Technical data sheet CVK230A

Actuator solution for 2-way and 3-way short stroke globe valves (Retrofit)

- Actuating force 150 N
- Nominal voltage AC 100...240 V
- Control Open/close
- Stroke 6.5 mm
- Fixing to valves with M30x1.5
- Flexible adjustment to stem height and stroke length
- Deenergised closed (NC)
- mounting on the valve without tools



Picture may differ from product

Technical data

Electrical data	Nominal voltage	AC 100...240 V
	Nominal voltage frequency	50/60 Hz
	Power consumption in operation	2.5 W
	Power consumption in rest position	0.5 W
	Power consumption for wire sizing	5 VA
	Connection supply / control	Cable 1 m, 2x 0.34 mm²
	Parallel operation	Yes (note the performance data)
Functional data	Actuating force motor	150 N
	Direction of motion fail-safe	deenergised closed (end stop NC = 0%)
	Manual override	No
	Stroke	6.5 mm
	Stroke limitation	below 2.5 mm only for open/close applications
	Actuator fixing	M30x1.5
	Running time motor	75 s / 6.5 mm
	Running time fail-safe	60 s / 6.5 mm
	Sound power level motor	35 dB(A)
	Sound power level, fail-safe	35 dB(A)
	Position indication	Mechanical
Safety data	Protection class IEC/EN	III, Safety Extra-Low Voltage (SELV)
	Degree of protection IEC/EN	IP40
	EMC	CE according to 2014/30/EU
	Certification IEC/EN	IEC/EN 60730-1 and IEC/EN 60730-2-14
	Type of action	Type 1.AA
	Rated impulse voltage supply / control	0.8 kV
	Pollution degree	2
	Ambient humidity	Max. 95% RH, non-condensing
	Ambient temperature	5...40°C [41...104°F]
	Storage temperature	-40...80°C [-40...176°F]
	Servicing	maintenance-free
Weight	Weight	0.25 kg
Terms	Abbreviations	POP = Power off position / fail-safe position PF = Power fail delay time / bridging time

Safety notes

- This device has been designed for use in stationary heating, ventilation and air-conditioning systems and must not be used outside the specified field of application, especially in aircraft or in any other airborne means of transport.
- Outdoor application: Only possible if no (sea) water, snow, ice, sunlight or aggressive gases act directly on the device and if it is ensured that the ambient conditions remain within the limit values specified in the data sheet at all times.
- Caution: Mains voltage!
- Only authorised specialists may carry out installation. All applicable legal or institutional installation regulations must be complied with during installation.
- The device may only be opened at the manufacturer's site. It does not contain any parts that can be replaced or repaired by the user.
- Cables must not be removed from the device.
- The device contains electrical and electronic components and must not be disposed of as household refuse. All locally valid regulations and requirements must be observed.

Product features

Operating mode

The actuator moves the valve to the desired operating position at the same time as the integrated capacitors are loaded.

Interrupting the supply voltage causes the valve to be moved to the fail-safe position by means of stored electrical energy, taking into account the bridging time (PF) of 1 s set at the factory.

Pre-charging time (start up)

The capacitor actuators require a pre-charging time. This time is used for charging the capacitors up to a usable voltage level. This ensures that, in the event of a power failure, the actuator can move at any time from its current position into the fail-safe position. The duration of the pre-charging time depends mainly on how long the power was interrupted.

Typical pre-charging time



[d] = Power failure in days
[s] = Pre-charging time in seconds

	[d]				
	0	3	6	9	12
[s]	6	8	10	12	14

Delivery condition (capacitors)

The actuator is completely discharged after delivery from the factory, which is why the actuator requires approximately 25 s pre-charging time before initial commissioning in order to bring the capacitors up to the required voltage level.

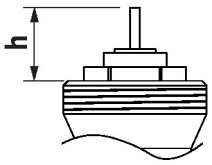
Simple direct mounting

The actuator solution can be mounted tool-free on short stroke globe valves with thread M30x1.5. The actuator can be rotated by 360° on the valve neck, provided the size of the installed valve permits it.

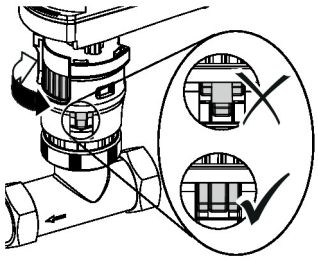
Product features

Adjustable stroke After successful manual stem adaptation, the stroke range adapts to the stroke of the valve.

The maximum possible stroke of the actuator depends on the height h of the third-party valve.



h [mm]	h_a [mm]
8.3	1
8.5	1.2
9	1.7
9.5	2.2
10	2.7
10.5	3.2
11	3.7
11.5	4.2
12	4.7
12.5	5.2
13	5.7
13.5	6.2
13.8...18.5	6.5



h_a = maximum stroke

High functional reliability The actuator is overload protected, requires no limit switches and automatically stops when the end stop is reached.

Position indication The stroke is indicated mechanically by a position indicator on the actuator.

Home position Factory setting: Actuator in 0° position

Electrical installation

Caution: Mains voltage!

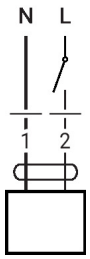
Parallel connection of other actuators possible. Observe the performance data.

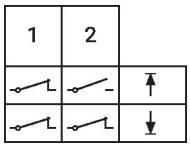
Control via Triac outputs is not supported and may result in malfunctions or damage.

The use of a relay thermostat or external relay module is recommended.

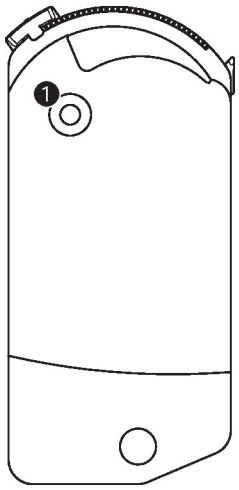
Wire colours:
1 = black
2 = red

AC 230 V, open/close





Operating controls and indicators



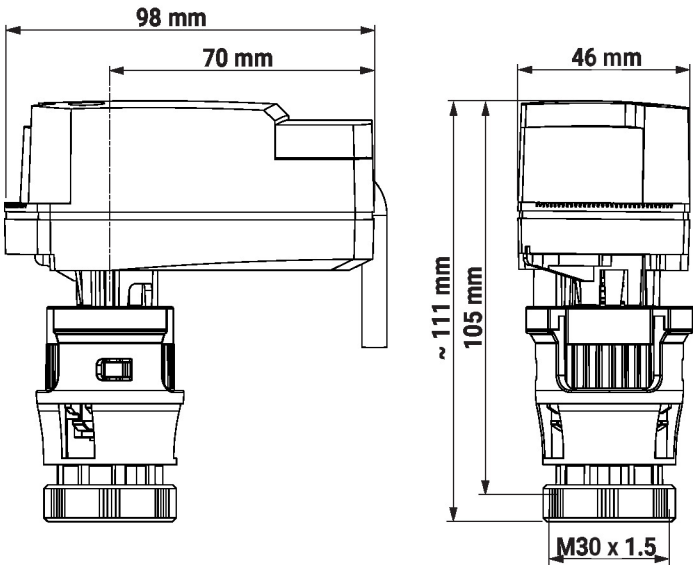
1 Push-button: no function

Installation notes

Motorisation

The maximum permissible fluid temperature for the actuator is 100°C. For more detailed information on fluid temperatures and close-off pressures of third-party valves, please refer to the documentation of the respective manufacturer. When motorising short stroke globe valves, an end stop is required on the valve stem. The valve stem must be able return to its initial position by itself. This enables reliable adaptation of the actuator.

Dimensions



Further documentation

- The complete product range for water applications
- Data sheets for short stroke globe valves
- Installation instructions for short stroke globe valves and and actuator solutions
- General notes for project planning