J.S.COCK A/S

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WEATHER PROOF ELECTRIC ACTUATOR

PROTECTION CLASS IP67

HIGH-QUALITY ELECTRIC ACTUATOR

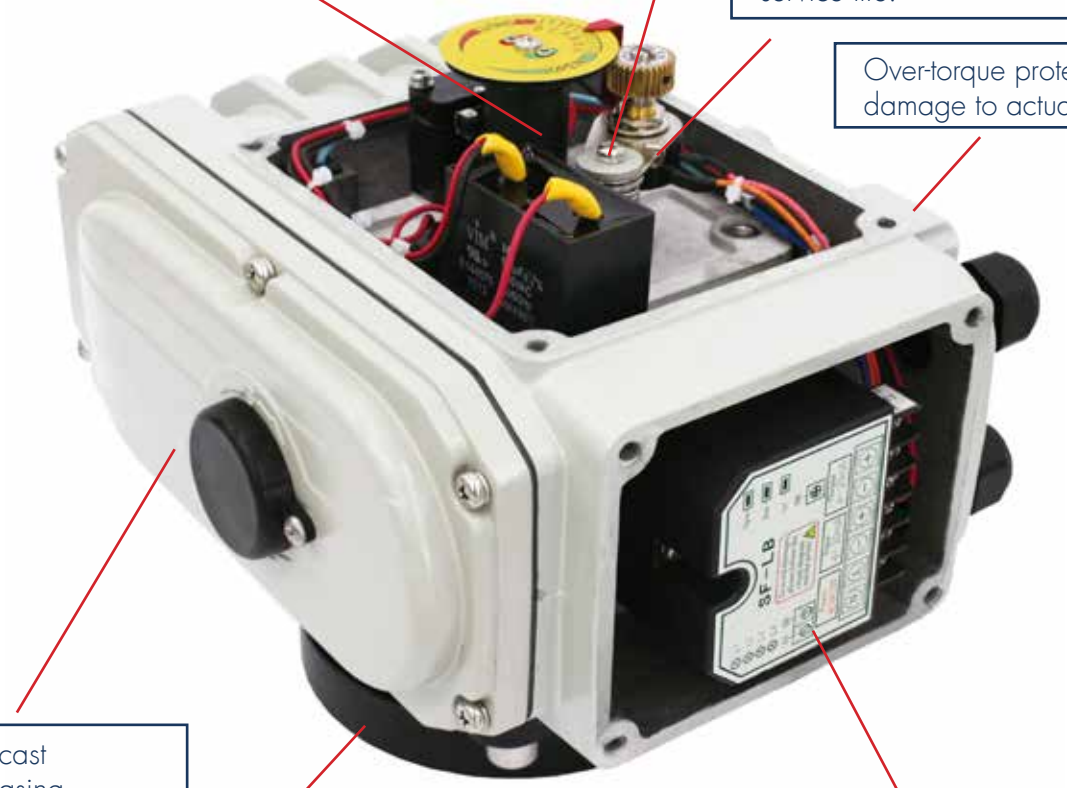
EXECUTED STANDARD JB/T8219-2016

The unique anti-backlash mechanism of the spring eliminates transmission backlash between the gears, reduces the reciprocating difference of the actuator and improves positioning accuracy.

Micro Regulation Device of Electric Limit Stroke is patented. It makes the adjustment of electric limit simpler and more precise. Patent Number: ZL 201020214725.8

The high quality potentiometer ensures higher accuracy and long service life.

Over-torque protection prevents damage to actuator and valve.



High quality die cast aluminum alloy casing standard with protection Class IP67 (IP68 on request).

Direct installation type mounting Plate in accordance with ISO5211, and makes installation on valve simple and convenient.

High quality Servo-Controller employs high grade electronic components. The circuit board is encased with resin plastic for better shock and humidity protection. The unique electronic brake function makes actuator non-surge when positioning.

PRODUCT TYPE LIST OF COMMON SERIES ELECTRIC ACTUATORS

Actuator Type/ Series	Standard Time/ Torque	Optional Time/Torque	Turning Angle (Max. Range)	Total Weight	Power Supply	Control Circuit Type	Page
02	15S/18Nm	7S/9Nm 30S/25Nm	0 ~ 90°	1.2kg	24VDC/24VAC 110VAC/220VAC	A/B/E/G/GEY	7
05	25S/50Nm	5S/20Nm 12S/30Nm 60S/50Nm	0 ~ 360°	2.5kg	24VDC/24VAC 110VAC/220VAC/380VAC	A/B/C/D/E/F/ G/H/GEY	8
10	30S/100Nm	15S/50Nm 60S/100Nm	0 ~ 90°	4.5kg		A/B/BD/C/D/E/ ED/F/G/GD/H/ GEY/GEYD	9
20	30S/200Nm	15S/100Nm 60S/200Nm		9kg			10
40	30S/400Nm	15S/200Nm 60S/400Nm		9.5kg			
60	45S/600Nm			10kg			
100	30S/1000Nm			14kg	24VDC 110VAC/220VAC/380VAC		11
200	90S/2000Nm			21kg			
300	110S/3000Nm			21kg			
Performance Parameter List of Adjusting Type(Type E)							12
Fail - Safe Return Actuators (FSR)							13
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Equipment and Function							16

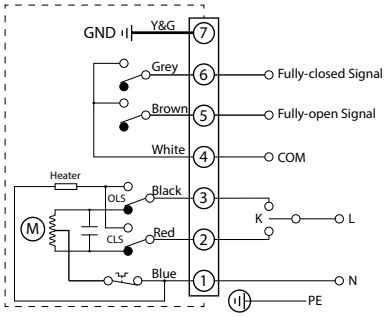
VALVE MATCH (FOR REFERENCE ONLY)

Actuator Type/Series	Butterfly Valve (≤ PN 10)	Ball Valve (≤ PN 16)
02	≤ DN40	≤ DN32
05	DN50 ~ 65	DN40
10	DN80 ~ 100	DN50 ~ 65
20	DN125 ~ 150	DN80 ~ 100
40	DN200	DN125
60	DN250	DN150
100	DN300	DN200
200	DN350 ~ 400	DN250
300	DN450 ~ 600	DN300 ~ 350

Note: The data for electric actuators and valves listed in the table above are for reference only; actual data should be based on the torque values provided by the valve manufacturer. Valve torque can differ significantly due to the wide variety of valve categories. Even valves of the same type and specification may vary because of differences in manufacturing technologies, quality levels, structural forms, and material qualities. Opening torque may also vary depending on the type of medium, site conditions, operating characteristics, and pressure fluctuations. To ensure stable and reliable functionality, a reasonable safety margin should be allowed when selecting actuators. It is recommended to use a safety factor of at least 1.3. All actuator output torques are tested with pressurized valves.

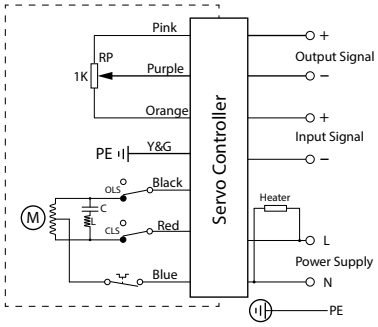
CONTROL CIRCUIT - STOCKED UNITS 05/10

Type B: Limit position switch(Passive Contact)



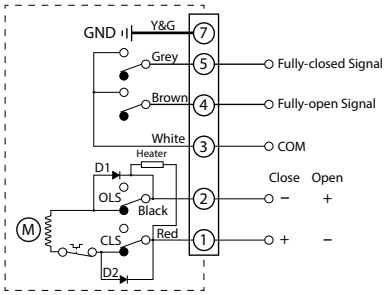
Opening/closing is done by switching between circuit 2 and 3. The passive output signal indicates either fully open or fully closed.

Type E: With Servo Controller(Adjusting Type)



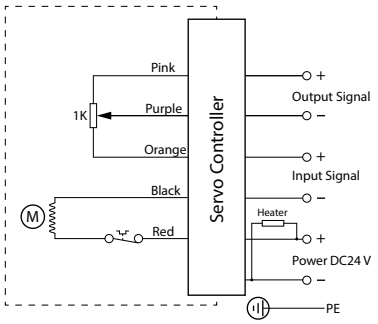
Input: 4~20mA, 1~5V or 2~10V
Output: 4~20mA

Type G: DC Control Circuit with Passive Contact Switch



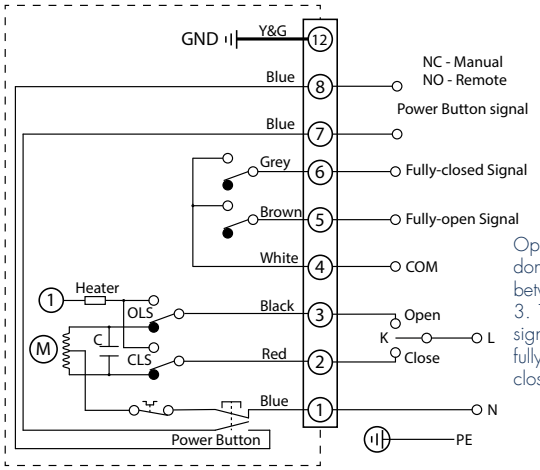
By the use of a directional diode circuit the motor direction is controlled by switching the polarity of the power supply. The output indicates either a fully open or fully closed position.

Type GEY: With Servo Controller(Adjusting Type)



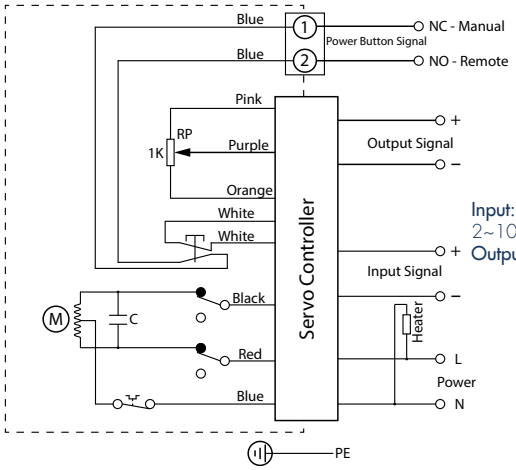
Input: 4~20mA, 1~5V or 2~10V
Output: 4~20mA

Type BD: Limit position switch(Passive Contact)



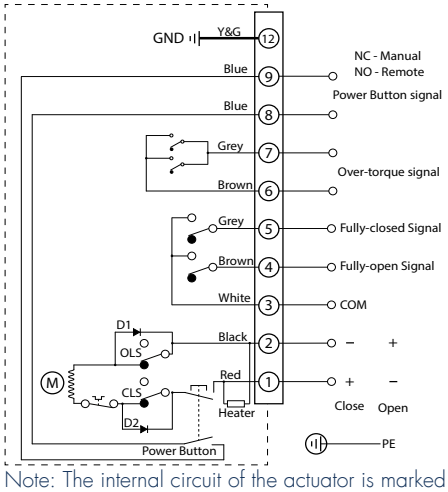
Opening/closing is done by switching between circuit 2 and 3. The passive output signal indicates either fully open or fully closed.

Type ED: With Servo Controller(Adjusting Type)



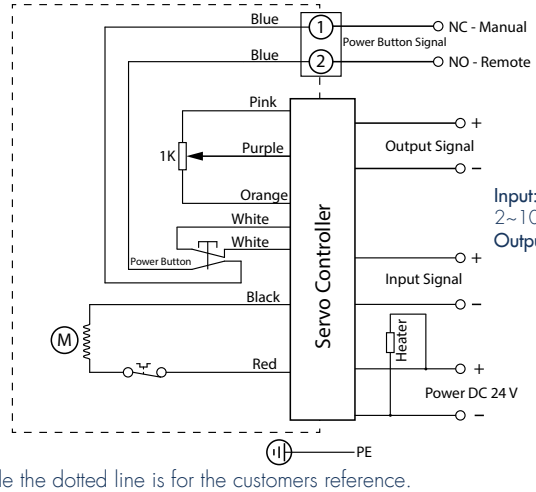
Input: 4~20mA, 1~5V or 2~10V
Output: 4~20mA

Type GD: DC Control Circuit with Passive Contact Switch



By the use of a directional diode circuit the motor direction is controlled by switching the polarity of the power supply. The output indicates either a fully open or fully closed position.

Type GEYD: With Servo Controller(Adjusting Type)

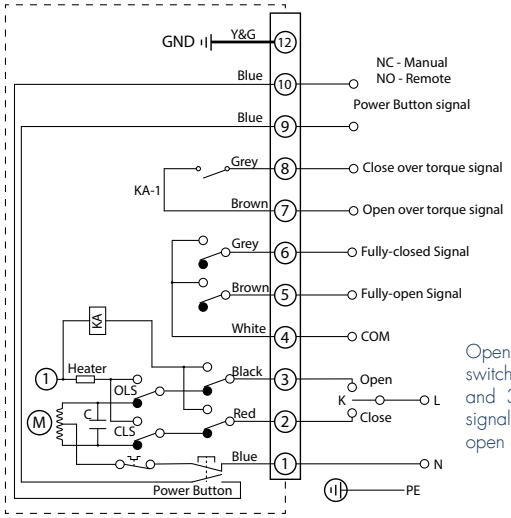


Input: 4~20mA, 1~5V or 2~10V
Output: 4~20mA

Note: The internal circuit of the actuator is marked by a dotted line. The circuit outside the dotted line is for the customers reference.

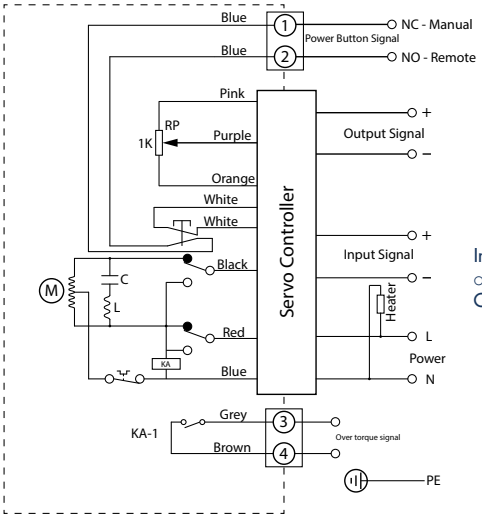
CONTROL CIRCUIT - STOCKED UNITS 20/40/60/100/200/300

Type BD: Limit position switch(Passive Contact)



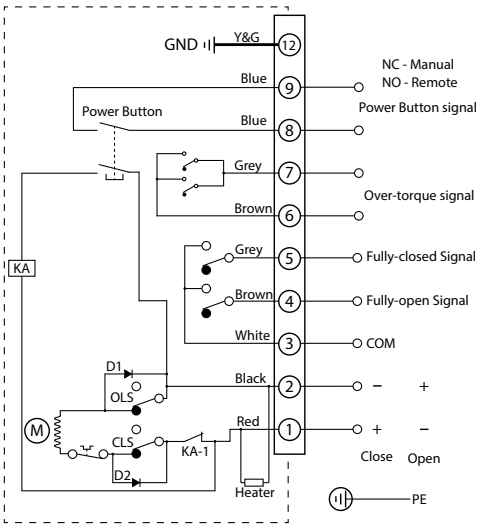
Opening/closing is done by switching between circuit 2 and 3. The passive output signal indicates either fully open or fully closed.

Type ED: With Servo Controller(Adjusting Type)



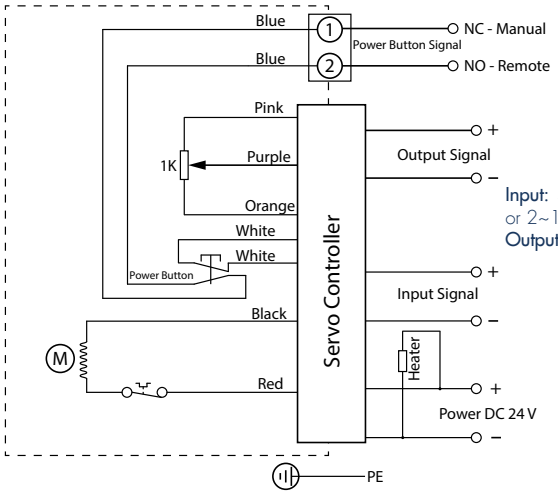
Input: 4~20mA, 1~5V or 2~10V
Output: 4~20mA

Type GD: DC Control Circuit with Passive Contact Switch



By the use of a directional diode circuit the motor direction is controlled by switching the polarity of the power supply. The output indicates either a fully open or fully closed position.

Type GEYD: With Servo Controller(Adjusting Type)

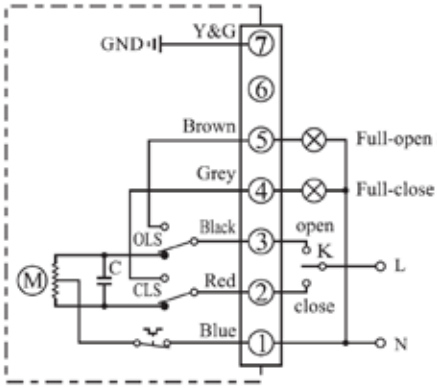


Input: 4~20mA, 1~5V or 2~10V
Output: 4~20mA

Note: The internal circuit of the actuator is marked by a dotted line. The circuit outside the dotted line is for the customers reference.

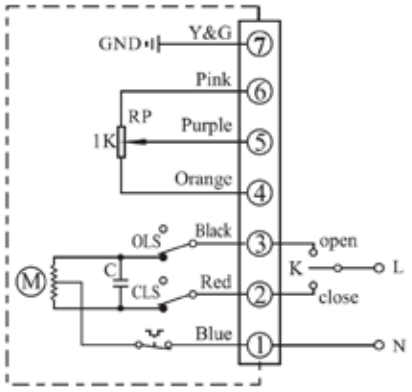
OPTIONAL CONTROL CIRCUIT

Type A: Limit position switch(active Contact)



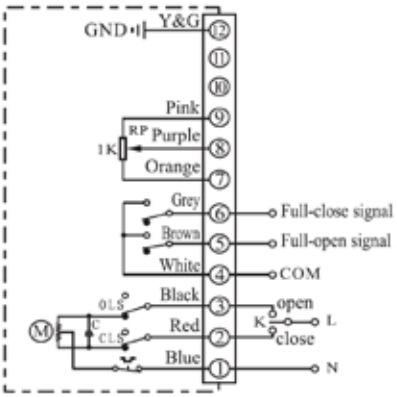
Opening/closing is done by switching between circuit 2 and 3. The active output signal indicates either fully open or fully closed.

Type C: With 1K/500Ω potentiometer



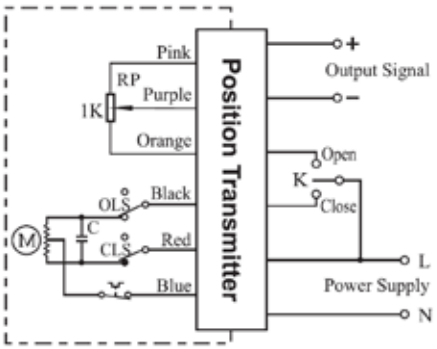
Opening/closing is done by switching between circuit 2 and 3. The output resistance indicates the position of the actuator

Type D: Position Switch with Potentiometer and Passive Contact



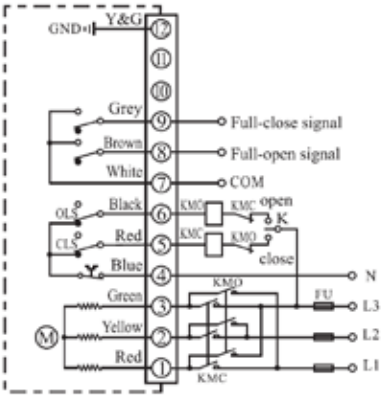
Opening/closing is done by switching between circuit 2 and 3. The output resistance indicates the position of the actuator, whilst a second set of outputs indicate a fully open or fully closed position.

Type F: With Position Transmitter



4~20mA output signal for full range valve feedback.

Type H: 3-Phase Control Circuit with Passive Contact Switch

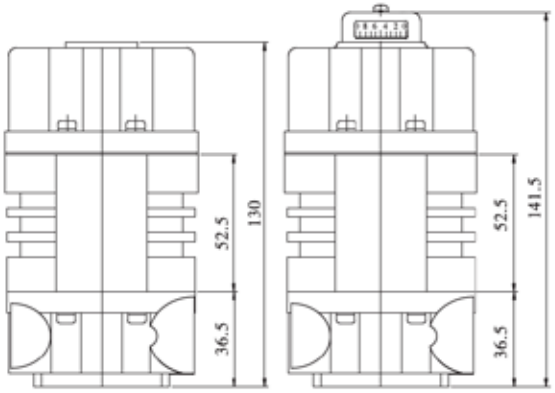


Opening/closing is done by an external 3-phase control circuit, directly controling the motor direction. The output indicates either a fully open or fully closed position.

Note: The internal circuit of the actuator is marked by a dotted line. The circuit outside the dotted line is frame is for the customers reference.

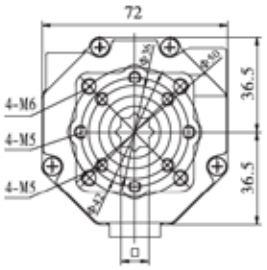
02 SERIES - SUBMINIATURE ELECTRIC ACTUATOR

DCL—02 (Type E\GEY)



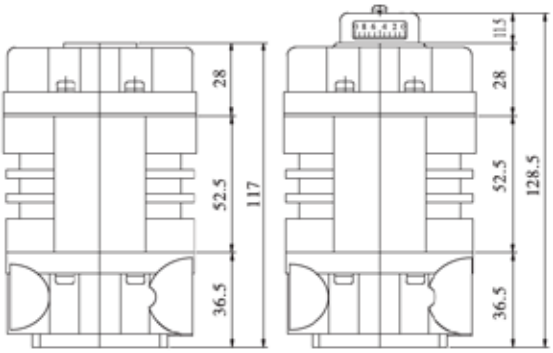
FLAT-TYPE OPENING INDICATION TYPE

SALIENT-TYPE OPENING INDICATION TYPE



Square	□9×9、□11×11
Flange	F03、F04、F05
Valve Stem	Height≤16mm

DCL—02 (Type A\B\C\G)



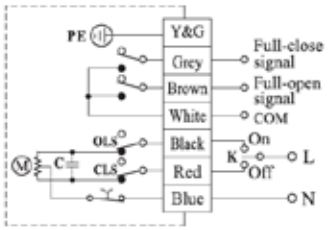
FLAT-TYPE OPENING INDICATION TYPE

SALIENT-TYPE OPENING INDICATION TYPE

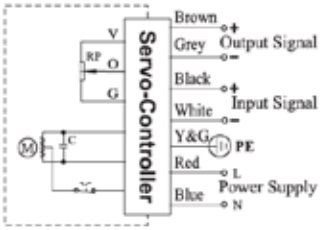
PERFORMANCE PARAMETERS

Parameters / Power	24 VDC		220 VAC	
Motor Power	8W		6W	
Rated Current	0.7A		0.15A	
Standard Time/Torque	30S/25Nm			
Maximum Torque	24Nm			
Time/Torque on Request	7S/9Nm 15S/18Nm			
Turning Angle	0 ~ 90°			
Standard Control Circuit	G, GEY		B, E	
Total Weight	1.2 kg			
Insulating Resistance	100MΩ/250VDC		100MΩ/500VDC	
Voltage Class Tolerance	500 VAC @ 1 minute		1500 VAC @ 1 minute	
Protection Class	IP67			
Installation Angle	360° at any angle			
Electric Interface	7-core cable connection cable			
Ambient Temperature	-25°C ~ +55°C			
Fuse	2A	3A	1A	1A

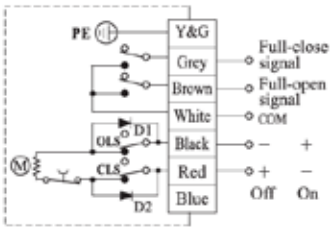
CONTROL CIRCUIT



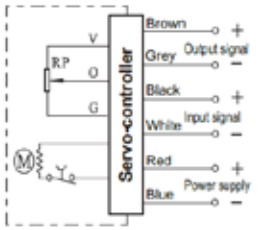
Type B: With Intermediate Position Switch (Passive contact)



Type E: With Servo Controller (Adjusting Type)



Type G: DC Control Circuit (Passive Contact Switch)



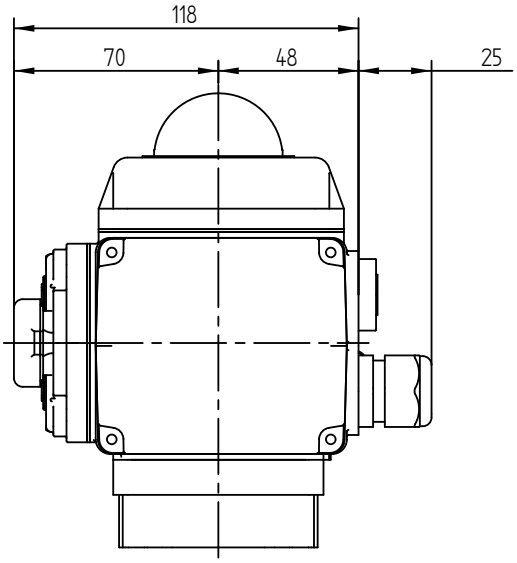
Type GEY: With Servo Controller

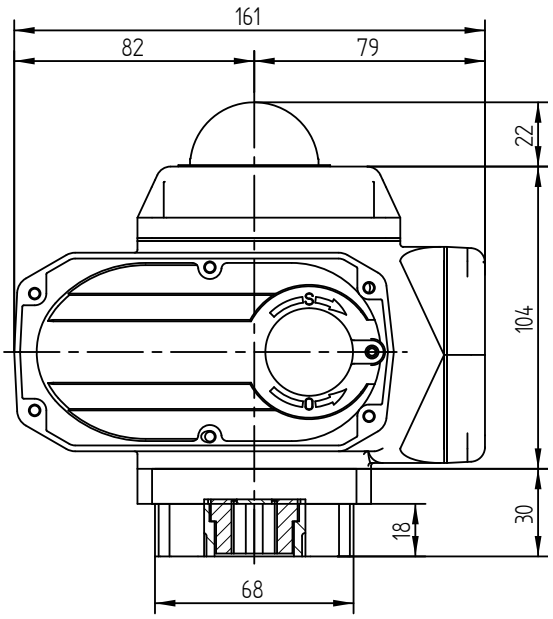
OVERALL DIMENSIONS AND PERFORMANCE PARAMETERS 05 SERIES

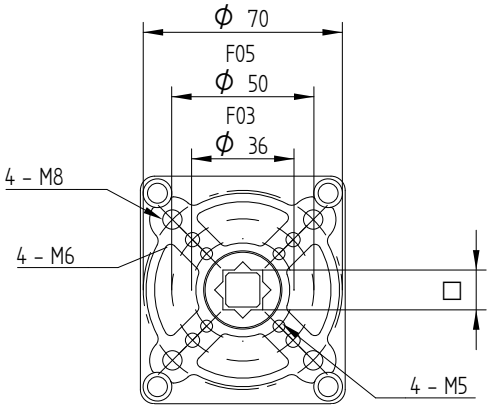
Direct installation type

Parameters / Power	24 VDC	220 VAC
Motor Power	13W	10W
Rated Current	1.28A	0.16A
Standard Time/Torque	25s/50Nm	
Maximum Torque	65Nm	
Time/Torque on Request	5s/20Nm | 12s/30Nm	4s/20Nm | 12s/30Nm
Turning Angle	0 ~ 360°	
Standard Control Circuit	G, GEY	B, E
Total Weight	2.5 kg	
Insulating Resistance	100MΩ/250VDC	100MΩ/500VDC
Voltage Class Tolerance	500 VAC @ 1 minute	1500 VAC @ 1 minute
Protection Class	IP67	
Installation Angle	360° at any angle	
Electric Interface	2 x G 1/2 Water proof cable connectors, one for power and one for signal	
Ambient Temperature	-25°C ~ +55°C	
Standard Features	Dehumidification Heater | Visual Position Indicator	

Direct Installation Type







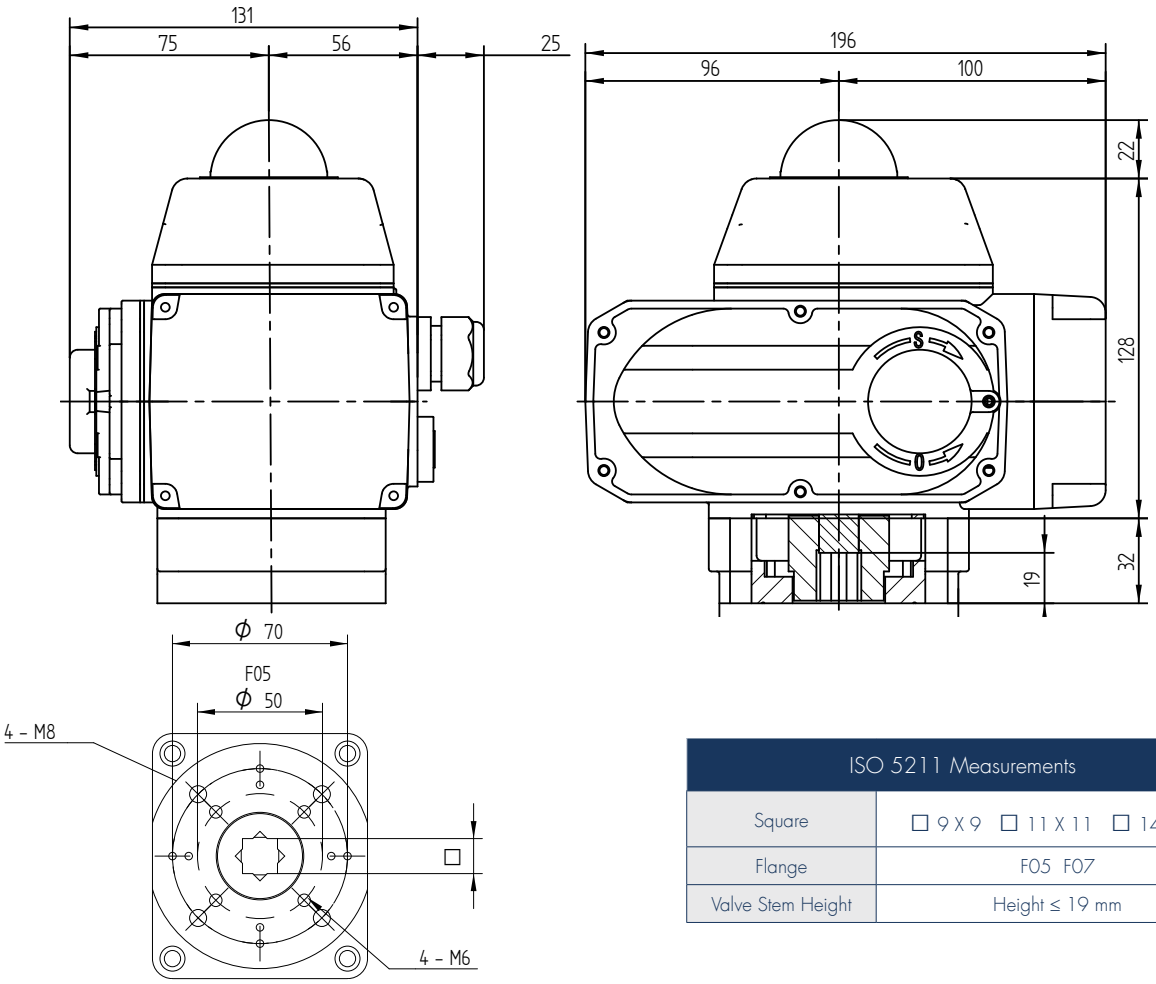
ISO 5211 Measurements	
Square	□ 9 X 9 □ 11 X 11 □ 14 X 14
Flange	F03 F05 F07
Valve Stem Height	Height ≤ 17 mm

Note: Actuators are standard with the largest square, smaller square sizes are delivered with sleeve adapters.

OVERALL DIMENSIONS AND PERFORMANCE PARAMETERS 10

Parameters / Power	24 VDC	220 VAC
Motor Power	25W	25W
Rated Current	2.03A	0.35A
Standard Time/Torque	30s/100Nm | 15s/50Nm	
Maximum Torque	130Nm	
Turning Angle	0 ~ 90°	
Standard Control Circuit	GD, GEYD	BD, ED
Total Weight	4.5 kg	
Insulating Resistance	100MΩ/250VDC	100MΩ/500VDC
Voltage Class Tolerance	500 VAC @ 1 minute	1500 VAC @ 1 minute
Protection Class	IP67	
Installation Angle	360° at any angle	
Electric Interface	2 x G 1/2 Water proof cable connectors, one for power and one for signal	
Ambient Temperature	-25°C ~ +55°C	
Standard Features	Dehumidification Heater | Visual Position Indicator | Handle | Emergency Button	

Direct Installation Type



ISO 5211 Measurements	
Square	□ 9 X 9 □ 11 X 11 □ 14 X 14
Flange	F05 F07
Valve Stem Height	Height ≤ 19 mm

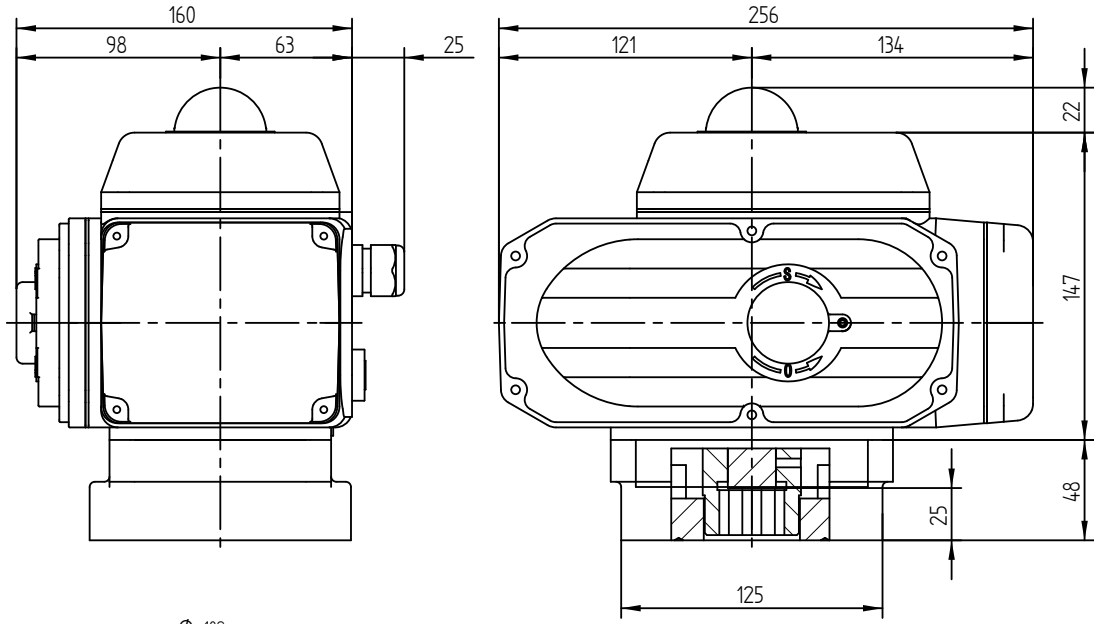
Note: Actuators are standard with the largest square, smaller square sizes are delivered with sleeve adapters.

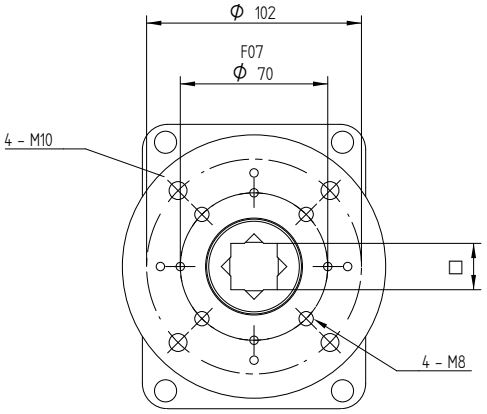
OVERALL DIMENSIONS AND PERFORMANCE PARAMETERS 20/40/60

Direct installation type

Parameters	Type / Voltage (V)	20		40		60	
		24DC	220AC	24DC	220AC	24DC	220AC
Motor Power (W)		35	40	70	90	70	90
Rated Current (A)		3.57	0.37	5.13	0.57	6.80	0.60
Standard Time/Torque		30s/200Nm | 15s/200Nm		30s/400Nm | 15s/200Nm		30s/600Nm	
Maximum Torque		260Nm		520Nm		800Nm	
Turning Angle		0 ~ 90°					
Standard Control Circuit		BD, ED, GD, GEYD					
Total Weight		9kg		9.5kg		10kg	
Insulating Resistance		24V:100MΩ/250VDC | 220V:100MΩ/500VDC					
Voltage Class Tolerance		24VDC: 500 VAC @ 1 minute | 220VAC: 1500 VAC @ 1 minute					
Protection Class		IP67					
Installation Angle		360° at any angle					
Electric Interface		2 x G 1/2 Water proof cable connectors, one for power and one for signal					
Ambient Temperature		-25°C ~ +55°C					
Standard Features		Dehumidification Heater | Visual Position Indicator | Handle | Over Torque Protection | Emergency Button					

Direct Installation Type





ISO 5211 Measurements		
	20	40/60
Square	□ 14 X 14 □ 17 X 17	□ 17 X 17 □ 22 X 22
Flange	F07 F10	
Valve Stem Height	Height ≤ 25 mm	

Note: Actuators are standard with the largest square, smaller square sizes are delivered with sleeve adapters.

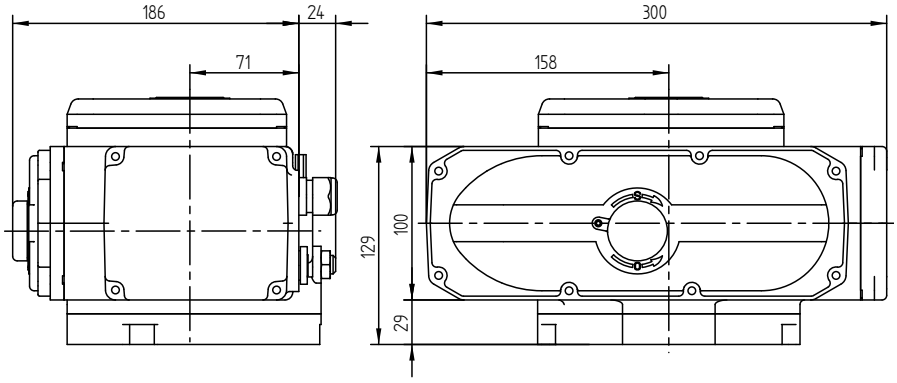
OVERALL DIMENSIONS AND PERFORMANCE PARAMETERS 100/200/300

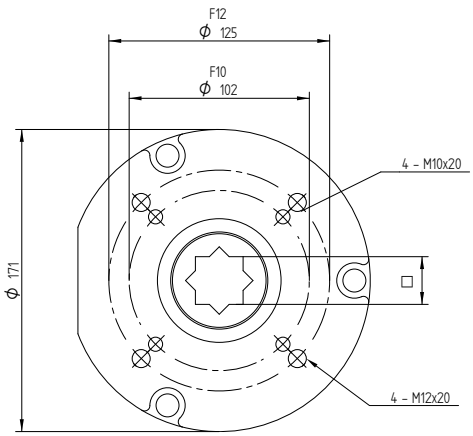
Series 100

Series 200 / 300

Parameters	Type / Voltage (V)	100		200 / 300	
		24DC	220AC	24DC	220AC
Motor Power (W)		113	120	113	120
Rated Current (A)		6.5	1.0	7.1	1.1
Standard Time/Torque		50s/1000Nm	30s/1000Nm	110s/2000Nm 170s/3000Nm	90s/2000Nm 110s/3000Nm
Maximum Torque		1300Nm		2600Nm/3900Nm	
Turning Angle		0 ~ 90°			
Standard Control Circuit		BD, ED, GD, GEYD			
Total Weight		14kg		21kg	
Insulating Resistance		24V:100MΩ/250VDC | 220V:100MΩ/500VDC			
Voltage Class Tolerance		24VDC: 500 VAC @ 1 minute | 220VAC: 1500 VAC @ 1 minute			
Protection Class		IP67			
Installation Angle		360° at any angle			
Electric Interface		2 x G 1/2 Water proof cable connectors, one for power and one for signal			
Ambient Temperature		-25°C ~ +55°C			
Standard Features		Dehumidification Heater | Visual Position Indicator | Handle | Over Torque Protection | Emergency Button			

100

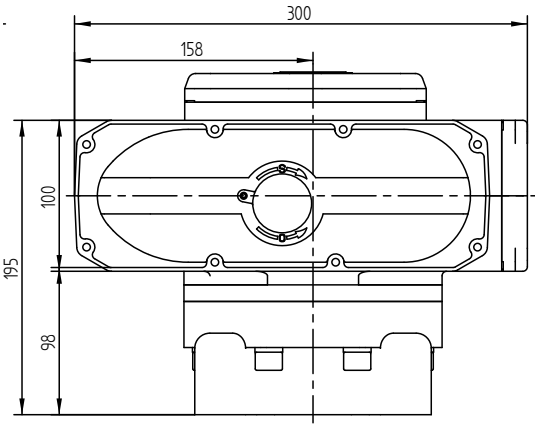


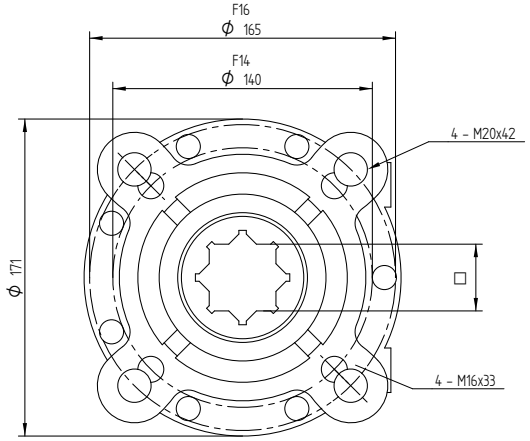


ISO 5211 Measurements	100	200/300
Square	□ 14 X 14 □ 17 X 17	□ 17 X 17 □ 22 X 22
Flange	F10 F12	F14 F16*
Valve Stem Height	Height ≤ 66 mm	Height ≤ 66 mm

*On 200: F14 as standard - F16 on request.
On 300: F16 as standard - F14 on request.

200/300





Note: Actuators are standard with the largest square, smaller square sizes are delivered with sleeve adapters.

PERFORMANCE PARAMETERS OF ADJUSTING SERIES(TYPE E/GEY)

	Type	05E	10E	20E	40E	60E	100E	200E	300E
Parameters	Voltage (V)	220AC 24DC	220AC 24DC	220AC 24DC	220AC 24DC	220AC 24DC	220AC 24DC		
Output Torque (Nm)		50	100	200	400	600	1000	2000	3000
Maximum Torque (Nm)		65	130	260	520	800	1300	2600	3900
Acting Time (s)		25	30	30	30	45	30/50	90/110	110/170
Turning Angle		0 ~ 90°							
Motor Power (W)		10	25	40	90	90	120	120	120
Rated Current (A)		0.16/1.28	0.35/2.03	0.37/3.57	0.57/5.13	0.60/6.04	1.0/6.50	1.1/7.10	1.1/7.10
Total Weight (kg)		2.5	4.5	9	9.5	10	14	21	21
Input Signal		4~20mA DC, 1~5 VDC, 2~10 VDC							
Output Signal		4~20mA DC							
Basic Error		Not more than ±0.5%							
Reciprocating Error		≤ 0.5%							
Dead Space		0.5~5.0% (Adjustable)							
Damping Characteristics		0 Times							
Repeating Error in Actuator		≤ 0.5%							
Insulation Resistance		24V:100MΩ/250VDC | 220V:100MΩ/500VDC							
Voltage Class Tolerance		24V: 500 VAC @ 1 minute | 220VAC: 1500 VAC @ 1 minute							
Protection Class		IP67							
Installation Angle		360° at any angle							
Electric Interface		2 x G 1/2 Water proof cable connectors, one for power and one for signal							
Ambient Temperature		-25°C ~ +55°C							
Standard Features		Dehumidification Heater |Passive Contact Switch| Visual Position Indicator | Handle | Over Torque Protection | Emergency Button							
Remark		Other input/output signals and voltage ratings are available at request.							

FAIL-SAFE RETURN ACTUATORS (FSR)

With the optional fail-safe return function, the electric actuator can automatically move the valve to a preset safety position in the event of a power failure or signal loss.
This safety position can be configured as fully closed, fully open, or fail freeze (hold its current position).
When the actuator is powered on, the internal control circuit charges the built-in capacitor bank or battery to store backup energy.
If the external power supply or control signal is unexpectedly lost, the control circuit detects the failure and seamlessly switches to the backup power source. It then drives the actuator to the preset safety position.
Once power or signal is restored, the actuator automatically exits fail-safe mode and returns to normal operation.

Key Features

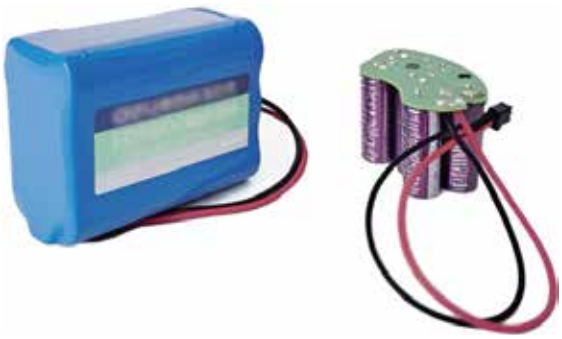
- All fail-safe return components are integrated within the actuator housing, maintaining a compact structure and small overall dimensions.
- Equipped with a robust surge protection circuit, capable of withstanding 1kV lightning surge waveforms—ideal for outdoor use without risk of damage.
- 4kV EFT (Electrical Fast Transient) protection on interface circuits ensures stable performance in complex electromagnetic environments, enabling reliable valve open/close control.
- Supports Modbus-RTU fieldbus communication for easy integration into industrial automation systems.

Fail-Safe Return Functions

- Safety position configurable as fully closed, fully open, or fail freeze (hold current position).
- Automatically drives the valve to the preset safety position upon unexpected loss of external power.
- Automatically returns to normal operation once external power is restored.
- Battery voltage monitoring and output functionality.
- Records the number of fail-safe return activations (trigger frequency tracking).
- Multi-functional integrated control board supports on/off control, modulating control, and Modbus-RTU communication in a single actuator (excluding Model 05)

Technical Specifications

- **Power Supply:** DC 24V
- **Energy Storage Method:**
  - Capacitor bank - Series 05/10
  - Battery - Series 20/40/60/100/200/300
- **Fail-Safe Full Stroke Drive Capability:** ≥ 4 cycles



Modulating Type

- **Input Signal:** 4–20 mA (optional: 2–10 VDC, 1–5 VDC)
- **Output Signal:** 4–20 mA (optional: 2–10 VDC, 1–5 VDC)
- **Fieldbus Protocol:** Modbus-RTU

On/Off Type

- **Input Signal:** Passive switching signal (Open/Close)
- **Output Signal:** Passive contact signal (Full Open / Full Close)
- **Fieldbus Protocol:** Modbus-RTU

OVERALL DIMENSIONS AND PERFORMANCE PARAMETERS - QUICK OPEN SERIES

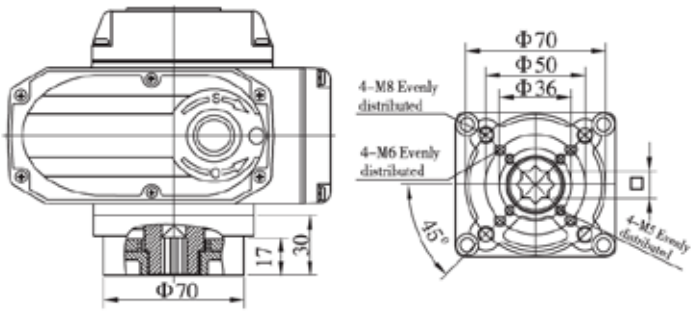
Direct installation type

Product Type	K05		K10	
Power Supply	24VDC	220VAC	24VDC	220VAC
Motor Power	13W	10W	25W	25W
Rated Current	3.0A	0.16A	6.0A	0.35A
Standard Time/Torque	2s/15Nm 5s/30Nm	3s/15Nm 6s/30Nm	2s/25Nm | 4s/50Nm 8s/80Nm	
Available Control Circuit	Type G	Type A/B	Type G	Type A/B
Turning Angle	0 ~ 270°		0 ~ 90°	
Total Weight	2.5 kg		4.5kg	
Insulating Resistance	24VDC:100MΩ/250VDC | 24-380VAC: 100MΩ/500VDC			
Voltage Class Tolerance	24VDC: 500 VAC @ 1 minute | 220VAC: 1500 VAC @ 1 minute			
Protection Class	IP67			
Installation Angle	360° at any angle			
Electric Interface	2 x G 1/2 Water proof cable connectors, one for power and one for signal			
Ambient Temperature	-25°C ~ +55°C			
Optional Features	Dehumidification Heater | Visual Position Indicator		Dehumidification Heater | Visual Position Indicator | Handle	

Note: - The stated running time is the time between 0 ~ 90°.
- Quick Open Series are not fit for circumstances when butterfly valves and other valves require a self-lock function.

Dimensions K05

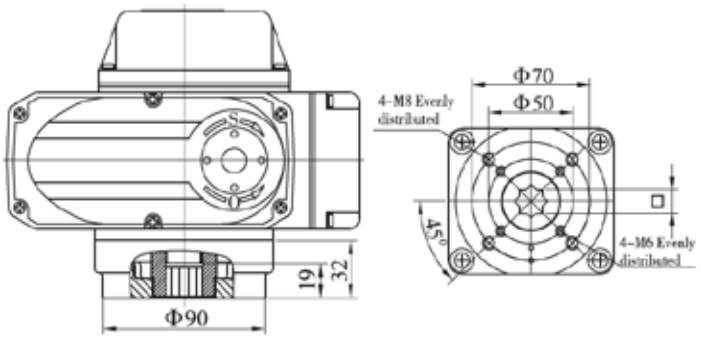
Direct Mounting



Parameters of Direct installation	
Square	□9×9 □11×11 □14×14
Flange	F03 F05 F07
Valve stem	Height≤17mm

Dimensions K10

Direct Mounting



Parameters of Direct installation	
Square	□9×9 □11×11 □14×14
Flange	F05 F07
Valve stem	Height≤19mm

Note: Actuators are standard with the largest square, smaller square sizes are delivered with sleeve adapters.

OVERALL DIMENSIONS AND PERFORMANCE PARAMETERS - QUICK OPEN SERIES


Direct installation type

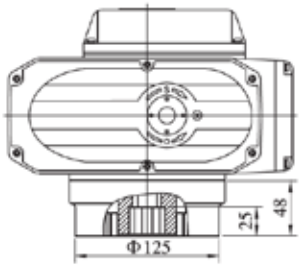

Direct installation type

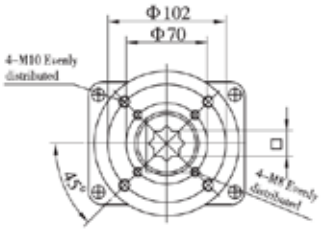
Product Type	K20		K40	K100
Power Supply	24VDC	220VAC	220VAC	220VAC
Motor Power	35W	40W	90W	120W
Rated Current	6.0A	0.37A	0.57A	0.94A
Standard Time/Torque	2s/50Nm | 4s/100Nm 8s/200Nm		2s/80Nm 4s/160Nm 8s/330Nm	4s/500Nm 8s/800Nm 12s/1200Nm
Available Control Circuit	Type G	Type A/B	Type G	Type A/B
Turning Angle	0 ~ 90°		0 ~ 90°	
Total Weight	9kg		9.5kg	19kg
Insulating Resistance	24VDC:100MΩ/250VDC | 220VAC: 100MΩ/500VDC			
Voltage Class Tolerance	24VDC: 500 VAC @ 1 minute | 220VAC: 1500 VAC @ 1 minute			
Protection Class	IP67			
Installation Angle	360° at any angle			
Electric Interface	2 x G 1/2 Water proof cable connectors, one for power and one for signal			
Ambient Temperature	-25°C ~ +55°C			
Optional Features	Dehumidification Heater | Visual Position Indicator | Handle			

Note: - The stated running time is the time between 0 ~ 90°.
- Quick Open Series are not fit for circumstances when butterfly valves and other valves require a self-lock function.

Dimensions K20/40

Direct Mounting

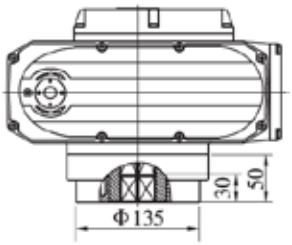


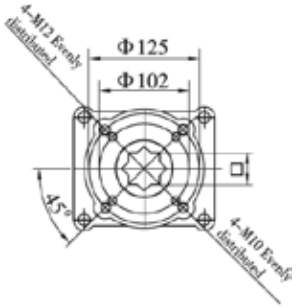


Parameters of Direct installation		
	DCL-K20	DCL-K40
Square	□14×14 □17×17	□17×17 □22×22
Flange	F07 F10	
Valve stem	Height≤25mm	

Dimensions K100

Direct Mounting





Parameters of Direct installation	
Square	□22×22 □27×27
Flange	F10 F12
Valve stem	Height≤30mm

Note: Actuators are standard with the largest square, smaller square sizes are delivered with sleeve adapters.

EQUIPMENT & FUNCTION

Model Designation

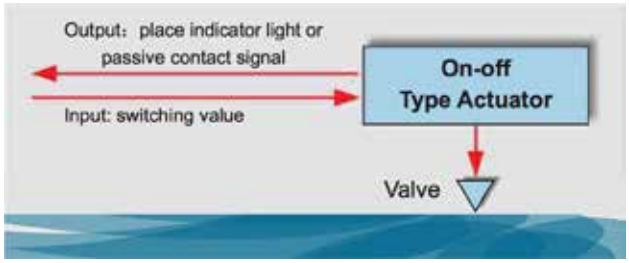
DCL– 10 E / 30S / AC220V / Z G

- Actuator output torque ÷ 10
- Type of control circuit
- 0~90° Acting time
- Type of power supply
- Mounting Manner:Z-Direct installation,O-Standard.
- Over-torque Protection function,otherwise,it's "O"

On - Off Type Actuator

Control Circuit Type A, B, D, G and H

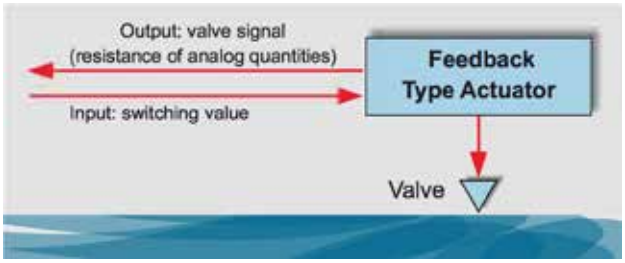
On-off actuators have two primary positions: fully-open and fully-closed. However, if needed, a preset middle position can be set (type B, G, H). When a command is received, the actuator will drive the valve to the fully open, fully closed, or middle position.
The actuators operate under the S2 short-time duty classification, meaning they can operate continuously for less than 15 minutes.



Feedback Type Actuator

Control Circuit Type C, D and F

While the actuator drives the valve, it provides full-range feedback signals to the PLC. Types C and D provide feedback signals based on resistance (potentiometer-based feedback), while Type F provides an analog signal (such as 4–20 mA or 0–10 V).
The actuator adopts the S2 short-time duty classification, meaning it can operate continuously for less than 15 minutes at a time.

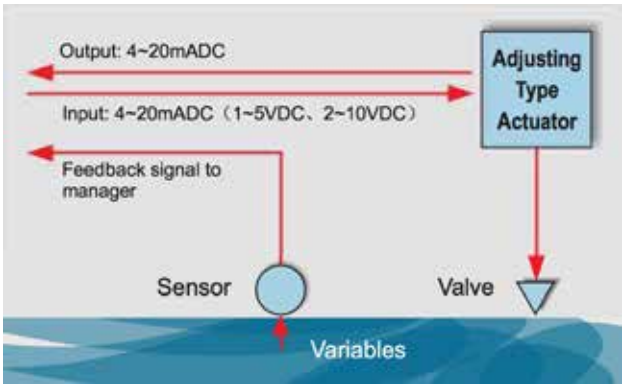


Adjusting Type Actuator

Control Circuit Type E

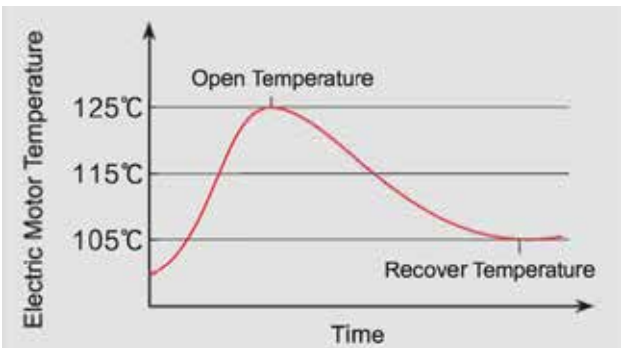
The servo-controller is located inside the actuator. It receives commands from the Programmable Logic Controller (PLC) and adjusts the valve to the appropriate opening position based on varying conditions of variables—such as flow, pressure, temperature, and fluid level—in the pipeline.

The actuator operates with the characteristics of an S4 intermittent duty type, capable of handling up to 1,200 cycles per hour.



Electric Motor

Electric motors have specific design features:
Higher Starting Torque: The actuator's electric motor has a higher starting torque to meet the working characteristics of valves. This allows the actuator to start under full load conditions at the opening, closing, and any intermediate positions.
Lower Rotational Inertia: The motor is designed with reduced rotational inertia to facilitate precise adjustment of the flow (opening range).
Overheating Protection: If the actuator stalls, it can cause a rapid temperature rise in the motor. To protect the motor and control system, a PTC overheating protector located in the motor winding will switch off the circuit when the temperature reaches 125°C. The circuit will automatically recover when the temperature drops to between 90°C and 105°C.



EQUIPMENT & FUNCTION

Servo Controller

The acuator's servo-controller features a unique circuit design, utilizes imported technical-grade electronic parts and components, and is produced using modern manufacturing technology. These factors ensure high quality and reliability. The circuit board is encapsulated in resin, which enhances its resistance to shock and humidity. Additionally, the unique electronic brake function ensures the actuator stops precisely when the position is set to fixed, resulting in zero damping oscillations (the standard allows for less than 3.5 oscillations).

Micro Regulation Device of Electric Stroke Limit

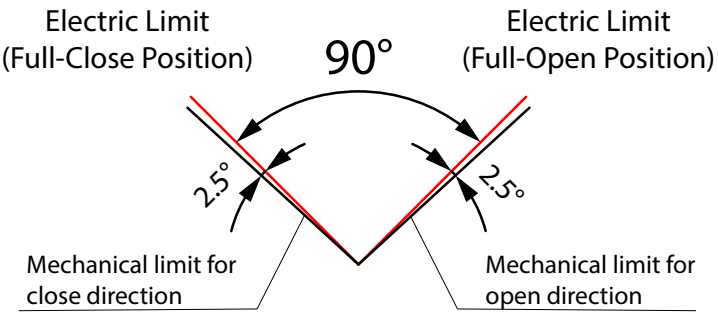
Adjusting the actuator's electric limit strokes for both the open and close directions is very easy using a hexagon spanner, thanks to the unique patented technology. Additionally, the unique micro-regulation function allows for more precise adjustment of the electric limit strokes. Patent NO. : ZL201020214725.8

Electric & Mechanical Limit Function

The electric limit switch located inside the actuator will disconnect the circuit to protect the actuator when it reaches the full-open, full-close, or any predetermined position between them.

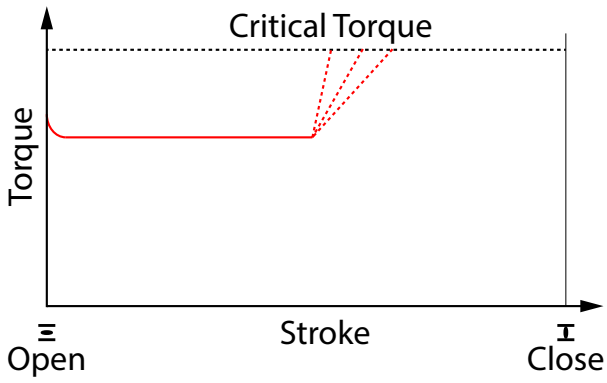
If the electric limit function fails, the actuator's output shaft will be locked by a mechanical limit device to prevent damage to the valve.

A graphical representation illustrates the positional relationship between the electric limit and the mechanical limit.



Over-Torque Protection (Standard on the 20 Series and up)

If the valve becomes stuck due to impurities, foreign matter in the pipeline, or other causes, the output torque of the actuator will increase up to a preset limit. When this limit is reached, the torque switch will disconnect the circuit to protect both the valve and the actuator from damage.



Heating & Dehumidification Function (Standard Feature)

The electrical enclosure of the actuators is equipped with a PTC (Positive Temperature Coefficient) electronic heating component. This heater prevents damage to electronic components caused by condensation. It is particularly useful in areas with high humidity and significant temperature differences between day and night. The heater operates continuously and remains powered at all times, regardless of whether the actuator is in operation or not.

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