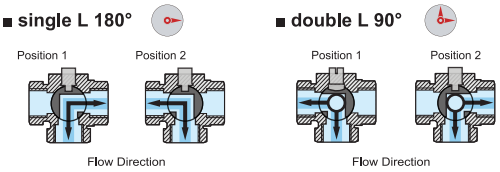


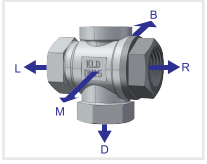
■ Simple groove ball



■ single L 180°

■ double L 90°

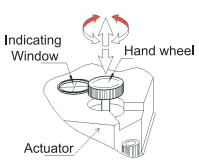




Note 1: When Angle of rotation is 180°, the running time is about 10 seconds.
Note 2: position 1 means open, position 2 means closed.
Note 3: Above are all common directions, pls contact us for other special directions.

6 Instructions for Manual Override

1. It is only permitted to use when power is cut.
2. Lift the hand-wheel, and turn it left or right until the valve is in place.
3. When the indicator on the indicator is horizontal, the valve is on; when vertical, the valve is off.
4. Press down hand-wheel after using manual override in order to work properly when power is supplied.



7 Warnings

1. Make sure voltage in practicable range. Working voltage means the voltage reaching valve. The circuit will be burned if surpassing the upper limit. Valve will have problem to work if lower than the range.
2. The terminal is for inspection on production line. Please cut it when using.
3. Switching power supply recommend, the power should refer to [2 Wiring Electrical data], and keep 20~30% surplus.
4. For heavy water scale applications, electric scale removing equipments should be installed, otherwise it will affect the valve service life.
5. If there is much heavy scale or sand in your working medium,filters should be installed, otherwise it will harm the seal and cause leakage.
6. Itis forbidden to install actuator upside-down, as picture.
7. For outdoors, please add protectivedevice.
8. Install the valve normatively without rudeness.
9. If there is a high-power motor or other high-power inductive load on the power supply circuit of the motorized valve, or if it is used in frequent thunderstorms occasions, it is necessary to install a lightning surge filter on the power supply circuit.



Wrong

8 Working environment

1.Indoor and outdoor are both optional.
2.For the non-explosion-proof products in this manual, ⚠ please do not use them in flammable and explosive environment.
3.You need to install protective device for the actuator if it is expossed to the rain or sunshine.
4.Please pay attention to the ambient temp.
5.When installing, you need to consider the reserved space for wiring and repairing.
6.When power on, ⚠ it is not allowed to dismantle actuator and valve.
7.When power on, ⚠ it is not allowed to do wiring.

※1 Absolutely no falling down the ground, which will hit the device and lead to improper operation.
※2 Absolutely no standing on the device, which will cause device malfunction or personal accident.
※3 It is forbidden to do wiring project in rainy day or when there is water splash.

9 Safety notice

1.In order to use the device safely for a long term, please pre-read the manual carefully to ensure correct use.
2.Notice item: Please understand the product specification and using method clearly to prevent personal safety danger or device damage.
3.Inorder to indicate damage and danger, here we classify them as "warning ⚠ " and "notice ※".
4.Both of contents are very important, which should be obeyed strictly.
5."Warning ⚠ ": It will cause death or serious injury if not obeyed.
6. "Notice ※⚠ ": It will cause slight injury or device damage if not obeyed.
7.Subject to technical changes.



Inform respectfully: The manual will be subject to change without notice.

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