

ACTUATOR

## LKS 131

FOR AIR DAMPERS ON SINGLE, DUAL STAGE AND  
MODULATING BURNERS

PRODUCT HANDBOOK



### APPLICATION

The LKS 131 air damper actuator is designed to be fitted to multi-stage or modulating oil and gas burners with fully closed position.

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# GENERAL

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## DESCRIPTION

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A synchronous motor powers an output shaft and a backlash-free cam shaft via a gear reducer.

The cam shaft operates limit and auxiliary switches. The

position at which one of the limit or auxiliary switches operates can be adjusted steplessly within the operating range using the associated cam disc. Spindle-driven cams, which can be adjusted with a screwdriver, are available.

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## FEATURES

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Electric actuator up to 0.6 Nm

- Drive times: 3 ... 38 sec.
- Variants: - clockwise or counter clockwise rotation  
- with integrated electronic circuitry  
- shaft version
- Internal position indicator
- Easily adjustable limit and auxiliary switches
- Synchronous motor

# TECHNICAL DATA

## SPECIFICATION

### Type overview

counter clockwise rotation <sup>1)</sup>

Diagram <sup>2)</sup>	Shaft <sup>3)</sup>	Drive time <sup>4)</sup>	Load torque  <sup>5)</sup>	Holding torque	Voltage  <sup>6)</sup>	Type	Remarks  <sup>7)</sup>
Nr.	Nr.	s	Nm	Nm	V		
S3	2	5	0,6	0,4	230	LKS 131-05 B 2-5 S3	
S3.1	2	5	0,6	0,4	230	LKS 131-08 B 2-5 S3.1	Without plug
S6	2	5	0,6	0,4	230	LKS 131-09 B 2-5 S6	On/off movement only
S3	2	38	0,6	0,4	230	LKS 131-12 B 2-38 S3	
S8	6	15	0,6	0,4	230	LKS 131-15 B 6-15 S8	Limit switch and potentiometer 1k
S5	6	15	0,6	0,4	230	LKS 131-16 B 6-15 S5	
S20-2	6	38	0,6	0,4	230	LKS 131-17 B 6-38 S20-2	With special 8 mm shaft
S3	6	5	0,6	0,4	230	LKS 131-18 B 6-5 S3	With special 8 mm shaft

### Legend

- 1) when viewing from direction A (see dimensional drawing)
- 2) see "Circuit diagrams"
- 3) see "Dimensional drawing"
- 4) at 50 Hz for 90°  
at 60 Hz, Drive times are about 20 % shorter
- 5) under nominal conditions  
under extreme conditions (e.g. +60 °C, 230V -15%) the torques will be 25% lower
- 6) +10% -15%; 50...60Hz  
at -15%; torque reduced by approx. 20% at undervoltage
- 7) Standard: Lever-operated cam

### Technical Data

#### Housing

- impact-proof, heat-resistant synthetic material  
Colour: black

#### Drive motor

- reversible synchronous motor

#### Switch point setting

- via stepless cam setting, spindle-driven cam with superimposed scale

#### Position indicator

- via co-rotating scale (under the cover)

#### Connection system

- fixed cable connection with 9-pin plug

#### Gearing

- spur gearing, maintenance-free

#### Output shaft

- standard plastic, interior square 8 mm

#### Fitting and fastening

- Fastened from inside via tapped M 5 through-holes

#### PCBs

- for all electrical functions, increased conductor thickness

#### Mains voltage

- 230 V -15% +10% or  
110 V -15% +10%

#### Mains frequency

- 50 Hz or 60 Hz

#### Safety class

- II VDE 0631

#### Power consumption

- approx. 9 VA

#### Duty cycle

- 50% in 2 minutes

#### Interference suppression

- N (according to VDE 0785)

#### Actuating angle

- max. 90°

#### Mounting position

- any

#### Protection

- IP40, with appropriate design of the cable entries and screw fastening (DIN 40050)

#### Cable connection

- via 9-pin AMP socket connector

### Direction of rotation

- see "Type overview"

### Torque and holding torque

- see "Type overview"

### Drive times

- 5, 15, 38 sec. for 90°

### Limit and auxiliary switches

- max. 7  
operation with adjustable cam discs, cams coloured in normal way:
  - blue fully closed position
  - orange low load
  - red high load
  - black spare switches for additional functions
- switching voltage  
AC 24...230 V
- switching capacity  
with inductive loads 250 VA

### Ambient temperature

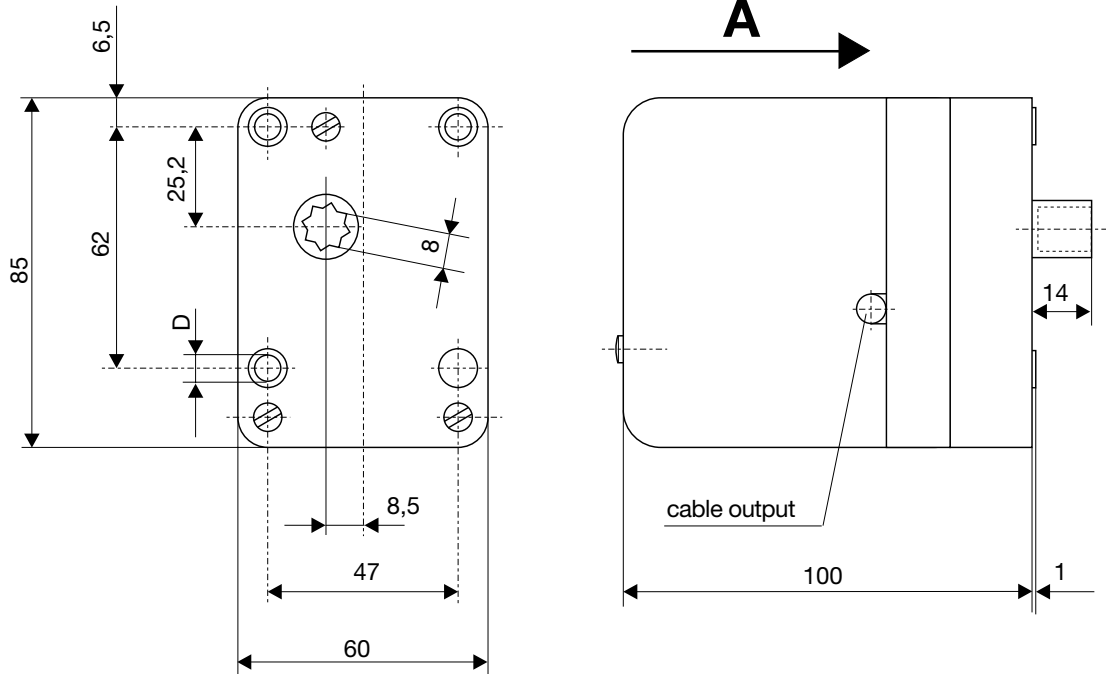
- operation 0 ... +60° C
- transport and storage -20 ... +60° C

### Condensation, icing and exposure to water not permitted

### Weight

- approx. 500 g

## DIMENSIONAL DRAWING



D) Fixing hole  
through-hole 5,3 mm inside dia

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# INSTALLATION AND OPERATION

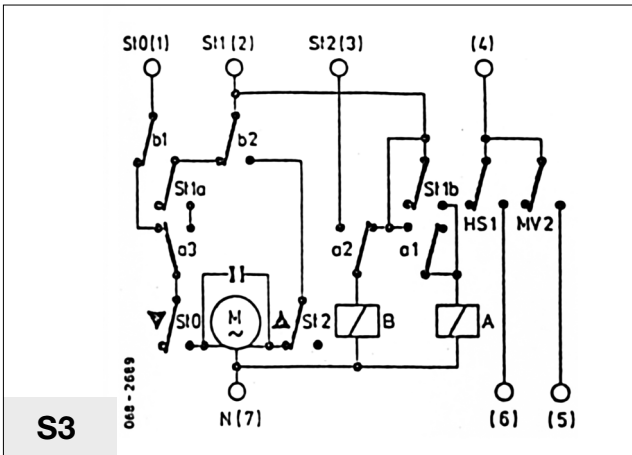
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## INSTALLATION AND FINAL CHECKOUT

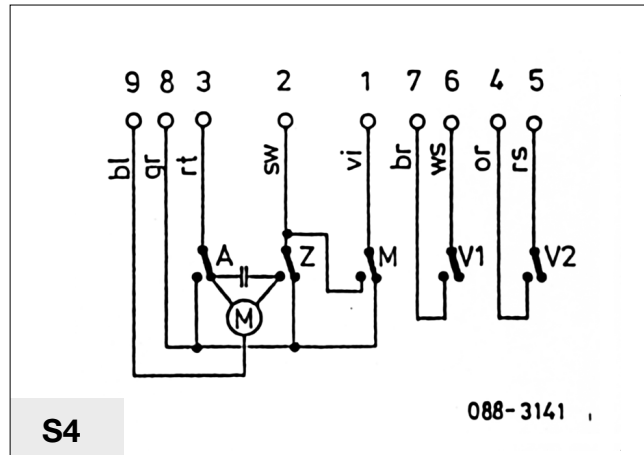
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- The regulations and standards applicable in each particular case must be observed.
- Installation and commissioning must only be carried out by qualified technicians.
- Electrical wiring must comply with national and local regulations.
- Always lay the burner ignition cable separately and as remotely as possible from the device and other cables.
- Carefully check all cabling and wiring prior to commissioning.
- Disconnect the actuators completely from the power supply when working close to terminals and connections.
- Screw the housing cover securely in place to provide shock-hazard protection on the actuator and all electrical connections.
- Electromagnetic emissions must be checked on a case by case basis.

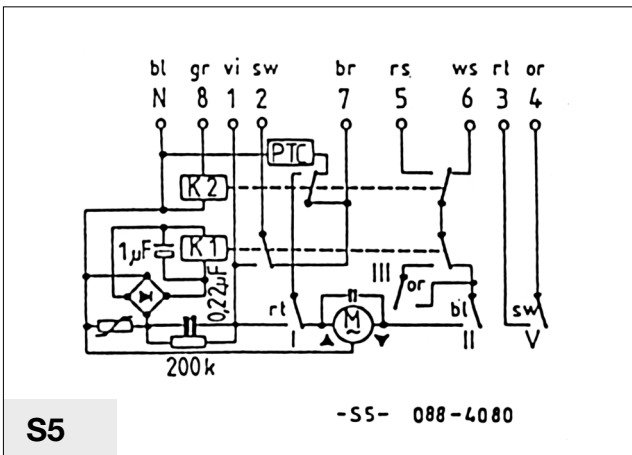
# CIRCUIT DIAGRAMS



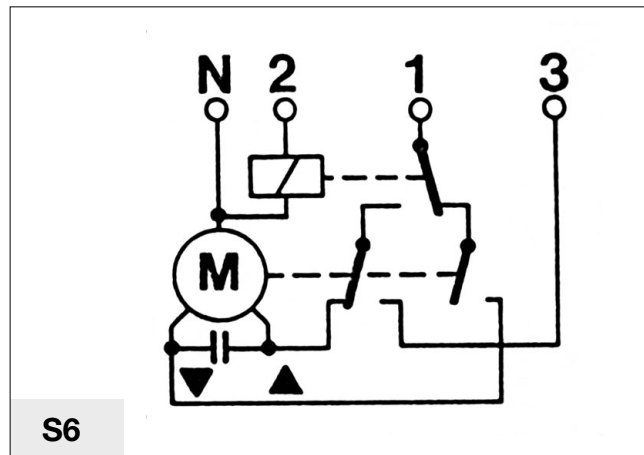
S3



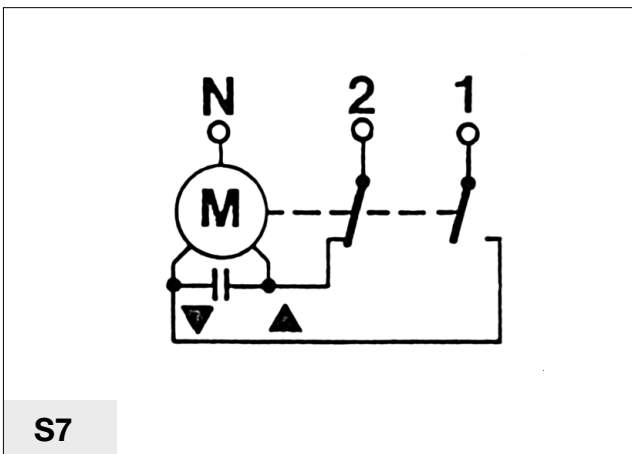
S4



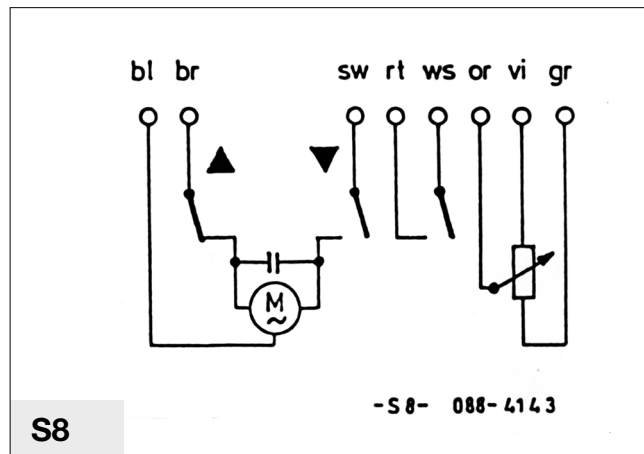
S5



S6



S7



S8

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# VARIOUS

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## STANDARDS AND APPROVALS

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### Conformity

- In accordance with EU Directives 73/23/EU and 93/68/EU. Conforms to EN 60730 – 1 : 1991 A1 and A11 : 1991 EN 60730 – 2 – 5 : 1991

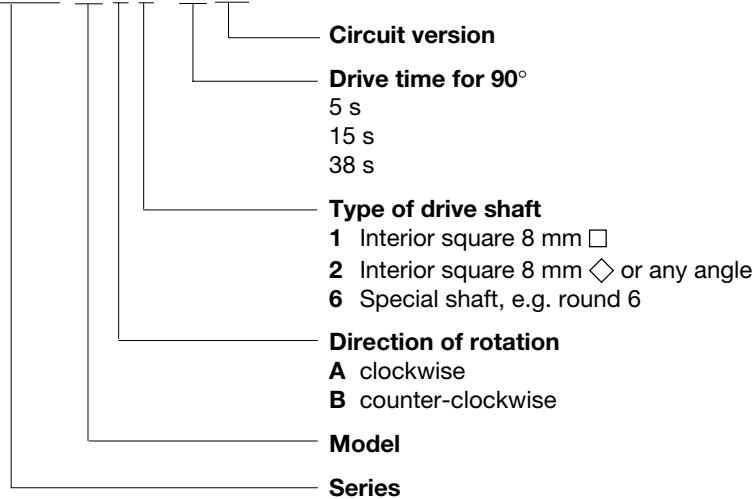
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## ORDERING INFORMATION

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Not for creation of new type

### **LKS 131-09 B 2 - 38 S3**



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## ACCESSORIES

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Special versions with potentiometer on request