

# Attachments

## Spring return actuators



### For the opening and closing, with safety function, of dampers in air conditioning systems

Spring return actuators for multileaf dampers Type JZ, JZ-AL, JZ-LL, JZ-LL-AL, JZ-HL, JZ-HL-AL

- Change of the damper blade position for two different operating situations
- Supply voltage 24 V AC/DC up to 230 V AC
- Control input signal: 1-wire control (2-point)
- Mechanical stops
- Retrofit possible

Type		Page
Spring return actuators	General information	OCSR – 2
	Function	OCSR – 3
	Variants	OCSR – 4
	24 V	OCSR – 5
	100 – 240 V AC	OCSR – 8
	24 – 240 V	OCSR – 10

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**Application**

**Application**

- Spring return actuators for opening and closing
- Opening and closing of Type JZ, JZ-AL, JZ-LL, JZ-LL-AL, JZ-HL, JZ-HL-AL multileaf dampers

**Safety function**

- NO: Power off to OPEN
  - NC: Power off to CLOSE
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**Description**

**Parts and characteristics**

- Mechanical stops for limiting the damper blade positions
- Actuators with overload protection
- Control input signal: 1-wire control (2-point, open/close)

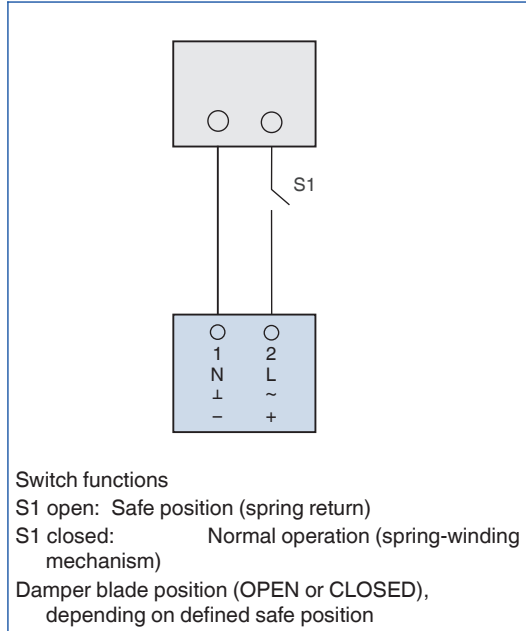
- Optional auxiliary switch for capturing the end positions
- Crank handle for manual operation

**Functional description**

The actuator moves the blades of a multileaf damper into OPEN or CLOSED position.

Control input signal with 1-wire control (2-point).  
1-wire control is actually an open/close control.

**1-wire control (control input signal for spring return actuators)**



Any attachments are to be defined with the order code of the multileaf damper.

**Spring return actuators for multileaf dampers**

Order code detail	Actuator		Auxiliary switch	Torque	Supply voltage
	Part number	Type			
ZF01	M466ET0	NF24A	–	10 Nm	24 V
ZF02	M466ET1	NFA	–	10 Nm	24 – 240 V AC 24 – 125 V DC
ZF03	M466ET2	NF24A-S2	integrated	10 Nm	24 V
ZF04	M466ET3	NFA-S2	integrated	10 Nm	24 – 240 V AC 24 – 125 V DC
ZF06	M466ER9	SF24A	–	20 Nm	24 V
ZF07	M466ER8	SFA	–	20 Nm	24 – 240 V AC 24 – 125 V DC
ZF08	M466ER6	SF24A-S2	integrated	20 Nm	24 V
ZF09	M466ER7	SFA-S2	integrated	20 Nm	24 – 240 V AC 24 – 125 V DC
ZF11	M466ET5	EF24A	–	30 Nm	24 V
ZF12	M466ET6	EF230A	–	30 Nm	100 – 240 V AC
ZF13	M466ET7	EF24A-S2	integrated	30 Nm	24 V
ZF14	M466ET8	EF230A-S2	integrated	30 Nm	100 – 240 V AC

**Application**

- Spring return actuators 24 V for opening and closing
- Opening and closing of Type JZ, JZ-AL, JZ-LL, JZ-LL-AL, JZ-HL, JZ-HL-AL multileaf dampers

- ZF13: Spring return actuator EF24A-S2 with integral auxiliary switches

**Safety function**

- NO: Power off to OPEN
- NC: Power off to CLOSE

**Variants**

- ZF01: Spring return actuator NF24A
- ZF03: Spring return actuator NF24A-S2 with integral auxiliary switches
- ZF06: Spring return actuator SF24A
- ZF08: Spring return actuator SF24A-S2 with integral auxiliary switches
- ZF11: Spring return actuator EF24A

**Parts and characteristics**

- Supply voltage 24 V AC/DC
- 1-wire control (2-point)
- Mechanical stops
- Direction of action can be reversed
- Crank handle for manual operation



Spring return actuator NF24A

**Spring return actuator NF24A**

Supply voltage (AC)	24 V AC ± 20 %, 50/60 Hz
Supply voltage (DC)	24 V DC -10 %, +20 %
Power consumption – load	6 W
Power consumption – idle	2.5 W
Power rating	8.5 VA
Torque	10 Nm
Motor running time for 90°	< 75 s
Spring return time	20 s (for < -20 °C up to 60 s)
Control input signal	Supply voltage on/off
Connecting cable	2 × 0.75 mm <sup>2</sup> , 1 m long
IEC protection class	III (protective extra-low voltage)
Protection level	IP 54
EC conformity	EMC to 2014/30/EU, RoHS to 2011/65/EU
Operating temperature	-30 to 50 °C
Weight	1.8 kg



Spring return actuator NF24A-S2

**Spring return actuator NF24A-S2**

Supply voltage (AC)	24 V AC ± 20 %, 50/60 Hz
Supply voltage (DC)	24 V DC -10 %, +20 %
Power consumption – load	6 W
Power consumption – idle	2.5 W
Power rating	8.5 VA
Torque	10 Nm
Motor running time for 90°	< 75 s
Spring return time	20 s (for < -20 °C up to 60 s)
Control input signal	Supply voltage on/off
Auxiliary switch: type of contact	2 changeover contacts <sup>1)</sup>
Max. switching voltage (AC)	250 V AC
Max. switching current (AC)	3 A (resistive load); 0.5 A (inductive load)
Max. switching voltage (DC)	110 V DC
Max. switching current (DC)	0.5 A (resistive load); 0.2 A (inductive load)
Connecting cable – actuator	2 × 0.75 mm <sup>2</sup> , 1 m long
Connecting cable – auxiliary switch	6 × 0.75 mm <sup>2</sup> , 1 m long
IEC protection class	III (protective extra-low voltage)
Protection level	IP 54
EC conformity	EMC to 2014/30/EU, RoHS to 2011/65/EU
Operating temperature	-30 to 50 °C
Weight	2.0 kg

<sup>1)</sup> If both auxiliary switches are used the switching voltages must be the same



Actuator SF24A

Spring return actuator SF24A

Supply voltage (AC)	24 V AC ± 20 %, 50/60 Hz
Supply voltage (DC)	24 V DC -10 %, +20 %
Power rating (AC)	7.5 VA max.
Power rating (DC)	5 W max.
Torque	20 Nm
Motor running time for 90°	< 75 s
Spring return time	20 s (for < -20 °C up to 60 s)
Control input signal	Supply voltage on/off
Connecting cable	2 × 0.75 mm <sup>2</sup> , 1 m long
IEC protection class	III (protective extra-low voltage)
Protection level	IP 54
EC conformity	EMC to 2014/30/EU, RoHS to 2011/65/EU
Operating temperature	-30 to 50 °C
Weight	2.1 kg



Actuator SF24A-S2

Spring return actuator SF24A-S2

Supply voltage (AC)	24 V AC ± 20 %, 50/60 Hz
Supply voltage (DC)	24 V DC ±10 %
Power rating (AC)	7.5 VA max.
Power rating (DC)	5 W max.
Torque	20 Nm
Motor running time for 90°	< 75 s
Spring return time	20 s (for < -20 °C up to 60 s)
Control input signal	Supply voltage on/off
Auxiliary switch: type of contact	2 changeover contacts <sup>1)</sup>
Max. switching voltage (AC)	250 V AC
Max. switching current (AC)	3 A (resistive load); 0.5 A (inductive load)
Max. switching voltage (DC)	110 V DC
Max. switching current (DC)	0.5 A (resistive load); 0.2 A (inductive load)
Connecting cable – actuator	2 × 0.75 mm <sup>2</sup> , 1 m long
Connecting cable – auxiliary switch	6 × 0.75 mm <sup>2</sup> , 1 m long
IEC protection class	III (protective extra-low voltage)
Protection level	IP 54
EC conformity	EMC to 2014/30/EU, low voltage to 2014/35/EU, RoHS to 2011/65/EU
Operating temperature	-30 to 50 °C
Weight	2.3 kg

<sup>1)</sup> If both auxiliary switches are used the switching voltages must be the same



Actuator EF24A

Spring return actuator EF24A

Supply voltage (AC)	24 V AC ± 20 %, 50/60 Hz
Supply voltage (DC)	24 V DC ±10 %
Power max. (AC)	16 VA max.
Power max. (DC)	9.5 W max.
Torque	30 Nm
Motor running time for 90°	< 75 s
Spring return time	20 s (for < -20 °C up to 60 s)
Control input signal	Supply voltage on/off
Connecting cable	2 × 0.75 mm <sup>2</sup> , 1 m long
IEC protection class	III (protective extra-low voltage)
Protection level	IP 54
EC conformity	EMC to 2014/30/EU, RoHS to 2011/65/EU
Operating temperature	-30 to 50 °C
Weight	4.3 kg



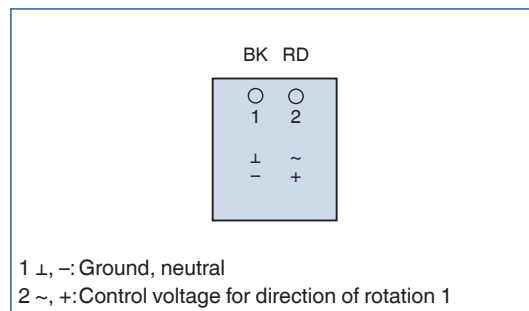
Actuator EF24A-S2

**Spring return actuator EF24A-S2**

Supply voltage (AC)	24 V AC ± 20 %, 50/60 Hz
Supply voltage (DC)	24 V DC ±10 %
Power rating (AC)	16 VA max.
Power rating (DC)	9.5 W max.
Torque	30 Nm
Motor running time for 90°	< 75 s
Spring return time	20 s (for < -20 °C up to 60 s)
Control input signal	Supply voltage on/off
Auxiliary switch: type of contact	2 changeover contacts <sup>1)</sup>
Max. switching voltage (AC)	250 V AC
Max. switching current (AC)	3 A (resistive load); 0.5 A (inductive load)
Max. switching voltage (DC)	110 V DC
Max. switching current (DC)	0.5 A (resistive load); 0.2 A (inductive load)
Connecting cable – actuator	2 × 0.75 mm <sup>2</sup> , 1 m long
Connecting cable – auxiliary switch	6 × 0.75 mm <sup>2</sup> , 1 m long
IEC protection class	III (protective extra-low voltage)
Protection level	IP 54
EC conformity	EMC to 2014/30/EU, RoHS to 2011/65/EU
Operating temperature	-30 to 50 °C
Weight	4.4 kg

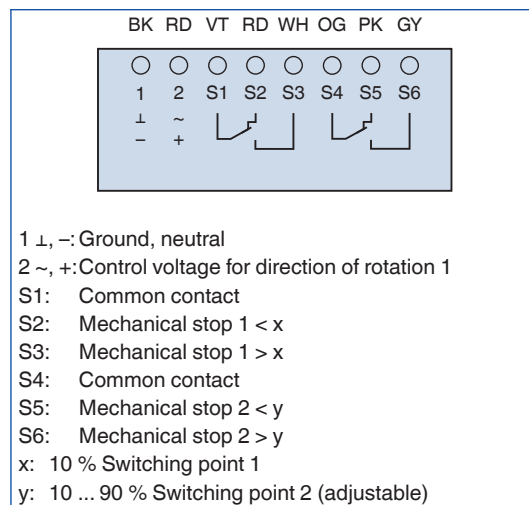
<sup>1)</sup> If both auxiliary switches are used the switching voltages must be the same

**Spring return actuators 24 V, connecting cable core identification**



NF24A, SF24A, EF24A

**Spring return actuators 24 V with auxiliary switches, connecting cable core identification**



NF24A-S2, SF24A-S2, EF24A-S2

### Application

- Spring return actuators 100 – 240 V AC for opening and closing
- Opening and closing of Type JZ, JZ-AL, JZ-LL, JZ-LL-AL, JZ-HL, JZ-HL-AL multileaf dampers

- NO: Power off to OPEN
- NC: Power off to CLOSE

### Variants

- ZF12: Spring return actuator EF230A
- ZF14: Spring return actuator EF230A-S2 with integral auxiliary switches

### Parts and characteristics

- Supply voltage 100 – 240 V AC
- 1-wire control (2-point)
- Mechanical stops
- Direction of action can be reversed
- Crank handle for manual operation

### Safety function

#### Spring return actuator EF230A



Actuator EF230A

Supply voltage (AC)	100 – 240 V AC ±10 %, 50/60 Hz
Power rating (AC)	21 VA max.
Torque	30 Nm
Motor running time for 90°	< 75 s
Spring return time	20 s (for < -20 °C up to 60 s)
Control input signal	Supply voltage on/off
Connecting cable	2 × 0.75 mm <sup>2</sup> , 1 m long
IEC protection class	II (protective insulation)
Protection level	IP 54
EC conformity	EMC to 2014/30/EU, low voltage to 2014/35/EU, RoHS to 2011/65/EU
Operating temperature	-30 to 50 °C
Weight	4.2 kg

#### Spring return actuator EF230A-S2



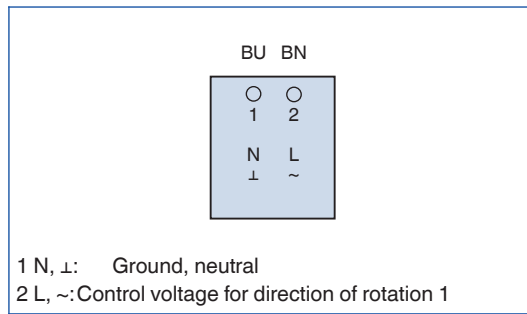
Actuator EF230A-S2

Supply voltage (AC)	100 – 240 V AC ±10 %, 50/60 Hz
Power rating (AC)	21 VA max.
Torque	30 Nm
Motor running time for 90°	< 75 s
Spring return time	20 s (for < -20 °C up to 60 s)
Control input signal	Supply voltage on/off
Auxiliary switch: type of contact	2 changeover contacts <sup>1)</sup>
Max. switching voltage (AC)	250 V AC
Max. switching current (AC)	3 A (resistive load); 0.5 A (inductive load)
Max. switching voltage (DC)	110 V DC
Max. switching current (DC)	0.5 A (resistive load); 0.2 A (inductive load)
Connecting cable – actuator	2 × 0.75 mm <sup>2</sup> , 1 m long
Connecting cable – auxiliary switch	6 × 0.75 mm <sup>2</sup> , 1 m long
IEC protection class	II (protective insulation)
Protection level	IP 54
EC conformity	EMC to 2014/30/EU, low voltage to 2014/35/EU, RoHS to 2011/65/EU
Operating temperature	-30 to 50 °C
Weight	4.6 kg

<sup>1)</sup> If both auxiliary switches are used the switching voltages must be the same

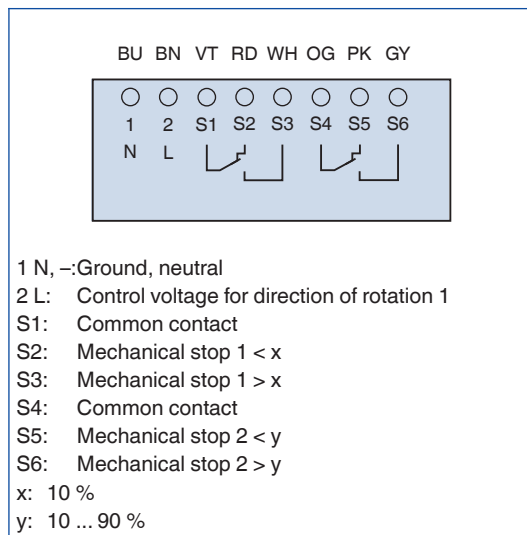


**Spring return actuators 100 – 240 V AC,  
connecting cable core identification**



EF230A

**Spring return actuators 100 – 240 V AC with  
auxiliary switches, connecting cable core  
identification**



EF230A-S2

**Application**

- Spring return actuators 24 – 240 V for opening and closing
- Opening and closing of Type JZ, JZ-AL, JZ-LL, JZ-LL-AL, JZ-HL, JZ-HL-AL multileaf dampers

integral auxiliary switches

**Safety function**

- NO: Power off to OPEN
- NC: Power off to CLOSE

**Variants**

- ZF02: Spring return actuator NFA
- ZF03: Spring return actuator NFA-S2 with integral auxiliary switches
- ZF07: Spring return actuator SFA
- ZF09: Spring return actuator SFA-S2 with

**Parts and characteristics**

- Supply voltage 24 – 125 V DC, 24 – 240 V AC
- 1-wire control (2-point)
- Mechanical stops
- Direction of action can be reversed
- Crank handle for manual operation



Spring return actuator NFA

**Spring return actuator NFA**

Supply voltage (AC)	24 – 240 V AC -20 % +10 %, 50/60 Hz
Supply voltage (DC)	24 – 125 V DC ±10 %
Power consumption – load	6 W
Power consumption – idle	2.5 W
Power rating	9.5 VA
Torque	10 Nm
Motor running time for 90°	< 75 s
Spring return time	20 s (for < -20 °C up to 60 s)
Control input signal	Supply voltage on/off
Connecting cable	2 × 0.75 mm <sup>2</sup> , 1 m long
IEC protection class	II (protective insulation)
Protection level	IP 54
EC conformity	EMC to 2014/30/EU, low voltage to 2014/35/EU, RoHS to 2011/65/EU
Operating temperature	-30 to 50 °C
Weight	2.0 kg



Spring return actuator NFA-S2

**Spring return actuator NFA-S2**

Supply voltage (AC)	24 – 240 V AC -20 % +10 %, 50/60 Hz
Supply voltage (DC)	24 – 125 V DC ±10 %
Power consumption – load	6 W
Power consumption – idle	2.5 W
Power rating	9.5 VA
Torque	10 Nm
Motor running time for 90°	< 75 s
Spring return time	20 s (for < -20 °C up to 60 s)
Control input signal	Supply voltage on/off
Auxiliary switch: type of contact	2 changeover contacts <sup>1)</sup>
Max. switching voltage (AC)	250 V AC
Max. switching current (AC)	3 A (resistive load); 0.5 A (inductive load)
Max. switching voltage (DC)	110 V DC
Max. switching current (DC)	0.5 A (resistive load); 0.2 A (inductive load)
Connecting cable – actuator	2 × 0.75 mm <sup>2</sup> , 1 m long
Connecting cable – auxiliary switch	6 × 0.75 mm <sup>2</sup> , 1 m long
IEC protection class	II (protective insulation)
Protection level	IP 54
EC conformity	EMC to 2014/30/EU, low voltage to 2014/35/EU, RoHS to 2011/65/EU
Operating temperature	-30 to 50 °C
Weight	2.2 kg

<sup>1)</sup> If both auxiliary switches are used the switching voltages must be the same



Actuator SFA

**Spring return actuator SFA**

Supply voltage (AC)	19.2 – 264 V AC, 50/60 Hz
Supply voltage (DC)	21.6 – 137 V DC
Power rating (AC)	18 VA max.
Power rating (DC)	7 W max.
Torque	20 Nm
Motor running time for 90°	< 75 s
Spring return time	20 s (for < -20 °C up to 60 s)
Control input signal	Supply voltage on/off
Connecting cable	2 × 0.75 mm <sup>2</sup> , 1 m long
IEC protection class	II (protective insulation)
Protection level	IP 54
EC conformity	EMC to 2014/30/EU, low voltage to 2014/35/EU, RoHS to 2011/65/EU
Operating temperature	-30 to 50 °C
Weight	2.2 kg



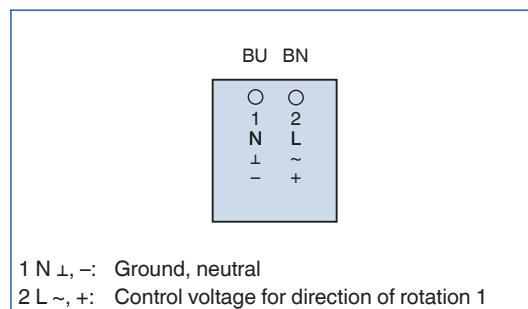
Actuator SFA-S2

**Spring return actuator SFA-S2**

Supply voltage (AC)	19.2 – 264 V AC, 50/60 Hz
Supply voltage (DC)	21.6 – 137 V DC
Power rating (AC)	18 VA max.
Power rating (DC)	7 W max.
Torque	20 Nm
Motor running time for 90°	< 75 s
Spring return time	20 s (for < -20 °C up to 60 s)
Control input signal	Supply voltage on/off
Auxiliary switch: type of contact	2 changeover contacts <sup>1)</sup>
Max. switching voltage (AC)	250 V AC
Max. switching current (AC)	3 A (resistive load); 0.5 A (inductive load)
Max. switching voltage (DC)	110 V DC
Max. switching current (DC)	0.5 A (resistive load); 0.2 A (inductive load)
Connecting cable – actuator	2 × 0.75 mm <sup>2</sup> , 1 m long
Connecting cable – auxiliary switch	6 × 0.75 mm <sup>2</sup> , 1 m long
IEC protection class	II (protective insulation)
Protection level	IP 54
EC conformity	EMC to 2014/30/EU, low voltage to 2014/35/EU, RoHS to 2011/65/EU
Operating temperature	-30 to 50 °C
Weight	2.4 kg

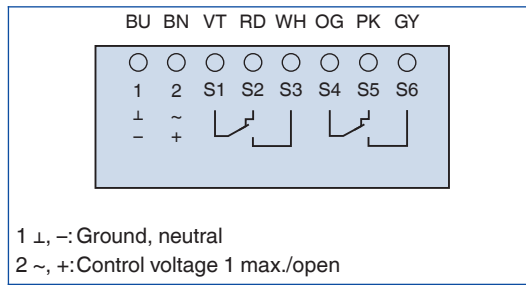
<sup>1)</sup> If both auxiliary switches are used the switching voltages must be the same

**Spring return actuators 24 – 240 V, connecting cable core identification**



NFA, SFA

**Spring return actuators 24 – 240 V with  
auxiliary switches, connecting cable core  
identification**



NFA-S2, SFA-S2