

# Valve Driver/Actuator

## 直行程

CK50 /CK70 /CK80 /CK90 Series



## 安装调试说明书

**okonoff**

### 知识产权说明:

本系列产品已获取外观设计及实用新型等多项专利，已受中华人民共和国法律保护。

“okonoff” “柯耐弗” 均属注册商标。

### Warning:



The symbol means the unit is being installed, it may cause electrical shock hazard during maintaining, so please make sure it is operated by the professional technical worker.

**okonoff**

美国柯耐弗自控有限公司监制

上海柯耐弗电气有限公司制造

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EMC  
tested



CK50~90 100420

## 1. Product Summary

CK50/CK70/CK80/CK90 series of valve actuators are direct journey actuators, widely applied in the heating system, winding system and air-conditioning system. We suggest you use this product together with 2-way or 3-way CF and CV series of modulating valves from DN65 to DN200.

### Models and Functions:

◆**CK51/CK71/CK81/CK91**: Floating type, directly connected with 24VAC driver, also can be used together with PI temperature controller (for selection).

◆**CK52/CK72/CK82/CK92**: Standard type, controlled by standard signal, the input controlling signal is from 0V to 10V or from 4mA to 20mA, the feedback signal of output position is from 0V to 10V.

## 2. Characteristics

2. 1 Bidirectional synchronous motors, auto-separated for terminal limited.
2. 2 Low noise, strong output driving force (details pls refer to technique parameter)
2. 3 Direct journey, can be applied in the modulating valve whose journey is less than 45mm.
2. 4 Added manual controlling equipment.
2. 5 Convenient and easy to be installed.
2. 6 High controlling precision degree, response with quick speed
2. 7 CK52/CK72/CK82/CK92 with digital CPU circuit, LED display, can be programmed at scene. (Details pls refer to the Point 8, 9 in the manual)

## 3. Shut-Off DP

Driving Force	CV0652 DN65	CV0802 DN80	CV1002 DN100	CV1252 DN125	CV1502 DN150	CV200 DN200
1800N	500	300	200	150	100	--
2800N	800	500	300	250	200	--
3500N	1000	600	400	300	250	--
4000N	1200	700	500	400	300	100

## 4. Main Technical Parameters

表1

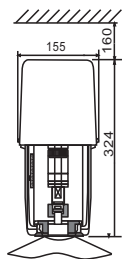
Model	CK51	CK71	CK81	CK91
Rated Voltage	AC24V or AC220V/50Hz			
Power Consumption	12VA	11VA	12VA	11VA
Control Signal	AC24V or AC220V/50Hz			
Feedback Signal	N/A	N/A	N/A	N/A
Driving Force	1800N	2800N	3500N	4000N
Whole Journey Time	140S	200S	200S	300S
Environment Condition	Working : -5~50℃ ;Storage: -20~65℃ ; Humidity: 92%(Non-condensing)			
Protective Class	IP54			
Material	Gearwheel: Brass/Stainless; Steel; Bracket: Aluminum; Interface: ABS			

表2

Model	CK52	CK72	CK82	CK92
Rated Voltage	24VAC/50HZ			
Power Consumption	14VA	13VA	14VA	13VA
Control Signal	0-10V or 4-20mA			
Feedback Signal	0-10V (0.5mA)			
Driving Force	1800N	2800N	3500N	4000N
Whole Journey Time	140S	200S	200S	300S
Environment Condition	Working : -5~50℃ ;Storage: -20~65℃ ; Humidity: 92%(Non-condensing)			
Protective Class	IP54			
Material	Gearwheel: Brass/Stainless; Steel; Bracket: Aluminum; Interface: ABS			

Remark: The whole journey time is the time when the max. journey is 45mm

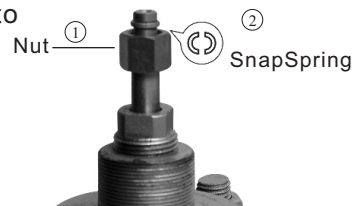
## 5. External Dimension



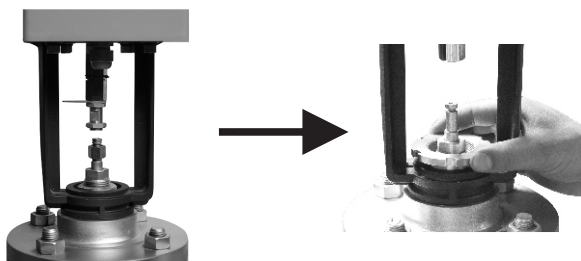
## 6. Installation

6.1 Please check if there is enough place on the valve for the installation and disassembly of actuator (Please refer to the dimension in item 5)

6.2 The installation of lock nut and snap spring



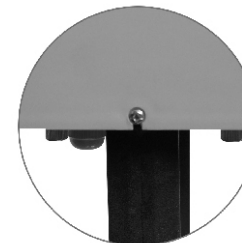
6.3 Fit the actuator (By manual first, then by tools)



6.4 Adjust the position of valve stem and connecting pole to make the effective journey of actuator satisfy the journey of valve.

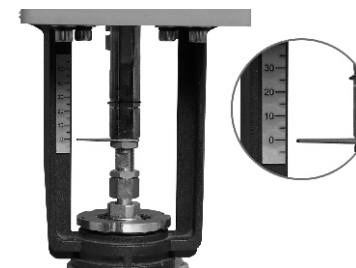


6.5 Open the outer cover of actuator, connect with the power line and signal wire ( connect them according to the electric principle diagram), please pass the connecting wire through the incoming line hole.



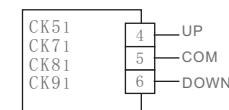
执行器左右两侧  
固定螺丝

6.6 Correct the valve position and locate the scale Adjust the journey of actuator to the lower limited position to fully open or close the valve, make the pointer point at the "0" calibration of scale

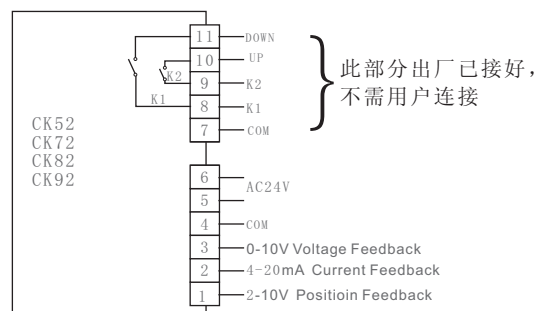


## 7. Electric Principle Diagram

7.1 CK51/CK71/CK81/CK91



## 7.2 CK52/CK72/CK82/CK92



## 8. CK52/CK72/CK82/CK92 Live Set

Should be operated by professional engineers, please check if the installation is correct again, and check if the power is the same as the required power before supplying the power.

### 8.1 Open the outer cover of actuator

### 8.2 LED Display



No. 2/3/4:  
set parameter or display data  
No. 1: Model Code

8.3 Press S1 or S3 key to enter mode 0 to mode 7 in sequence (8 kinds in all), mode 0 and mode 1 are running mode, others are setting mode. Please refer to the mode table below:

Mode Code	LED Parameter	Function	Meanings
0	0~100	Display the input signal.	Display the input signal in form of percentage, for example, "50" is the voltage signal of 5.0 V or the current signal of 12 mA.
1	0~100	Display feedback signal.	Display the feedback signal in form of percentage, for example, "50" is the voltage signal of 5.0 V.
2	0	In inverse proportion to the input.	The more the input quantity is, the shorter the connecting pole stretches out.
	1	In direct proportion to the input.	The more the input quantity is, the longer the connecting pole stretches out.
3	0	In inverse proportion to the feedback.	The shorter the connected pole stretches out, the smaller the feedback outputs.
	1	In direct proportion to the feedback.	The longer the connecting pole stretches out, the larger the feedback outputs.
4	100	Upper Limited Position	Press S2 to make actuator run up, then press again to stop and record the up limiting position automatically.
5	0	Lower limited position	Press S2 to make actuator run down, then press again to stop and record the lower limited position automatically.
6	100	Display upper limited position.	Display the last setting value of upper limited value.
7	0	Display lower limited position.	Display the last setting value of lower limited value.

## 九、CK52/CK72/CK82/CK92现场设置操作方法

9.1 模式0: 输入信号百分比检查, 为运行状态模式, S2无效。

9.2 模式1: 反馈信号百分比检查, 为运行状态模式, S2无效。

9.3 模式2: 输入信号正反向选择, 在此模式下执行器停止动作。由S2选择输入正向或反向。



正 向



反 向

输入信号与执行器连杆位置的关系表

输入信号	输入方向	执行器连杆位置
0V (4mA)	0	连杆伸出到下限点位置
	1	连杆缩回到上限点位置
10V (20mA)	0	连杆缩回到上限点位置
	1	连杆伸出到下限点位置

9.4 模式3: 反馈信号正反向选择, 在此模式下执行器停止动作, 由S2选择反馈正向或反向。



正 向



反 向

反馈信号与执行器连杆位置的关系表

执行器连杆位置的关系表	反馈方向	位置反馈输出
在上限点位置	0	100% (10V)
	1	0% (0V)
在下限点位置	0	0% (0V)
	1	100% (10V)

9.5 当执行器安装到阀门上去之后, 要根据阀门的实际行程来对执行器的上, 下限位置进行设置。上、下限位置应分别对应于阀门的全开或全关点, 如阀门不需要全开或者全关, 也可以按阀门的实际行程来设置。以使执行器能够准确地控制阀门。

### 9.6 模式4: 执行器上限位设置



按S2键上行

在按S2键停止上行, 并且自动记录最后一次上限位置

### 9.7 模式5: 执行器下限位设置



按S2键下行

在按S2键停止下行, 并且自动记录最后一次下限位置

### 9.8 模式6: 上限位参数检查, 显示上次记录的上限值



### 9.9 模式7: 下限位参数检查, 显示上次记录的下限值



### 9.10 调试完毕, 返回运行模式1或0。

#### 十、注意事项

- 10.1 应由专业的技术人员，按照说明书正确安装。
- 10.2 请勿将本执行器安装在靠近高温热源或恶劣环境位置。
- 10.3 安装之前请确认电源是否与控制器标明的电压相符合。
- 10.4 请详细阅读此说明书后使用本产品

尊敬的用户：

非常感谢您选用本公司产品，请仔细阅读说明书后  
使用产品。

在为您提供优质可靠的产品同时，我们将随时随地  
为您提供技术支持及售后服务。

如有任何疑问，请及时的联系我们！

再次感谢！