



5-year warranty



## Technical data

<b>Electrical data</b>	Nominal voltage	AC/DC 24 V
	Nominal voltage frequency	50/60 Hz
	Nominal voltage range	AC 19.2...28.8 V / DC 21.6...28.8 V
	Power consumption in operation	6.5 W/6 W, 9.5 VA
	Power consumption in rest position	3 W, 5 VA
	Power consumption for wire sizing	10 VA
	Auxiliary switch	2x SPDT, , 1x 10% / 1x 11...90%
	Electrical Connection	(2) 18 GA appliance cables, 1 m, with 1/2" NPT conduit connectors
	Overload Protection	electronic throughout 0...95° rotation
Electrical Protection	actuators are double insulated	
<b>Functional data</b>	Torque motor	20 Nm @ 121°C for 30 min
	Operating range Y	2...10 V
	Operating range Y note	4...20 mA w/ ZG-R01 (500 Ω, 1/4 W resistor)
	Input impedance	100 kΩ for 2...10 V (0.1 mA), 500 Ω for 4...20 mA
	Position feedback U	2...10 V
	Position feedback U note	Max. 0.5 mA
	Direction of motion motor	selectable by ccw/cw mounting
	Direction of motion fail-safe	reversible with cw/ccw mounting
	Manual override	5 mm hex crank (3/16" Allen), supplied
	Angle of rotation	95°
	Angle of rotation note	adjustable with mechanical end stop, 35...95°
	Running time motor	75 s / 90°
	Running time motor note	@ 121°C
	Running time fail-safe	<20 s
	Sound power level, motor	40 dB(A)
	Sound power level, fail-safe	62 dB(A)
	Position indication	Mechanical
<b>Safety data</b>	Power source UL	Class 2 Supply
	Degree of protection IEC/EN	IP54
	Degree of protection NEMA/UL	NEMA 2
	Enclosure	UL Enclosure Type 2
	Agency Listing	CE, UL 60730-1, CSA C22.2 No. 139 certified
	Quality Standard	ISO 9001

**Technical data**

<b>Safety data</b>	UL 2043 Compliant	Suitable for use in air plenums per Section 300.22(C) of the NEC and Section 602 of the IMC
	Ambient humidity	Max. 95% RH, non-condensing
	Ambient temperature	-30...50°C [-22...122°F]
	Storage temperature	-40...80°C [-40...176°F]
	Servicing	maintenance-free
<b>Weight</b>	Weight	2.4 kg
<b>Materials</b>	Housing material	Galvanized steel and plastic housing
	Gears	Steel, permanently lubricated

**Accessories**

<b>Electrical accessories</b>	<b>Description</b>	<b>Type</b>
	Thermoelectric tripping device, Duct inside temperature 165°F	BAE165 US
	Auxiliary switch 2x SPDT	S2A-F US
	Positioner for wall mounting	SGA24
<b>Mechanical accessories</b>	<b>Description</b>	<b>Type</b>
	Anti-rotation bracket, for AF / NF	AF-P
	End stop indicator	IND-AFB
	Shaft clamp reversible, for central mounting, for damper shafts $\varnothing$ 12.7 / 19.0 / 25.4 mm	K7-2
	Ball joint suitable for damper crank arm KH8	KG8
	Actuator arm, for 3/4" shafts, clamping range $\varnothing$ 10...22 mm, Slot width 8.2 mm	KH-AFB
		SH8
	Wrench 8 mm and 10 mm	TOOL-06
	Mounting bracket for AF..	ZG-100
	Mounting bracket	ZG-101
	Mounting bracket for AF / NF	ZG-118
	Mounting kit for linkage operation for flat and side installation	ZG-AFB
	Mounting kit for foot mount installation	ZG-AFB118
		ZG-DC1
		ZG-DC2
	Weather shield 330x203x152 mm [13x8x6"] (LxWxH)	ZS-100
	Weather shield 406x213x102 mm [16x8-3/8x4"] (LxWxH)	ZS-150
	Explosion proof housing 406x254x164 mm [16x10x6.435"] (LxWxH), UL and CSA, Class I, Zone 1&2, Groups B, C, D, (NEMA 7), Class III, Hazardous (classified) Locations	ZS-260
	Weather shield 438x222x140 mm [17-1/4x8-3/4x5-1/2"] (LxWxH), NEMA 4X, with mounting brackets	ZS-300

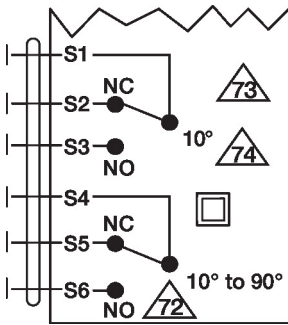
**Electrical installation**

**APPLICATION NOTES**

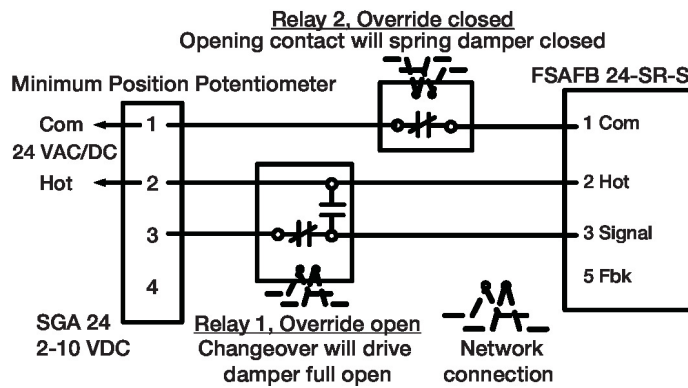
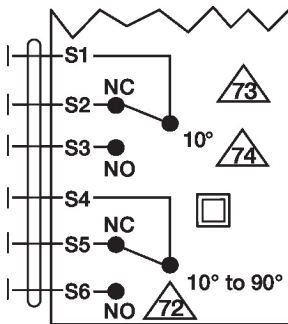
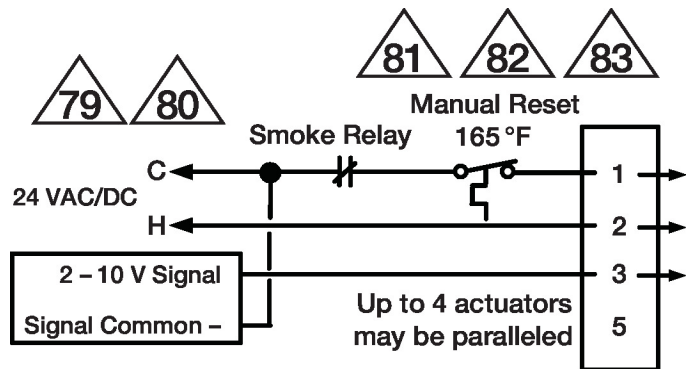
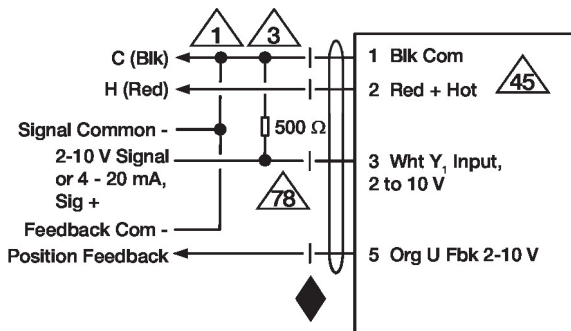
- ◆ Meets cULus requirements without the need of an electrical ground connection.
- ▲1 Provide overload protection and disconnect as required.
- ▲3 Actuators may also be powered by DC 24 V.
- ▲45 Actuators may be powered in parallel. Power consumption must be observed.
- ▲72 S4 makes to S6 when actuator is powered open.
- ▲73 Auxiliary switches are for end position indication or interlock control.
- ▲74 Double insulated.

Electrical installation

- ⚠️ 78 500 ohm load resistor for 4-20 mA. Only one resistor for multiple actuators.
- ⚠️ 79 Primary/secondary operation/wiring of mechanically paralleled ("piggyback") Fire and Smoke actuators will not function.
- ⚠️ 80 Actuators may be electrically paralleled on different damper sections that are not mechanically connected to one another.
- ⚠️ 81 Smoke relay and primary heat responsive sensor may be located in hot wire.
- ⚠️ 82 Only one smoke signal and/or thermal sensor may be employed for all paralleled actuators.
- ⚠️ 83 Any wire 5 feedback could be used to indicate position or to drive actuators that are not mechanically paralleled. That is, they are on other dampers.



Wiring diagrams



Dimensions

K7-2 (supplied)

- ∅ 1/2" Centered (Default)
- 3/4" Centered (Field Selectable)
- 1.05" Centered (Field Selectable)

