

## Information to the user of control unit for SKF actuator.

**Control units: CAED 3-24R, CAED 5-24R and CAED 9-24R.**

### General information:

The control unit is designed for 24 Vdc. It is aimed to control one actuator with a 24 V dc motor. The control units are available in three versions, each with a max. output current of 3 A, 5 A or 9 A. The product designation above is the first figure indicating the output current .

The control units are recommended for usage together with following types of SKF actuators: CARR 22, CARR 32, CATR 32, CATR 33, CALA 33, CALA 36, CARE 33 and CARE 36. The version of the CAED control unit must correspond to the current draw of the actuator at the its max. permitted load (see the actuator data sheet).

### Working description:

The control unit consists of a decoder for the operating signal, an electronic overload protection and a relay output unit. At an input signal from the hand control, the decoder activates one of the output relays and the actuator starts moving. It runs as long as the button is pressed. When it is released the output relay drops and the motor windings get short-circuited through the relay contacts, which shorten the stopping distance for the actuator.

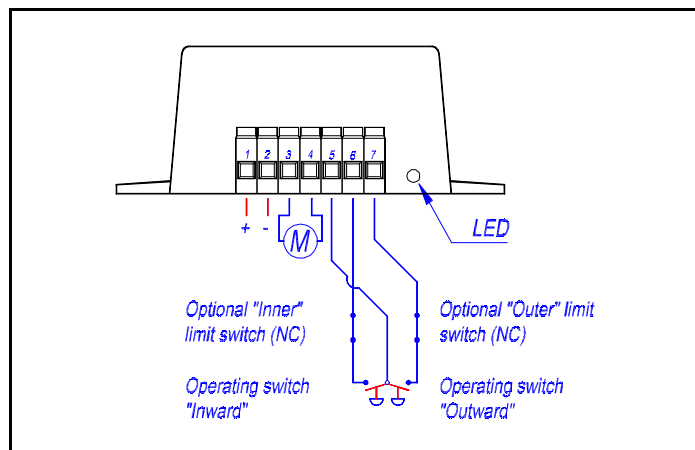
The overload protection are activated at too high load on the actuator or when the actuator runs into the mechanical end of the stroke. If the overload protection is released, it will be reset, when the input signal has ceased.

### Connecting information:

Screw terminal no	To be connected to	Notes
1	Power supply +24 Vd.c.	
2	Power supply 0 Vd.c.	
3	Actuator motor	
4	Actuator motor	
5	Common, on/off control	potential-free contact
6	Inwards, on/off control	potential-free contact
7	Outwards, on/off control	potential-free contact

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### View of the control unit:



### Preparing for usage:

1. Connect the actuator motor, the power supply (24 Vdc) and the hand control (switch for operation) to the control unit. (If limit switches are used, see the connection below).
2. Check with some short commands on the hand control buttons, that the actuator moves in the right direction, according to the marks on the hand control. If **not** so, swap the motor connections (pin 3 and pin 4).
3. Check that the limit switches cut off the supply, when the actuator is passing the position of the limit switches (both directions).

### Technical performances:

Power supply voltage: nom. 24 Vd.c., (22 to 29 Vd.c.)

Current consumption in "stand by": < 30 mA.

Maximal output current, according to the overload settings in the different versions:

- version CAED 3-24R it is 3,5 A
- version CAED 5-24R it is 5.5 A and
- version CAED 9-24R it is 10 A

The control unit is approved according to appropriate parts of the EMC-requirement in the following standards:

EN 60601-1-2, EN 50081-1 and EN 50082-1.

The control unit overall dimensions: WxHxD, 91 x 59 x 35 mm

### Maintenance:

The control unit is maintenance free.

### Malfunction:

If the actuator, the control unit and the hand control do not work together, please, first the following points:

1. Check the connections between the control unit and the other items, according to the connecting information above.
2. When pressing a button, a "relay-click" is heard. The relay goes down almost immediately.
  - 2.1. The red LED is on. The overload protection is activated. The actuator is mechanically stopped or the load is too high. Unload the actuator or / and run it in the other direction.
  - 2.2. The red LED is not on. The power supply unit is not sufficiently powerful to supply the actuator. Check the voltage on the control unit, at pin 1 and 2. Exchanged to a more powerful supply unit.
  - 2.3. The limit switches might be activated. Short circuit the limit switch, while running the actuator into its normal working area. If necessarily swap the actuator motor wires
- 3.1. No "relay-click" is heard, independent of any button pressed.  
See # 2.2 above.
- 3.2. Disconnect the hand control and shortly connect screw terminal no 6 to either 5 or 7. If the actuator runs, the hand control might fail. If not the control unit is failing. Replace the failing part..

If further information is needed, please contact the SKF sales office for assistance.

### How to return defect products:

Return and communicate complains to the SKF sales office, which have supplied the products.

### Manufacturing and marketing:

The control unit is manufactured for SKF Actuators AB, Gothenburg, Sweden and is marketed by the SKF sales offices within the SKF Linear Motion Division.

### Warning:

To achieve a safe usage of the product, the information in this document must be observed. If further information is needed,

please contact the SKF sales office. Save this document for later usage.