

# ELECTRIC ACTUATOR DEVICES



SHIN YI VALVES CORP

# Electric actuator

## I .Profile:

Flowinn produces a series of electric actuators which can be remote controlled by wireless infrared; with digital display, failure alarm and self-inspection functions and complying with ISO5211 mounting connection, IP65/67/68 housing protection class and meet European CE requirement. Actuators with quarter and multi turn output, can be mounted with butterfly valves, ball valves, gate valves and similar devices of being turned etc.,. By means of signal of On /Off or modulating (0-10VDC; 2-10VDC; 4-20mA), we can easy operate actuators and which can be widely used to the piping of water supply, HVAC sys, industries of petrol, chemical, food, medicine, paper and power plant to reach the purpose of shut-off valve or modulating control.

## II .Technical Data:

Model	Power (W)	Max output torque(N-m)						Open/close time (Sec)	ISO5211 Std	Weight (Kg)	Remark
		AC24 V/50Hz 1 Phase		AC220V/50Hz 1Phase		AC380V/50Hz 3Phase					
		On/off	Modulating	On/off	Modulating	On/off	Modulating				
EOM1	10	20	35	26	—	—	13	F03 /F05 /F07	2.8	Square-wrench head can offer manual function	
EOMA	15	35	50	38	—	—	13	F03 /F05 /F07	3		
EOMB	15	60	80	60	—	—	25	F03 /F05 /F07	3.2		Without manual function
EOM2	40	60	80	60	80	60	19	F07	13	With handwheel and planetary gear design	
EOM3	40	100	200	150	220	165	40	F07	13		
EOM4	60	200	400	300	600	450	28	F10	20		
EOM5	60	250	600	450	800	600	39	F10 /F12	20		
EOM6	60	300	800	600	1000	750	47	F12	20		
EOM7	90	420	1000	750	1200	900	47	F12	20		
EOM8	250	—	1500	1050	1700	1200	33	F12 /F14	36		
EOM9	250	—	2000	1400	2200	1540	47	F12 /F14	36		
EOM10	250	—	3000	2250	3200	2400	74	F14 /F16	55		
EOM11	250	—	4000	3000	4200	3150	105	F16	55		

### Notice:

- ① The standard coating colour of actuators is orange . If want another coating colour, pls consult with sales department.
- ② Std input/output signal of modulating type actuator is 4-20mA. If want another control signal (0-10VDC or 2-10VDC.....), pls notify while placing order.
- ③ For all on/off type actuators, adopting a set of passive dry contact to indicate actuator position condition of fully open and close. For modulating type this contact is optional function.

### III. 90° turn actuator:



On Off type  
EOM2-11 series

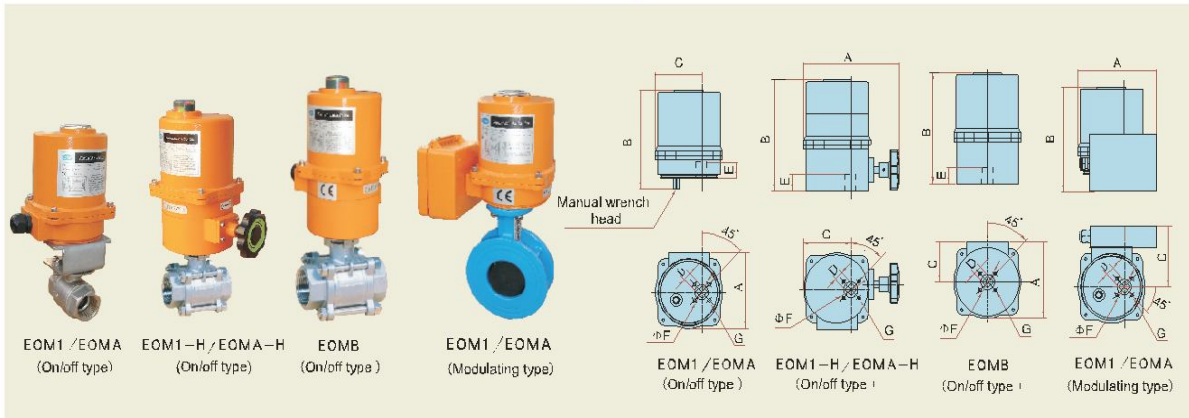
Modulating type  
EOM2-11 series

### I. EOM1, EOMA & EOMB series

#### Feature:

Light weight	AL alloy housing and compact design
Waterproof	Rubber seal between cover and basement to provide good waterproof function. Can be installed outdoor or submersible occasion.
Accurate position design	High machining accuracy to ensure longer lifecycle.

Motor overheating protection	Inner overheat protective component can automatically shut power off to prevent motor from damage when actuator over torque.
Small noise	High accurate gear machining and design
Manual operation	EOM1 and EOMA with manual operation function



#### Major parameter:

Power: AC24V / AC220V(±10%);50/60Hz .
Environment temp: -20~70 °C .
Related humidity: ≤90% (25 °C) .
Environment: Without any high corrosion and explosion medium.
Working time: Within 10min.
Input/output signal (modulation): 4~20mA (std configuration);0-10V & 2-10V is optional.
Housing protection class: IP65 (std configuration); IP67 & IP68 are optional.
Thermal protection: Open 125±5 °C , Close 85±5 °C
Motor: F class wiring .

Remark: IP68 means 15m under water level and duration time is 72 hours.

#### Dimension:

Unit: mm

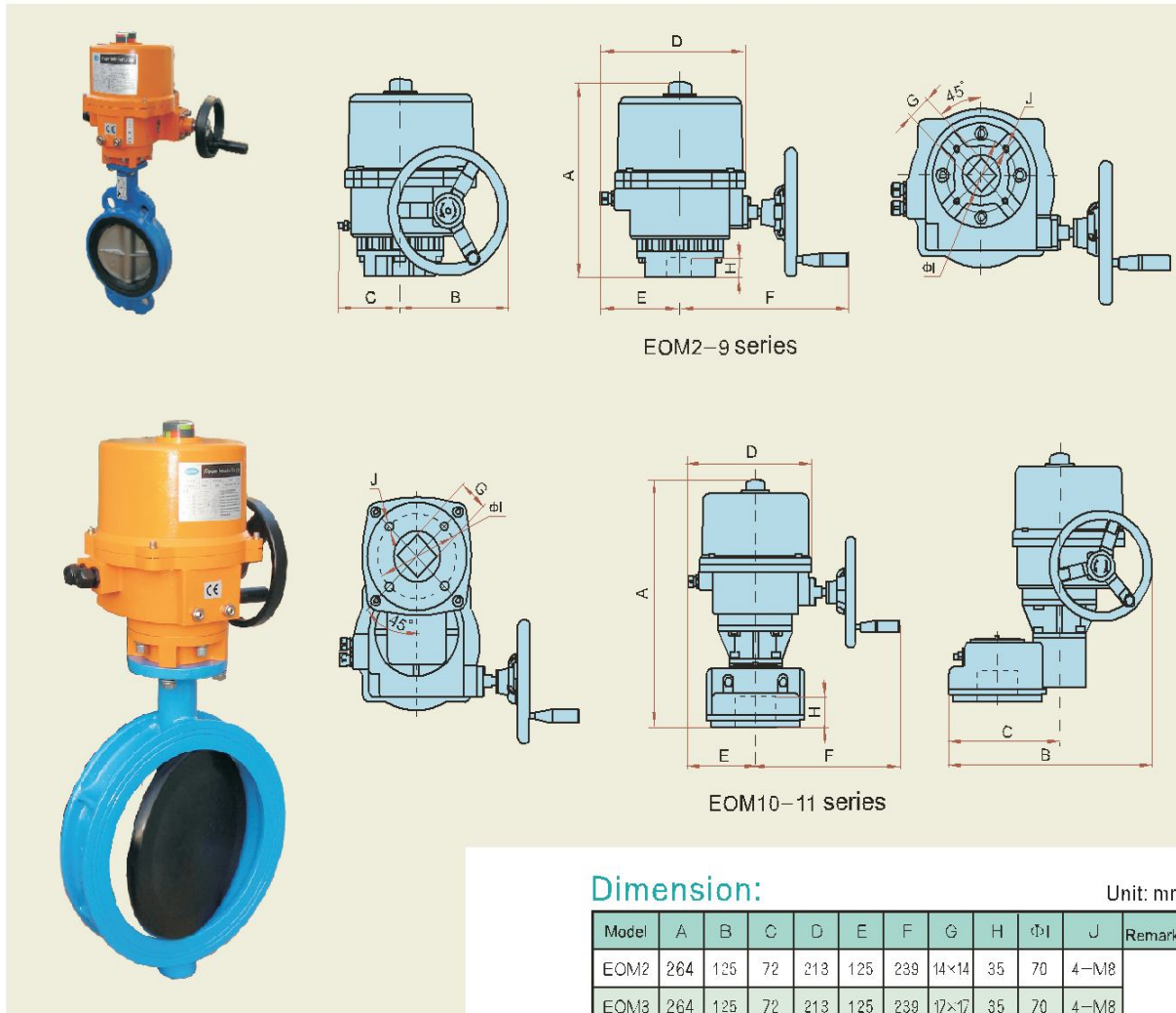
Model	A	B	C	D	E	ΦF	G	Remark
EOM1	143	152	79	11 × 11	11	36	L-M8	Square-wrench-head for manual operation
EOMA	143	160	79	11 × 11	11	36	L-M8	
EOM1-H EOMA-H	170	187 185	79	11 × 11	15	36	L-M8	Hand-wheel for manual operation
EOMB	140	195	88	14 × 14	20	50	4-M8	Without manual operation
						70	4-M8	

Remark: Upper "G" dimension is suggestive square-hole, can be decided by customer under which meets ISO5211 standard.

## 2. EOM2-11series

### Feature:

Light weight	AL alloy housing and compact design.	Motor overheating protection	Inner overheat protective component can automatically shut power off to prevent motor from damage when actuator over torque.
Waterproof	Rubber seal to provide good waterproof function.Can be installed outdoor or submersible occasion.	Opening indicator	Arrow indicator or digital LED display on housing and also have optional remote indication.
Accurate position	High machining accuracy to ensure longer lifecycle.	Operation convenience	Direct manual operation without any clutch to prevent user from injury.



### Major parameter:

Power: AC24V / AC220V / AC380V $\pm$ 10%; 50/60Hz
Environment temp: -20-70°C
Related humidity: $\leq$ 90% (25°C)
Environment: Without any high corrosion and explosion medium.
Working time: Within 10min.
Input/output signal (modulation): 4-20mA (std configuration); 0-10V & 2-10V is optional.
Housing protection class: IP65 (std configuration); IP67 & IP68 are optional.
Thermal protection: Open 125 $\pm$ 5°C, Close 85 $\pm$ 5°C
Motor:F class wiring

Remark: IP68 means 15m under water level and duration time is 72 hours.

### Dimension:

Unit: mm

Model	A	B	C	D	E	F	G	H	$\phi$ I	J	Remark
EOM2	264	125	72	213	125	239	14 $\times$ 14	35	70	4-M8	With handwheel
EOM3	264	125	72	213	125	239	17 $\times$ 17	35	70	4-M8	
EOM4	336	154	98	377	148	251	22 $\times$ 22	55	102	4-M10	
EOM5	336	154	98	377	148	251	22 $\times$ 22 27 $\times$ 27	55 125	102 125	4-M10 4-M12	
EOM6	336	154	98	377	148	251	27 $\times$ 27	55	125	4-M12	
EOM7	336	154	98	377	148	251	27 $\times$ 27	55	125	4-M12	
EOM8	342	201	133	297	165	325	27 $\times$ 27	65	$\frac{125}{140}$	4-M12	
EOM9	342	201	133	297	165	325	36 $\times$ 36	65	$\frac{125}{140}$	4-M12	
EOM10	541	481	263	295	162	344	40 $\times$ 40	85	140 165	4-M16 4-M20	
EOM11	541	481	263	295	162	344	46 $\times$ 46	85	165	4-M20	

※ Remark: The upper "G" is suggestive square-hole, can be decided by customer under which meets ISO5211 Std.



## IV. Optional and standard configuration:

Without clutch hand-wheel device



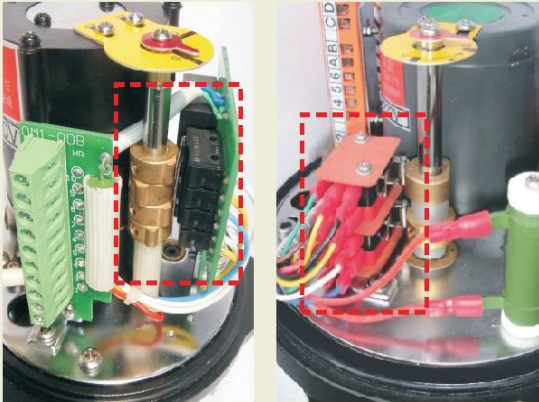
EOM1/A-H

EOM2-11

Automatically manual override without any clutch EOM2-11 series can be operated while actuator is in running stage and won't cause any user injury.

※ Std configuration.

Passive dry contact




EOM1/A B series

Other series

※Std configuration for On/Off type actuator. Modulating type is optional.

Heating resistance



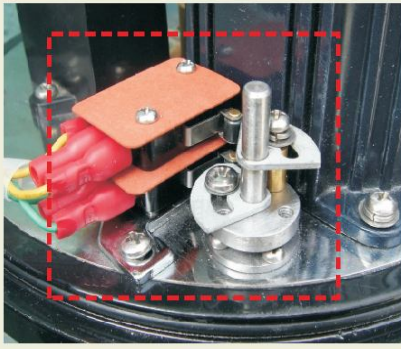
EOM1/A/B series

Other series

To prevent the temperature inside the housing from falling below the dewpoint temperature.

※Std configuration.

Over-torque mechanism

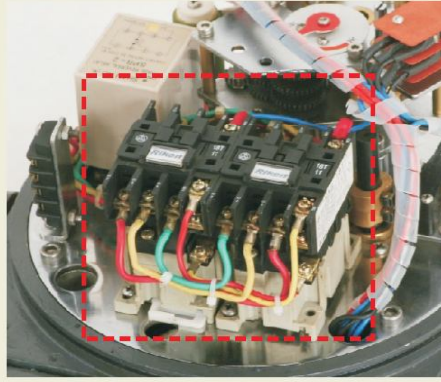


To prevent the actuator failure from valve locking, except for EOM1/A/B because space limited.

※Optional configuration.

Remark: All Flowinn actuators have motor overheating protection function which also can prevent actuator failure from valve locking and is std configuration.

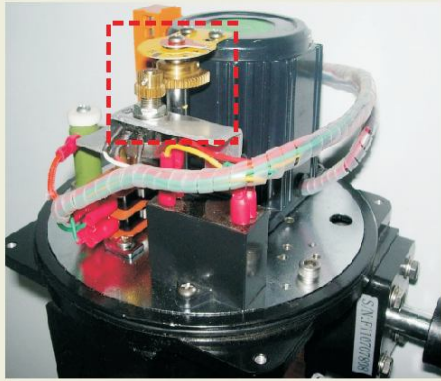
AC380V full set setup



Including: Relay device.

※Optional configuration.

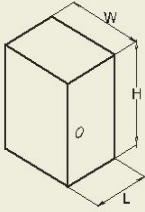
1K $\Omega$  Position feedback



1 K $\Omega$  potentiometer feedback is std setup,  $\Omega$  value can be selected by customer.

※Optional configuration.

### Control box



Dimension:

Unit: mm

L	W	H
25	170	300
25	200	300
30	200	400

Remark: 1. Pls choose indoor or outdoor type.  
2. Upper dimension is reference. Pls consult factory for box dimension.

#### Notice:

1. Pls ensure input power is AC220V or AC380V or AC24V before wiring.
2. Pls let specialist to setup wiring.
3. One actuator only connect on box, if want to control several actuators synchronously, pls advise while placing order.
4. Pls seriously choose indoor (carbon steel) or outdoor (stainless steel) material.

※Optional configuration.

### Local control panel



EMTXX



EOM2-7

Can be operated by local and remote

※Optional configuration

### Wireless remote control/local control



EOM2-11 series

LED indicator provides better sight view at night.

※Optional configuration

## V. Product inspection:



## VI. Other application

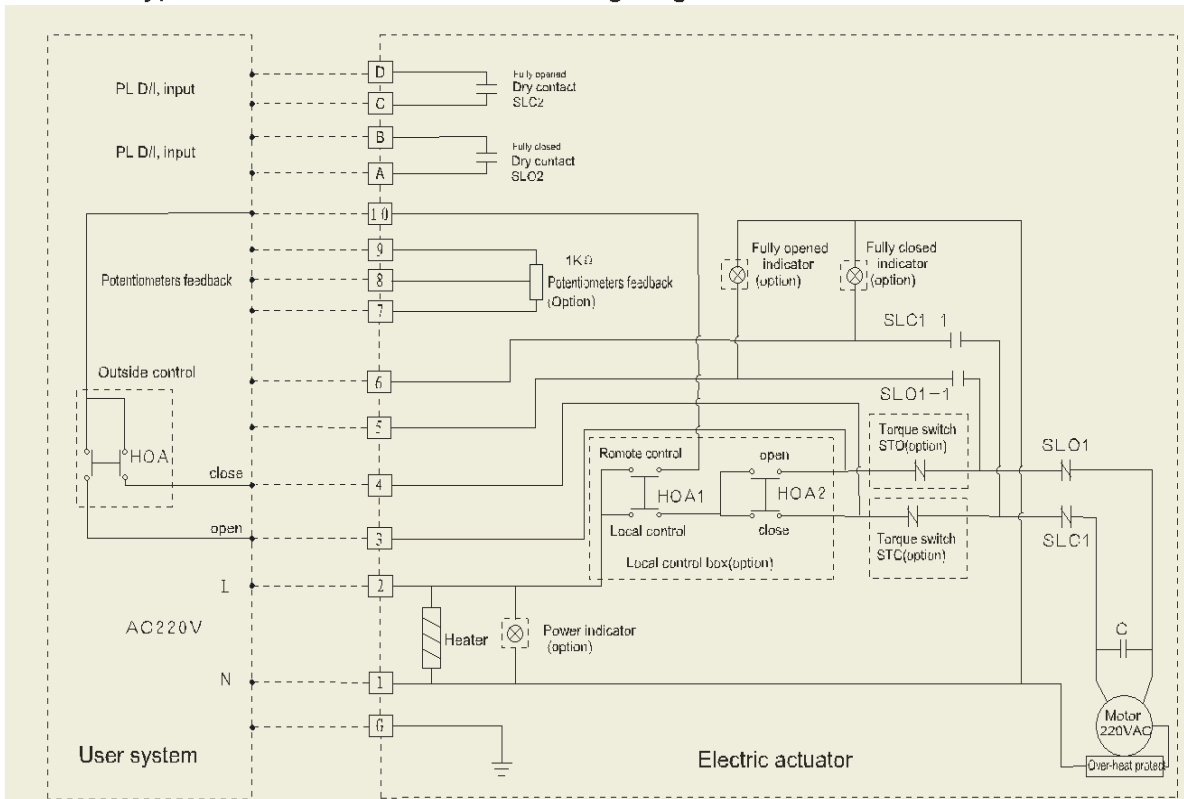


Dynamic balance electric control valve V port electric control ball valve [PVC electric control ball valve](#) PVC electric control butterfly valve With control panel butterfly valve

Remark: The standard color of housing is orange , other color can be optional.

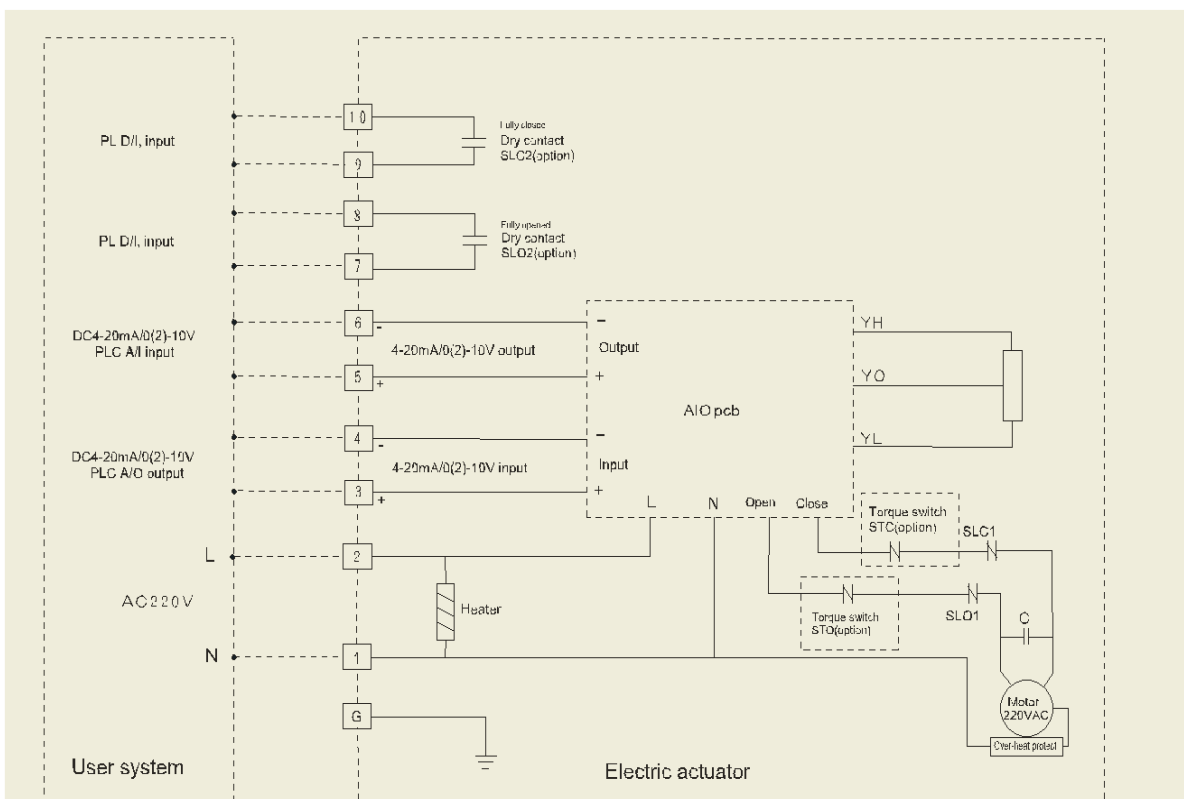
**VII. Basic wiring diagram:** (Only for reference; pls refer diagram inside actuator)

**1. On/off type EOM1/A/B/EOM2 ~ 11-O wiring diagram**



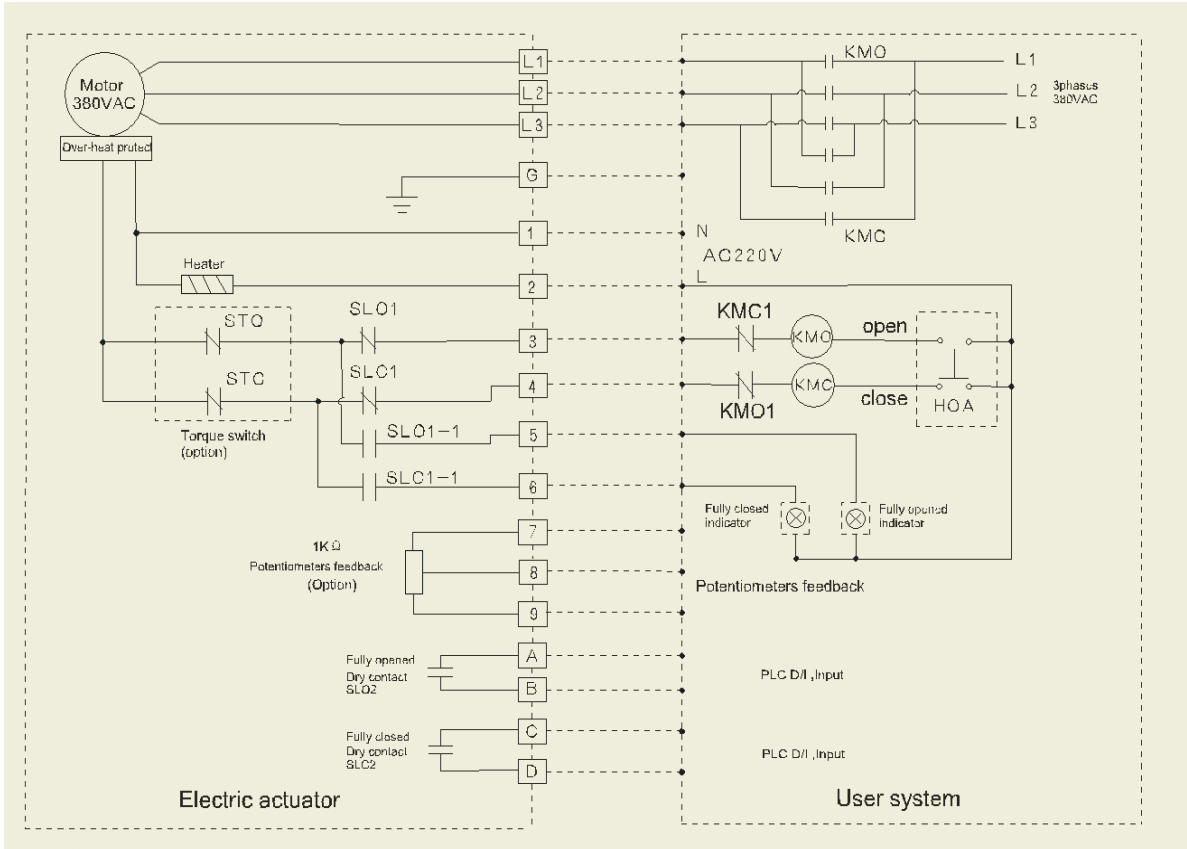
Note: There is no torque switch mechanism for EOM1/A/B due to space limited.

**2. Modulating type EOM2 ~ 11-I wiring diagram**

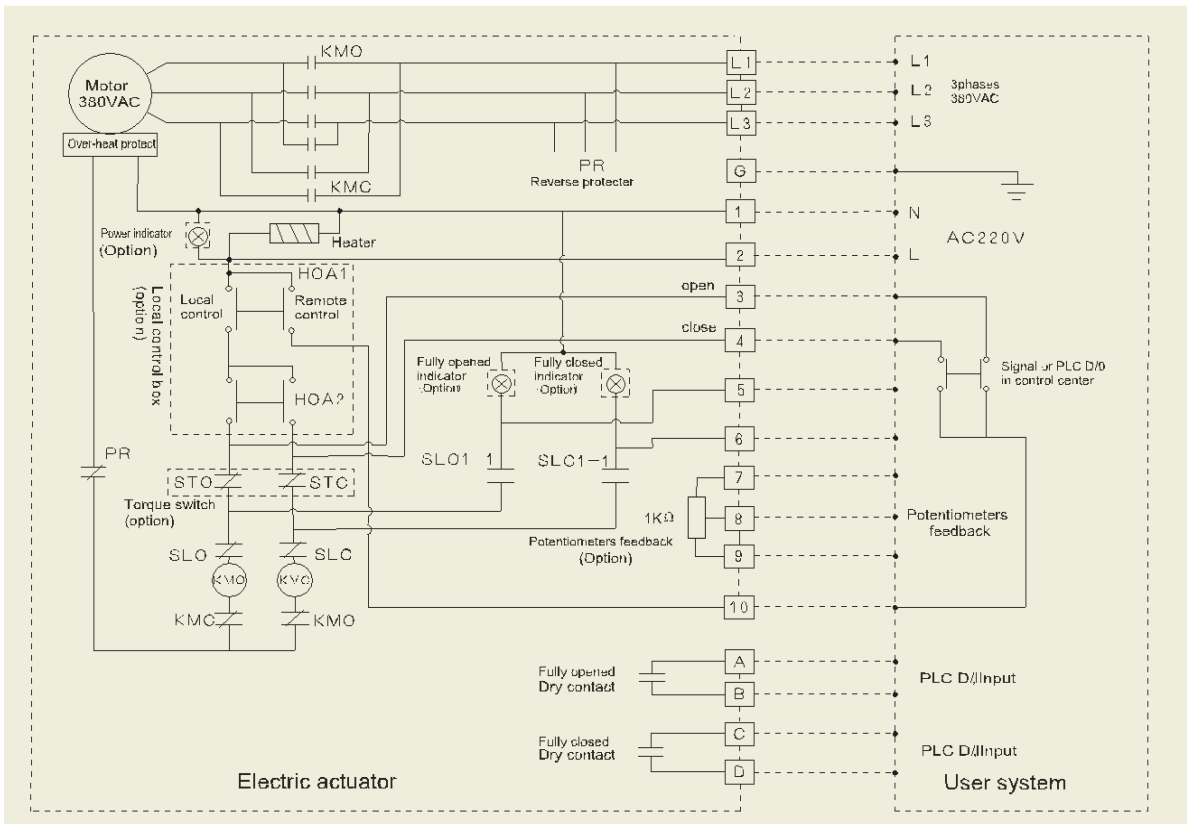


Note: There is no torque switch mechanism for EOM1/A/B due to space limited.

3. AC380V ON-OFF type EOM2~ 11 wiring diagram with Potentiometer feedback as optional function

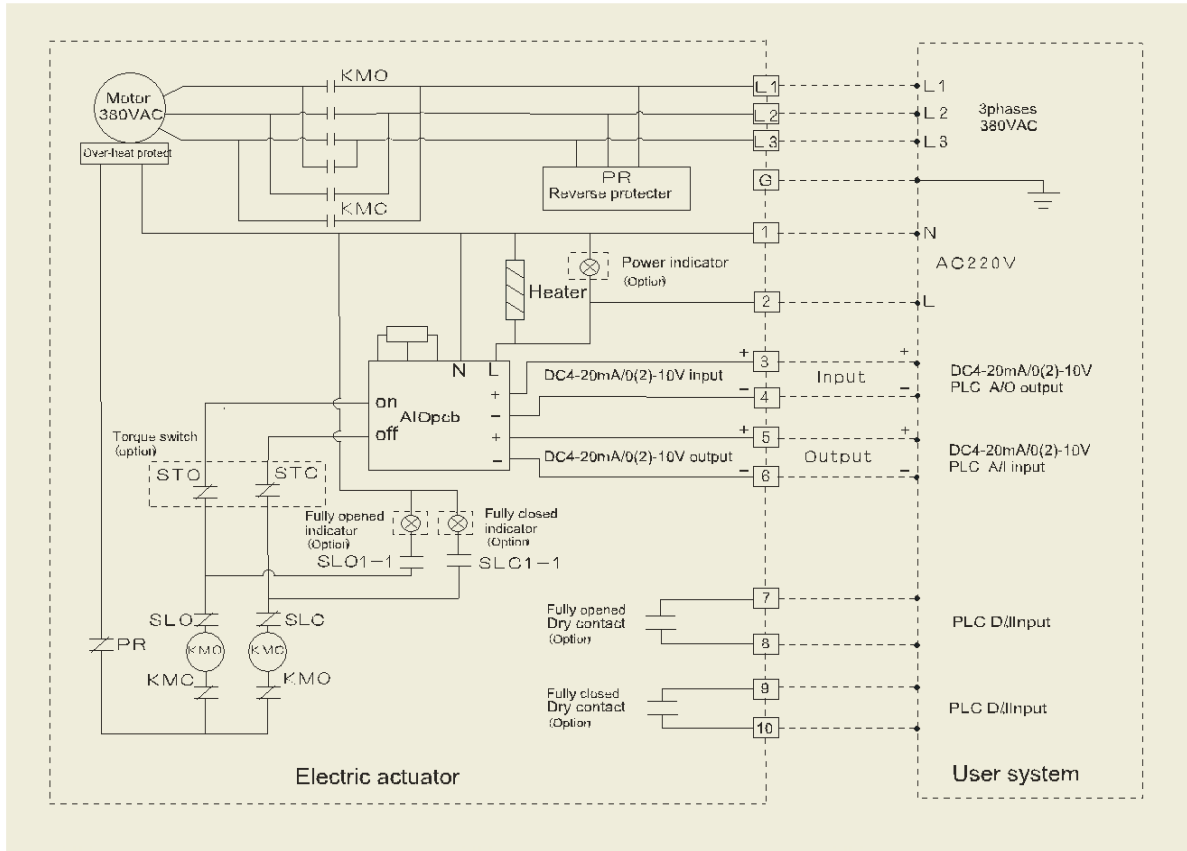


4.AC380Vfull set ON-OFF type EOM2 ~11 wiring diagram





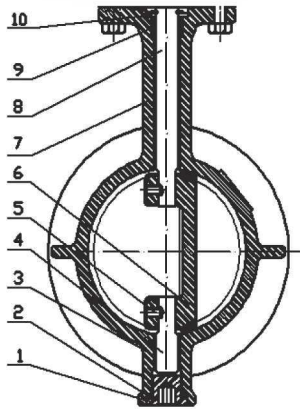
## 5. AC380V full set modulating type EOM2 ~ 11 wiring diagram



## VIII. Actuators & valves mounting list (Only for reference; depending on valve operation torque)

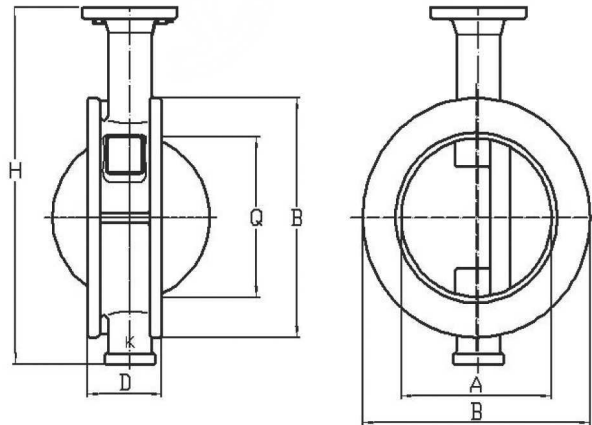
	Butterfly Valve (BV) W/O handwheel	BV With handwheel	Gate Valve With handwheel	Plastic BV (wafer) W/O handwheel	Plastic BV (screw end) With handwheel	2 ways Ball Valve (wafer) W/O handwheel	2 ways Ball Valve (wafer) With handwheel	2 ways Ball Valve (flange) W/O handwheel	2 ways Ball Valve (flange) With handwheel	3 ways Ball Valve (screw) W/O handwheel	3 ways Ball Valve (flange) W/O handwheel	3 ways Ball Valve (flange) With handwheel	Plastic Ball Valve (screw) W/O handwheel	Plastic Ball Valve (screw) With handwheel
	WBEX-NO	WBEX-00	RVEX-00	WBEP-NO	WBEP-00	B2PE-NO	B2PE-00	FB2E-NO	FB2E-00	B3PE-NO	B3PE-NO	B3PE-00	FBEX-NO	FBEX-00
EOM1		DN50-65				DN 50-40		DN15-25		DN 50-25		DN25	DN15-40	
EOM7		DN80		DN50-85		DN60		DN32-40		DN32-40		DN32	DN50	
EOM8	DN50-80			DN50-80		DN32-80		DN32-50				DN40	DN32-80	
EOM2		DN50-80			DN50-80		DN52-80		DN52-80			DN40		DN32-80
EOM5		DN100			DN100-150				DN65			DN50-65		
EOM4		DN125-150			DN200				DN80			DN80		
EOM6		DN200			DN250				DN100			DN100		
EOM6		DN250			DN300				DN125-150			DN125-150		
FCV7		DN300 P.16/PN.8							DN200					
EQV8		DN350/PN16 EOM6		DN50-80										
EOM9		DN400 DN450 DN500 EOM9		DN120-250										
FCV10/11		DN300 EOM10/11		DN300-150										

## IX. Worm Gear Type



### Parts List & Material

No	Part Names	Material	Standard
1	Screw	POM	Plastic
2	O-ring	Rubber	NBR
3	Bearing	Plastic	Commercial
4	Lower Stem	Stainless Steel	AISI 410
5	Screw	Stainless Steel	AISI 304
6	Disc	DI + Rubber	ASTM A536+NBR/EPDM
7	Body	Ductile Iron	ASTM A536
8	Upper Stem	Stainless Steel	AISI 410
9	O-ring Retainer	PTFE	Commercial
10	Washer	Stainless Steel	AISI 304



### Dimensions (Worm Gear)

Unit: mm

DN	Model/No	A	B	H	D	Q
50	WB-EOM2-0050	51.24	104	226	43	60
65	WB-EOM2-0065	51.24	117	226	46	60
80	WB-EOM2-0080	73	138	256	49	82
100	WB-EOM2-0100	92	158	276	56	102
125	WB-EOM3-0125	118	188	322	64	127
150	WB-EOM3-0150	140	214	346	70	152
200	WB-EOM4-0200	190	270	429	71	202
250	WB-EOM4-0250	240	324	488	76	252
300	WB-EOM4-0300	289	376	554	83	302

# X. Order coding :

**WB - EOM 1 - 0050 - I - 220**

**Model:**

**WB:** Wafer  
Butterfly

**EOM**

Series actuator

OM series actuator  
model

**Power**

024 : 24V  
220 : 220V  
380 : 380V

**Control method**

I : modulating type  
O : On/Off type

**Norminal Diameter**

0050 : 50 mm  
0250 : 250 mm



ISO 9001 certification



IP68 test report

