

TCR-N-KT CAPACITOR RETURN ELECTRICAL ACTUATOR

FEATURES

The TCR-N-KT electric actuators are intended for motorising ¼ turn valves with a torque of 15, 50, 90 or 200 Nm. **Capacitor return function:** the closing manoeuvre is provided by a capacitor. With a compact construction and plastic housing, they are especially well suited for motorising small size ball valves. IP67 leak-tightness: to be used indoors and, possibly, outdoors under a shelter. Possible installation in parallel. Manual control with a key.

AVAILABLE MODELS

Supply voltages: 230V AC, 24V AC/DC.

Dual Frequency: 50Hz, 60Hz.

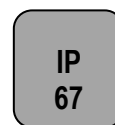
LIMITS OF USE

IP Code	IP 67
Ambient temperature	- 20°C / +60°C
Service factor	S4 - 50% (TCR 02N-05N-11N)
	S3 - 85% (TCR 20N)



MECHANICAL FEATURES

Gear box	treated steel pinions
Torques	15 - 45 - 95 - 110 Nm
Angle of rotation	90° +/- 2°
Declutching	Without (TCR 02N-05N-11N)
	With (TCR 20N)
Override control	By key



Actuator	TCR 02N-KT32		TCR 05N-KT32		TCR 11N-KT32	
Torques (Nm)	15		50		90	
Voltage	24V AC - DC	95-265V AC-DC	24V AC - DC	95-265V AC-DC	24V AC - DC	95-265V AC-DC
Manoeuvring time (s)	10	10	12	12	10	10
ISO 5211:	F03/F05 - star 11		F05/F07 - star 14		F05/F07 - star 17	

Actuator	TCR 20N-KT32	
Torques (Nm)	200	
Voltage	24V AC - DC	95-265V AC-DC
Manoeuvring time (s)	25	25
ISO 5211:	F07/F10 - étoile de 22	

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ELECTRICAL FEATURES

Actuator	TCR 02N-KT32	TCR 05N-KT32	TCR 11N-KT32
Motor protection	Thermal switch		
Limit switches	2 adjustable switches		
Auxiliary switches	2 adjustable dry switches		
Anti-condensation	integrated		
Electrical connection	PE M10 + 1.5m cable	PE M20 + 1.5m cable	2 x PE M14 + 1.5m cable

Actuator	TCR 02N-KT32		TCR 05N-KT32		TCR 11N-KT32	
Voltage	24V AC - DC	95-265V AC-DC	24V AC - DC	95-265V AC-DC	24V AC - DC	95-265V AC-DC
Power (W)	36	36	40	40	100	100
Current (A)	1,5	0,09	1,8	1,6	2,5	0,26 - 0,52
Fuse protection (A)	5	1	10	2	5	2
Charging time (min)*	2	2	3	3	5	5

Actuator	TCR 20N-KT32
Motor protection	Thermal switch
Limit switches	2 adjustable switches
Auxiliary switches	2 adjustable dry switches
Anti-condensation	integrated
Electrical connection	PE M20 + 1.5 m cable

Actuator	TCR 20N-KT32	
Voltage	24V AC - DC	95-265V AC - DC
Power (W)	50	50
Current (A)	2	0.22
Fuse protection (A)	2	5
Charging time (min)*	5	5

*** Charging time :**

- After complete opening (excluding manoeuvring time).
- After prolonged non-use (>1 week) : add 1 minute to the recommended charging time.

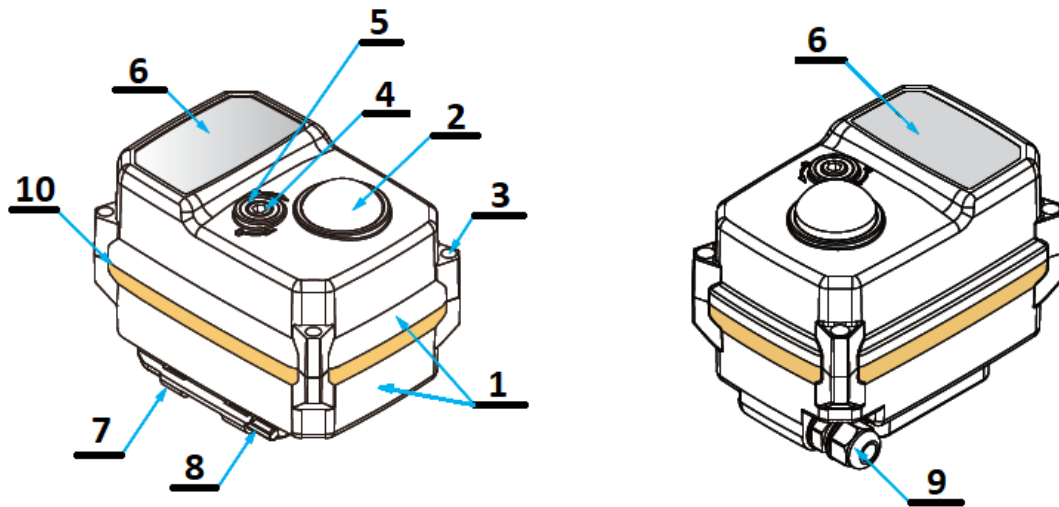
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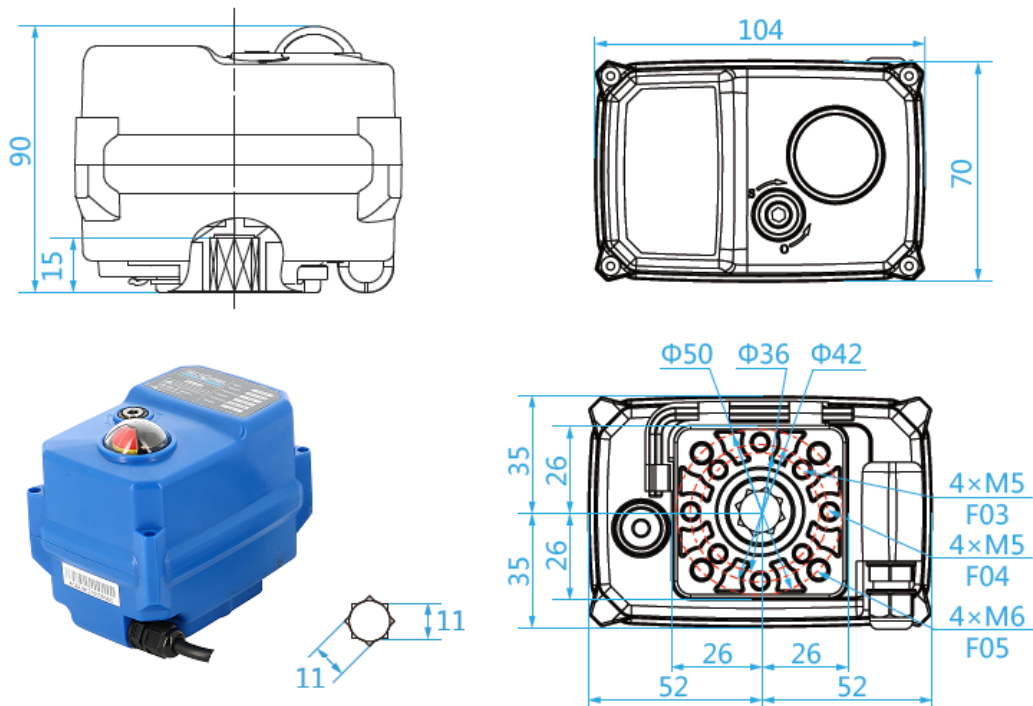
TCR-N-KT CAPACITOR RETURN ELECTRICAL ACTUATOR

CONSTRUCTION (TCR-02N-KT32)

TCR-02N-KT32					
No.	Name	Material	No.	Name	Material
1	Casing + lid	Plastic (ABS)	6	Rating plate	PVC
2	Position indicator	Polycarbonate plastic	7	Key support	Plastic (ABS)
3	Screw x 4	Aisi 304	8	Hex key	Steel
4	Backup control stem	Aisi 304	9	Packing gland	Nylon
5	Gasket	NBR	10	Cover gasket	NBR
Weight (kg): 0.620					



DIMENSIONS (mm)



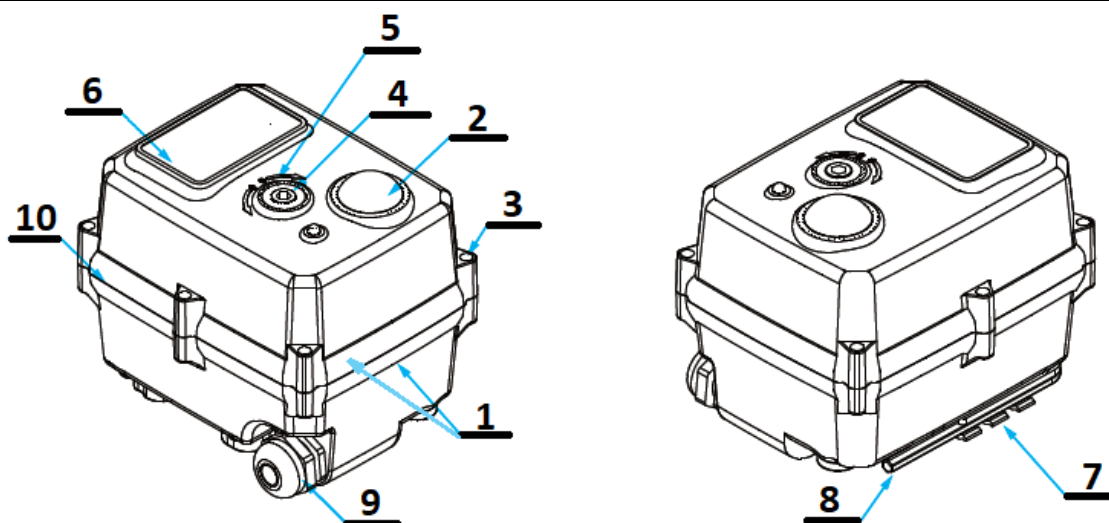
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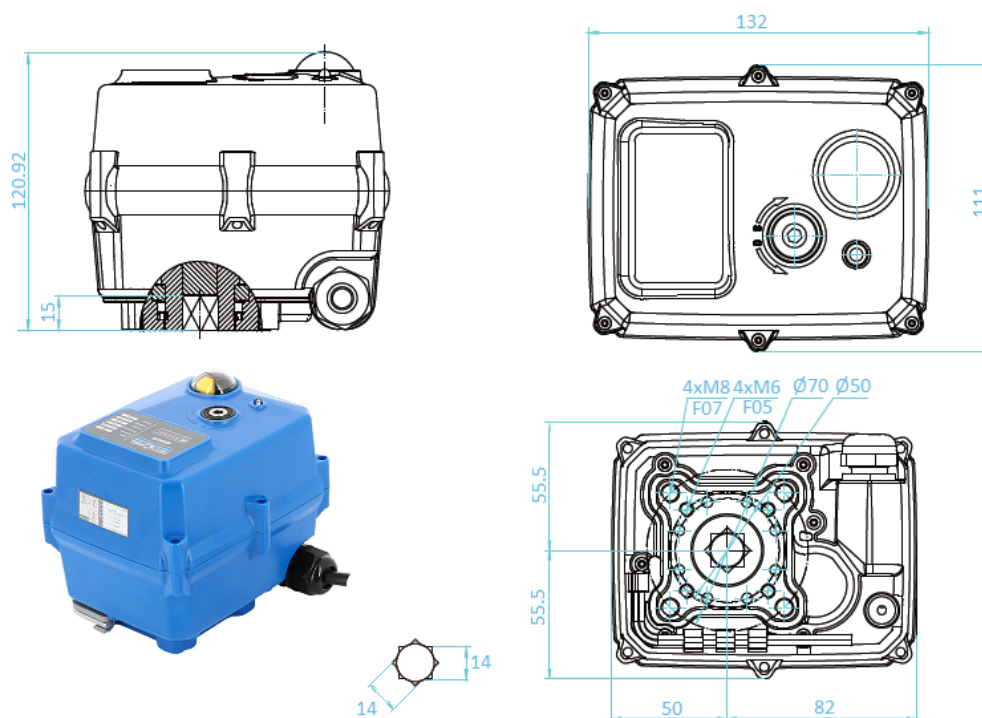
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CONSTRUCTION (TCR-05N-KT32)

TCR-05N-KT32					
No.	Name	Material	No.	Name	Material
1	Casing + lid	Plastic (ABS)	6	Rating plate	PVC
2	Position indicator	Polycarbonate plastic	7	Key support	Plastic (ABS)
3	Screw x 6	Aisi 304	8	Hex key	Steel
4	Backup control stem	Aisi 304	9	Packing gland	Nylon
5	Gasket	NBR	10	Cover gasket	NBR
Weight (kg): 1.800					



DIMENSIONS (mm)



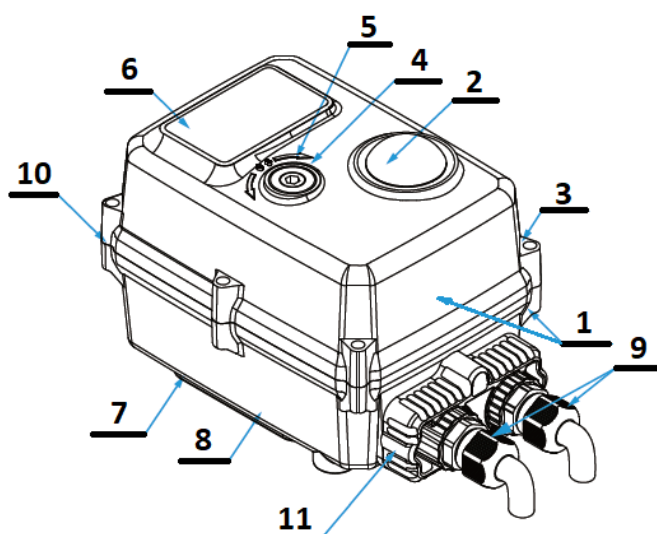
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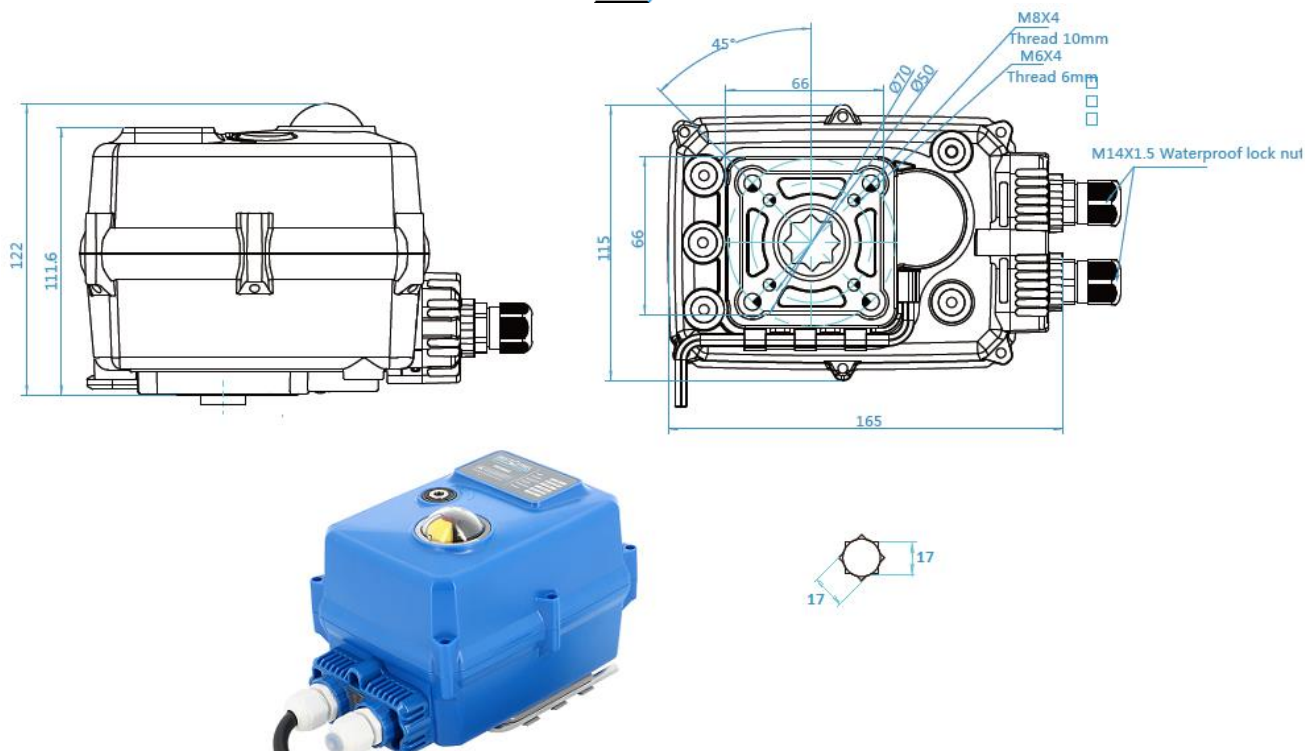
TCR-N-KT CAPACITOR RETURN ELECTRICAL ACTUATOR

CONSTRUCTION (TCR-11N-KT32)

TCR-11N-KT32					
No.	Name	Material	No.	Name	Material
1	Casing + lid	Plastic (ABS)	6	Rating plate	PVC
2	Position indicator	Polycarbonate plastic	7	Key support	Plastic (ABS)
3	Screw x 6	Aisi 304	8	Hex key	Steel
4	Backup control stem	Aisi 304	9	X 2Packing gland	Nylon
5	Gasket	NBR	10	Cover gasket	NBR
Weight (kg): 2.200			11	Cable gland unit	Plastic (ABS)



DIMENSIONS (mm)



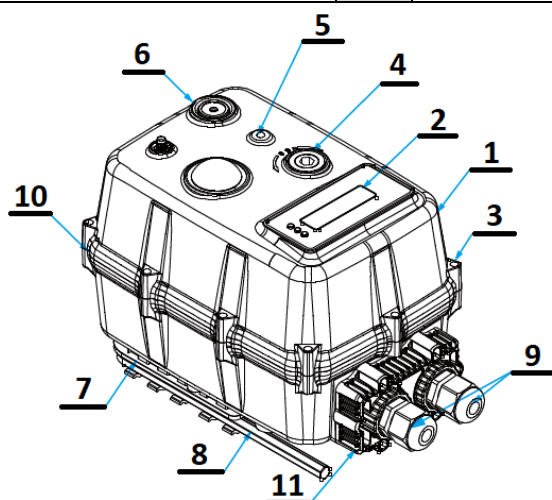
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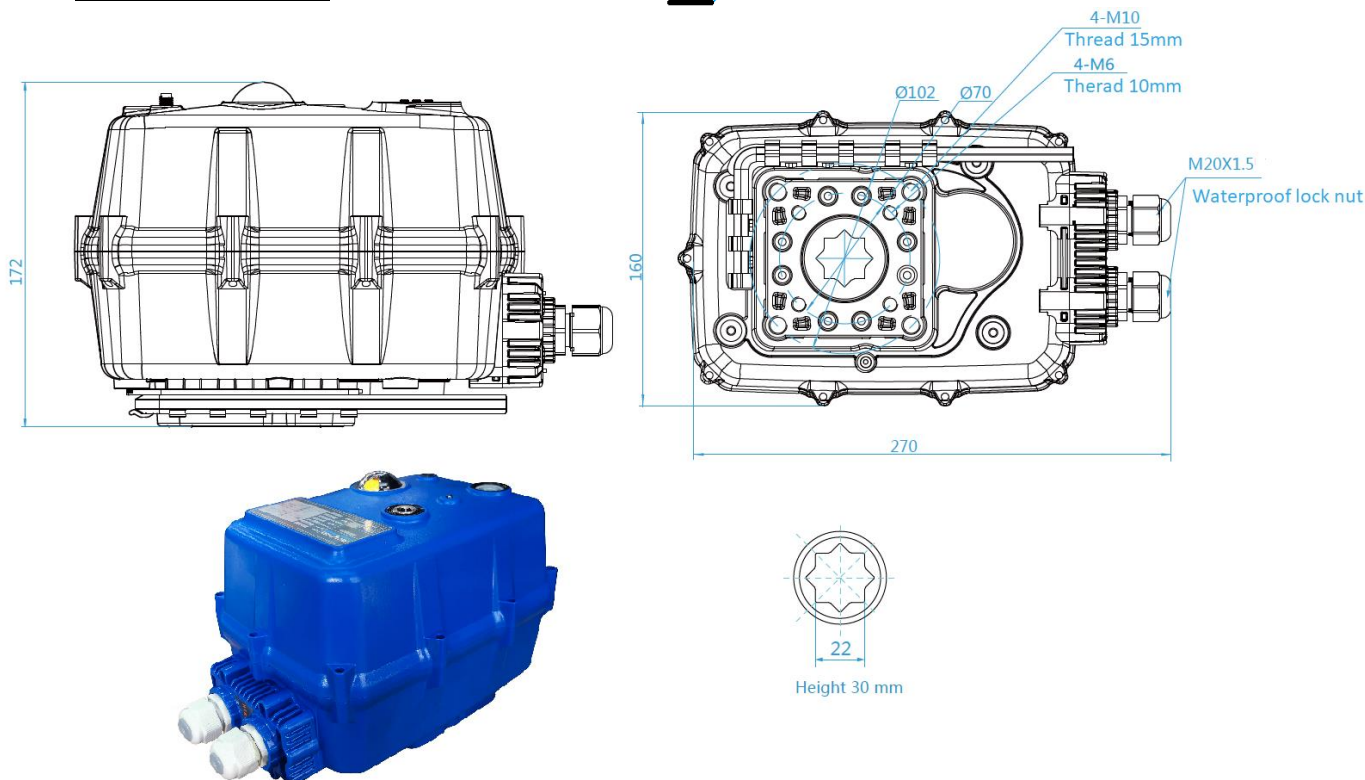
TCR-N-KT CAPACITOR RETURN ELECTRICAL ACTUATOR

CONSTRUCTION (TCR-20N-KT32)

TCR-20N-KT32					
N°	Désignation	Matière	N°	Désignation	Matière
1	Casing + lid	PC + PET	6	Clutch	Polyoxymethylene POM
2	Position indicator	Polycarbonate plastic	7	Key support	Plastic (ABS)
3	Screw x 6	Aisi 304	8	Hex key	Steel
4	Backup control stem	Aisi 304	9	X 2Packing gland	Nylon
5	LED	Plastic PC	10	Cover gasket	NBR
Poids (Kg) : 6,000			11	Cable gland unit	Plastic (ABS)



DIMENSIONS (mm)



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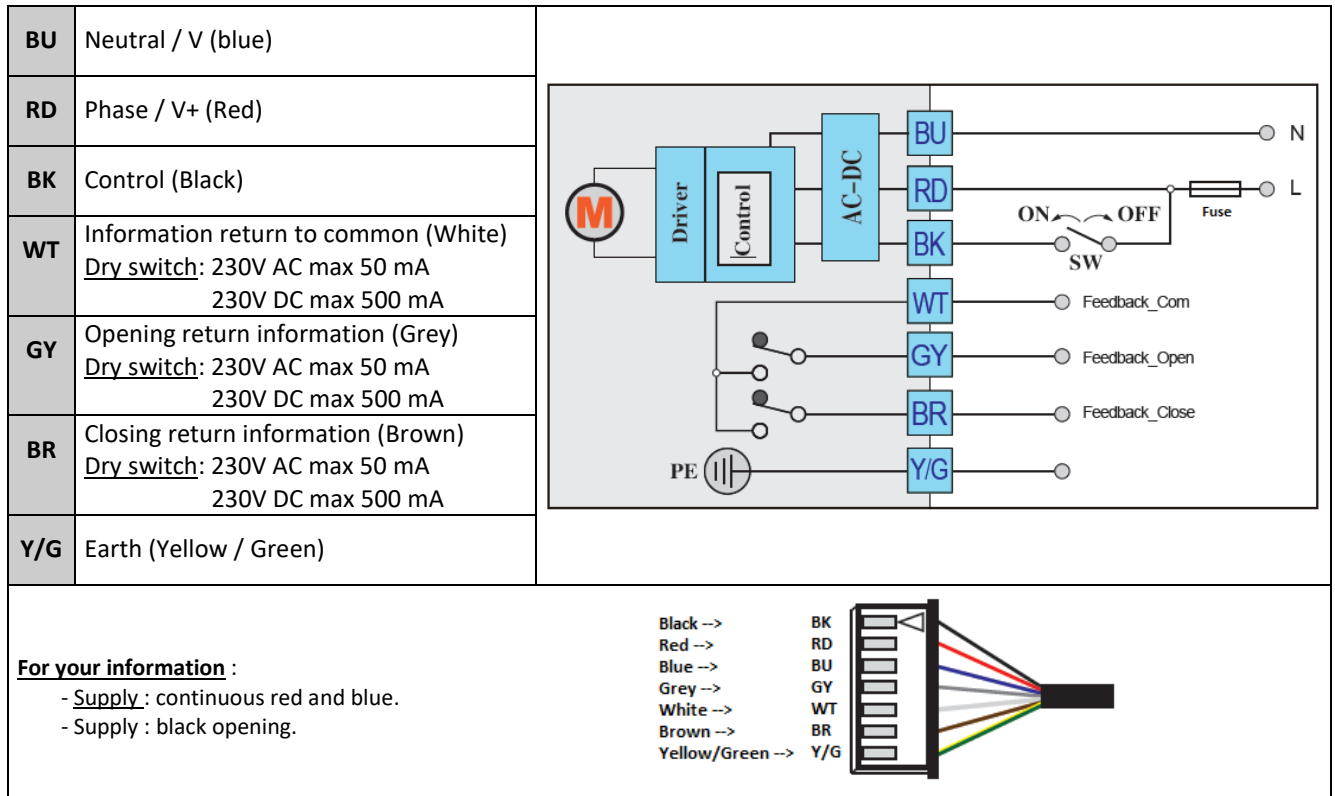
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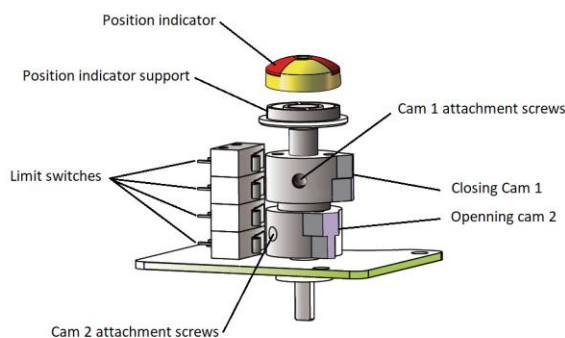
WIRING DIAGRAM

Note :

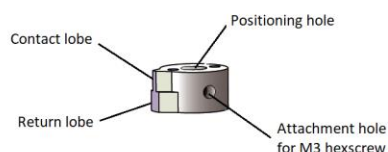
- Follow the wiring diagram carefully. In standard operation, do not systematically use the capacitor for closing.
- For high opening/closing frequencies, it is essential to follow the wiring diagram shown (see page 2 § electrical characteristics - charging time).



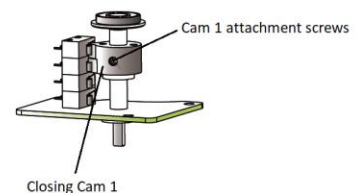
SWITCH SETTING



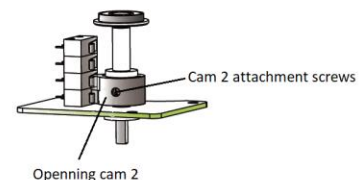
GENERAL VIEW



CAM DETAIL



CLOSING CAM ADJUSTMENT



OPENING CAM ADJUSTMENT

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TROUBLESHOOTING

Defect met	Cause of defect	Method of solving
Inactive actuator	Non-connected electrical grid.	Connect to the electrical grid.
	Wrong voltage.	Check the actuator's voltage.
	Motor overheating.	Check the torque on the valve.
	Faulty connection.	Check the connection to the terminal box.
	Damaged start capacitor.	Contact the supplier for repair.
No switch signal	Faulty connection.	Check the connections.
	Damaged microswitch	Change the microswitch
Valve that is not fully closed	Use the return signal from the actuator check.	Receiving a return signal does not mean that the actuator is fully closed, hence do not cut the power supply.
	The hysteresis increases due to wear or between the actuator and the valve's stem.	Readjust the limit cams. Contact the supplier for repair.
Presence of humidity or water in the actuator	Unsuitable cable cross-section being used.	Contact the supplier for repair.
	The cable connection is not leak-tight.	
	Worn sealing gaskets.	
	Loose cover screws.	Dry the internal parts and tighten the cover screws.

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