

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.

CONTENTS

GENERAL	
Description	2
Features	2
TECHNICAL DATA	
Specification	3
Dimensional drawings	4
INSTALLATION AND OPERATION	
Installation and final checkout	5
Circuit diagrams	6
VARIOUS	
Standards and approvals	7
Ordering information	7
Accessories	7

GENERAL

DESCRIPTION

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.

FEATURES

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 ¹⁾

Diagram ²⁾	Shaft ³⁾	Drive time ⁴⁾	Load torque ⁵⁾	Holding torque	Voltage ⁶⁾	Type	Remarks ⁷⁾
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) | 5) under nominal conditions |
| 2) see "Circuit diagrams" | under extreme conditions (e.g. +60 °C, 230V -15%) the torques will be 25% lower |
| 3) see "Dimensional drawing" | 6) +10% -15%; 50...60Hz |
| 4) at 50 Hz for 90° | at -15%; torque reduced by approx. 20% at undervoltage |
| at 60 Hz, Drive times are about 20 % shorter | 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

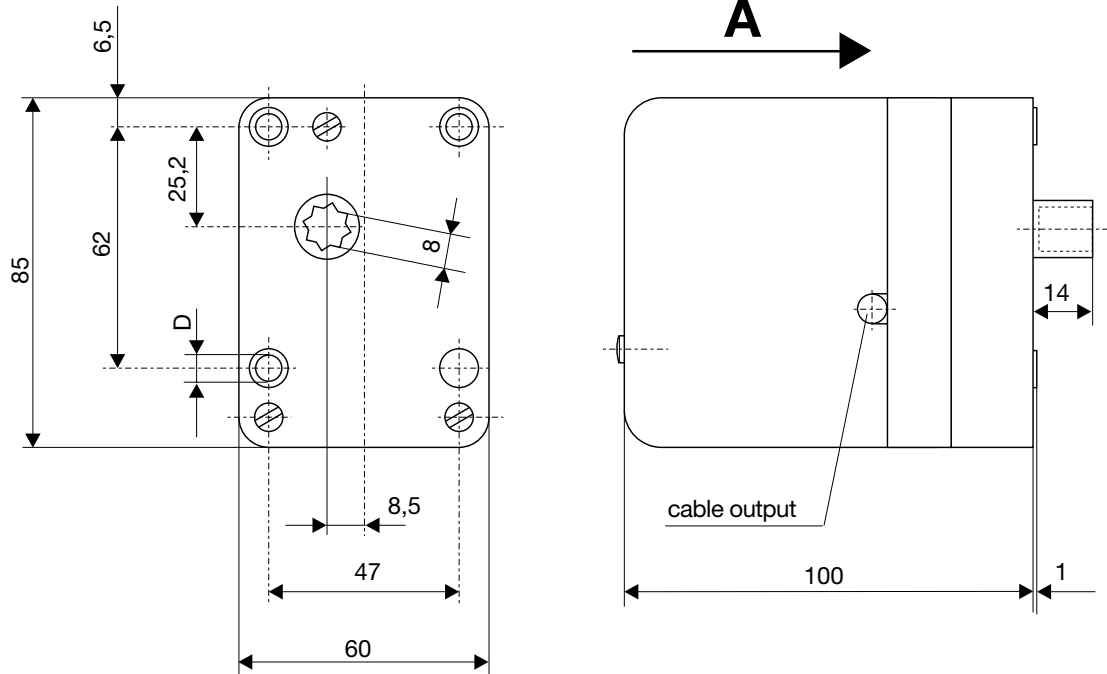
- operation 0 ... +60° C
- transport and storage -20 ... +60° C

Condensation, icing and exposure to water not permitted

Weight

- approx. 500 g

DIMENSIONAL DRAWING



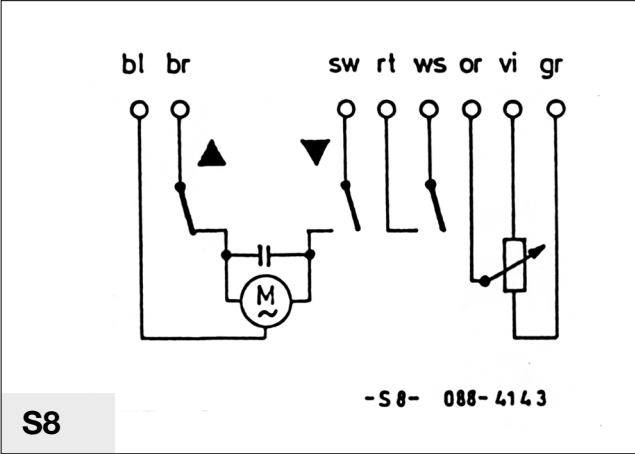
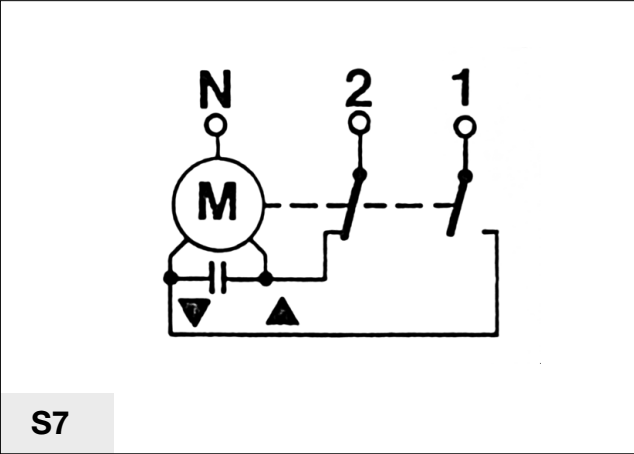
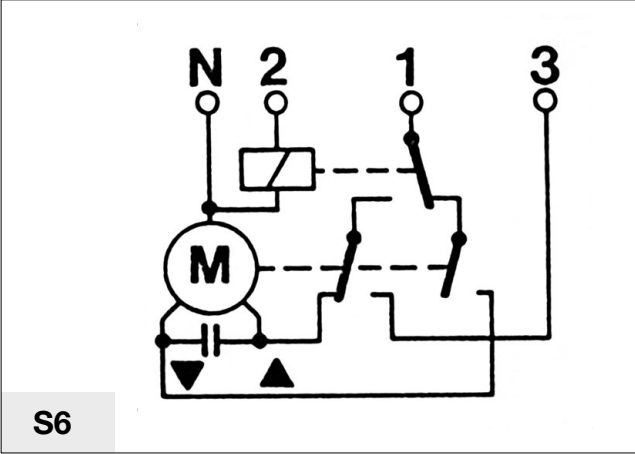
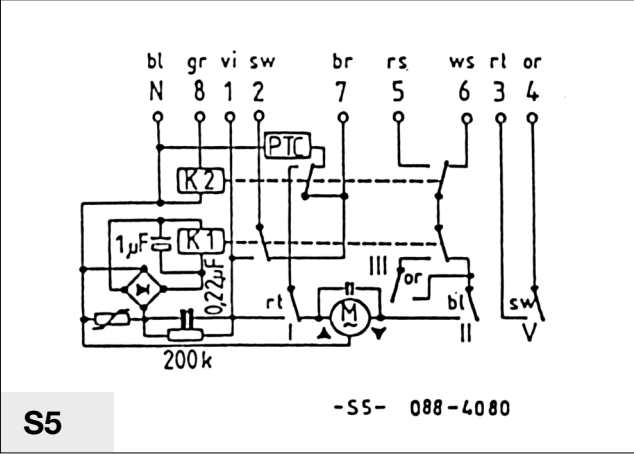
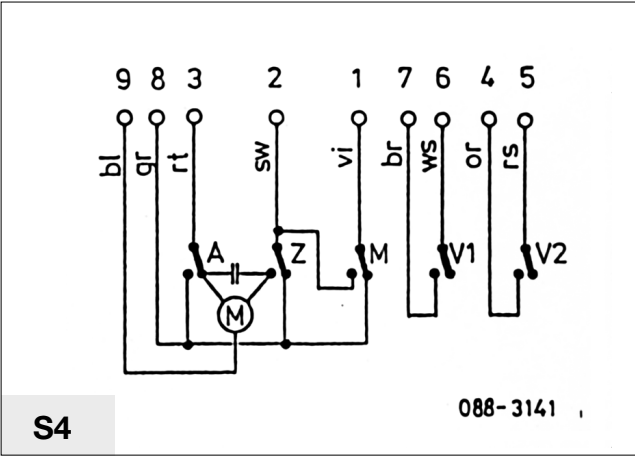
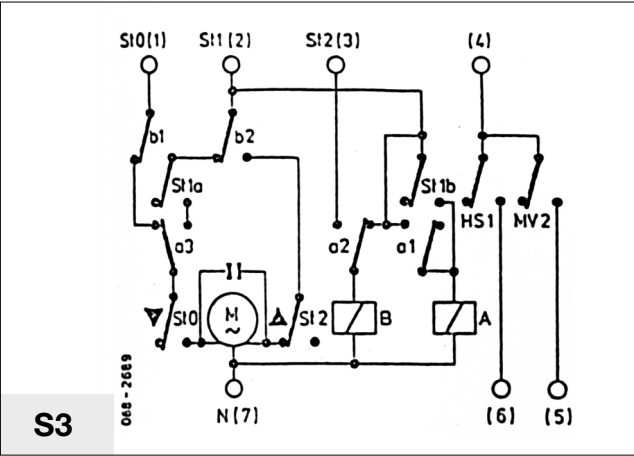
D) Fixing hole
through-hole 5,3 mm inside dia

INSTALLATION AND OPERATION

INSTALLATION AND FINAL CHECKOUT

- 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



VARIOUS

STANDARDS AND APPROVALS

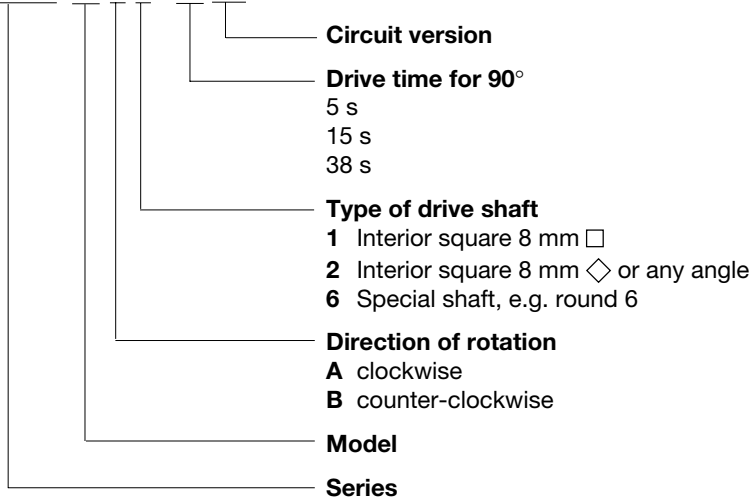
Conformity

- 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

ORDERING INFORMATION

Not for creation of new type

LKS 131-09 B 2 - 38 S3



ACCESSORIES

Special versions with potentiometer on request