

Desigo™ Room Automation

Fume Hood Cable Sash Sensor

DXA.B130 and DXA.B200



A peripheral device, to acquire the sash position of a laboratory fume hood for Siemens laboratory fume hood controllers.

- Cable sensor for laboratory fume hood sash position measurement with universal mounting option
- Suitable for any fume hood type from any manufacturer (1270 mm (50 in) or 2032 mm (80 in))
- Maintenance-free
- Easy installation

Features

- Potentiometer measures the fume hood's sash opening
- Wire hook to quickly attach to the sensing object
- Removable mounting bracket to accommodate various mounting options

Use

The cable sash sensors are compact, economical and water-resistant devices with flexible cables, spring-loaded spools and a potentiometer to detect and measure linear position.

Functions

The cable sensor measures a fume hood's sash opening.

The sensor unit consists of a cable with hook, roll, spring and potentiometer.

The roll is inserted and attached to the potentiometer shaft. The cable is wound onto this roll and is unwound against the spring force.

The full length of the cable is proportional to the potentiometer's resistance.

Technical design

DXA.B130 cable sensor maximum measurement is 1270 mm (50 in)

DXA.B200 cable sensor maximum measurement is 2032 mm (80 in).

A removable mounting bracket is delivered with the sensor to accommodate various mounting options.

Type summary

Type	Order number	Description
DXA.B130	S55376-C158	1270 mm (50 inch) 10K sensor
DXA.B200	S55376-C159	2032 mm (80 inch) 10K sensor

Delivery

The cable sash sensor comes with a hook to quickly attach to the fume hood sash. One mounting bracket, washers and screws are included (factory-mounted to sensor).

Product documentation

Topic	Title	Document ID:
Installation, mounting	Wire sensor installation	A6V11174714
Engineering and commissioning, workflow	ABT online help	n.a.
Commissioning	User Guide: Setup & Service Assistant (SSA)	CA111050

Related documents such as environmental declarations, CE declarations, etc., can be downloaded at the following Internet address:

<http://siemens.com/bt/download>

Security



⚠ CAUTION

National safety regulations

Failure to comply with national safety regulations may result in personal injury and property damage.

- Observe national provisions and comply with the appropriate safety regulations.

Safety notes

Use the cable sensor as described and follow the listed precautionary measures.

- Opening the sensor housing damages the sensor.
- Do not allow the cable to snap back to the sensor.
- Only connect the sensor to the predefined terminals on the Siemens controller.
- Attach the sensor to the sensing object when the cable is wound up.
- Do not unwind the cable past the sensing range.
- Do not damage the cable.
- Do not oil or grease the cable.
- Do not bend the cable.
- Do not deflect the cable.
- Do not allow the cable to drag on objects.

Installation

General

Mount the sensor using three M3 screws or using the supplied mounting bracket. The device can be mounted without special sensor orientation.

Make sure that the mounting location does not result in a soiled or damaged sensing cable.

Measure sash opening

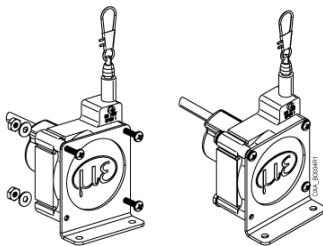
Measure the length from the mounting surface to the sash. Confirm that sensor extension length is sufficient for installation.

Mark the location of the sash bottom with the sash fully open and closed.

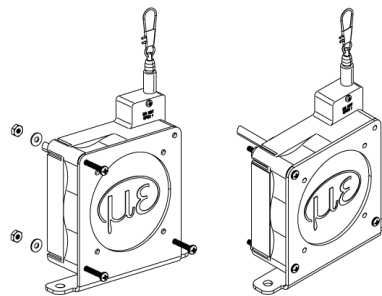
Measure the distance between fully open and closed position of the sash. Add 5 cm (2 in) to account for over-travel.

Bracket mounting on sensor

To change measuring cable direction, remove the bracket attaching screws and rotate sensor body to desired direction.



DXA.B130

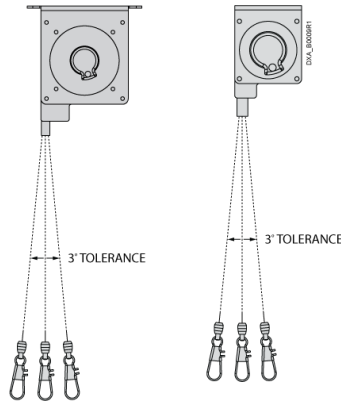


DXA.B200

Cable guidance and attachment

The cable is attached to the sensing object / fume hood sash with a hook. The cable can be damaged and/or may rip if the sensing string drags on the insertion hole or other objects. The cable must be laid in a protected area.

The cable must be pulled straight from the sensor housing. Cable movement must be parallel to sash movement; angle deflection of max. 3 degrees.



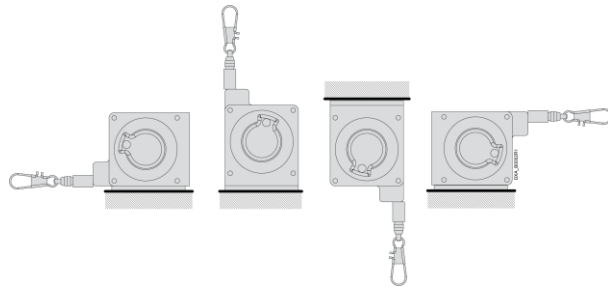
Mounting on the fume hood

Note

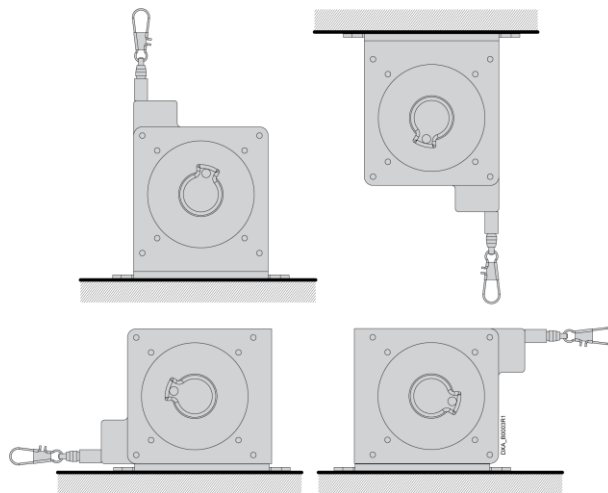
Do not mount the potentiometer inside the fume hood work bench.

Mount the potentiometer so that the cable travels parallel to the sash opening.

To do this, attach the sensor on the front of the fume hood. Attach the cable directly onto the fume hood sash.



DXA.B130 Mounting options.



DXA.B200 Mounting options.

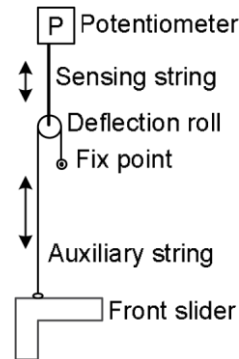
Caution: Attach the sensor above the topmost position of the front slider, as otherwise deflection rollers are needed.

Alternatively, mount the cable on the back of the fume hood. Attach the cable to the counterweights.

Caution: Make sure there is sufficient space for service.

Mounting for sensing paths longer than 2032 mm (80 in):

The sensing unit must be extended e.g. by a second, deflected cable for sensing paths longer than 2032 mm (80 in).



Avoid attaching the cable hook to the sash's pulling string (risk of entanglement due to pulled out pulling string). Using this method to extend the measuring distance will reduce the resolution.

Disposal



The device is considered an electronics device for disposal in terms of European Directive 2012/19/EU and may not be disposed of as domestic garbage.

- Dispose of the device through channels provided for this purpose.
- Comply with all local and currently applicable laws and regulations.

Warranty

Technical data on specific applications are valid only together with Siemens products listed under "Equipment combinations". Siemens rejects any and all warranties in the event that third-party products are used.

DXA.B130	
Output	Potentiometer 10 kΩ
Sensitivity	~0.99 V / V / Fullscale
Measuring range	1270 mm (50 in)
Linearity	±0.25% FSO
Resolution	0.4mm
Sensor element	Wire potentiometer
Temperature range	-20 ... +80°C (-4 ... 176°F)
Material Housing Draw wire	Plastic coated polyamide stainless steel (ø 0.36mm)
Wire mounting	Clip
Sensor mounting	Mounting holes / mounting bracket
Wire acceleration	Appr. 5g
Wire retraction force (min)	Appr. 1N
Wire extension force (max)	1.5N
Protection class	IP 20
Electrical connection	Integrated cable, 4.6m
Mounting bracket	Yes

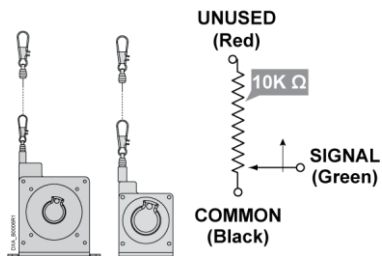
DXA.B200	
Output	Potentiometer 10 kΩ
Sensitivity	~0.94 V / V / Fullscale
Measuring range	2032 mm (80 in)
Linearity	±0.25% FSO
Resolution	0.55mm
Sensor element	Wire potentiometer
Temperature range	-20 ... +80°C (-4 ... 176°F)
Material Housing Draw wire	Plastic coated polyamide stainless steel (ø 0.36mm)
Wire mounting	Clip
Sensor mounting	Mounting holes / mounting bracket
Wire acceleration	Appr. 5g
Wire retraction force (min)	Appr. 1N
Wire extension force (max)	1.5N
Protection class	IP 20
Electrical connection	Integrated cable, 4.6m
Mounting bracket	Yes

Wiring connections	
Pluggable screw terminals	<p>Copper wire or copper strands with ferrules 1 x 0.6 mm (0.02 in) dia. to 2.5 mm² (0.004 in²) or 2 x 0.6 mm (0.02 in) dia. to 1 mm² (0.0015 in²).</p> <p>Copper strands without ferrules 1 x 0.6 mm (0.02 in) dia. to 2.5 mm² (0.004 in²) or 2 x 0.6 mm (0.02 in) dia. to 1.5 mm² (0.002 in²).</p>

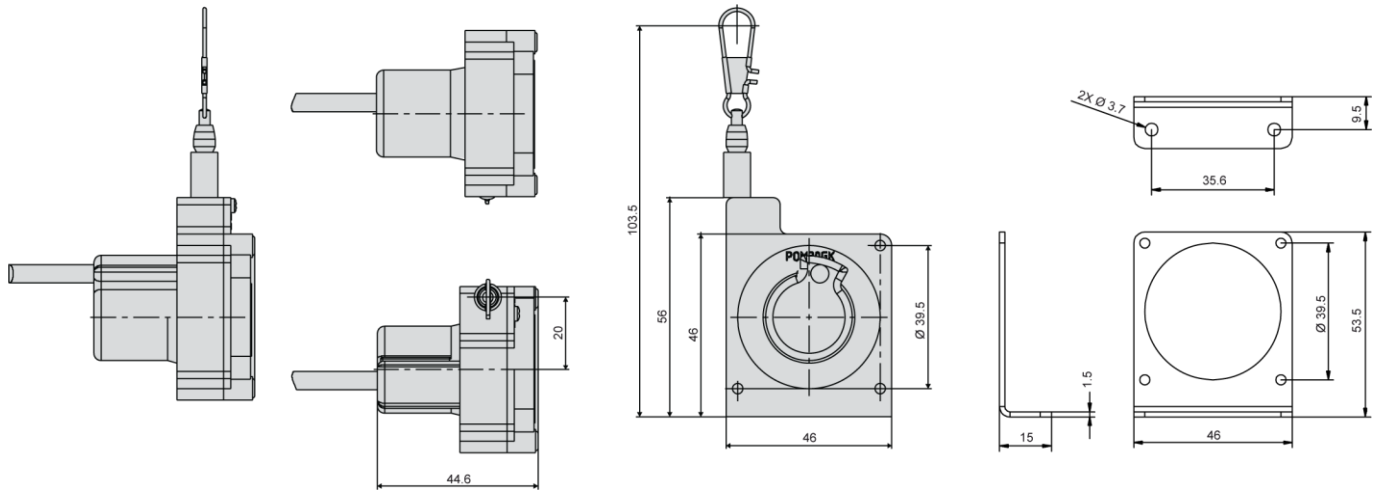
Ambient conditions and protection classification	
Design type	Device suited for use with equipment of safety classes I and II.
Degree of protection of housing to EN 60529	IP20
Climatic ambient conditions	<ul style="list-style-type: none"> Class 2K3 Temperature -20...80 °C (-13... 158°F) Air humidity 5...95%. Class 3K5 Temperature -20...80 °C (23... 122°F) Air humidity 5...95%.

Standards, directives and approvals	
EU conformity (CE)	RoHS
Environmental compatibility	The product environmental declaration contains data on environmentally compatible product design and assessments (RoHS compliance, materials composition, packaging, environmental benefit, disposal).

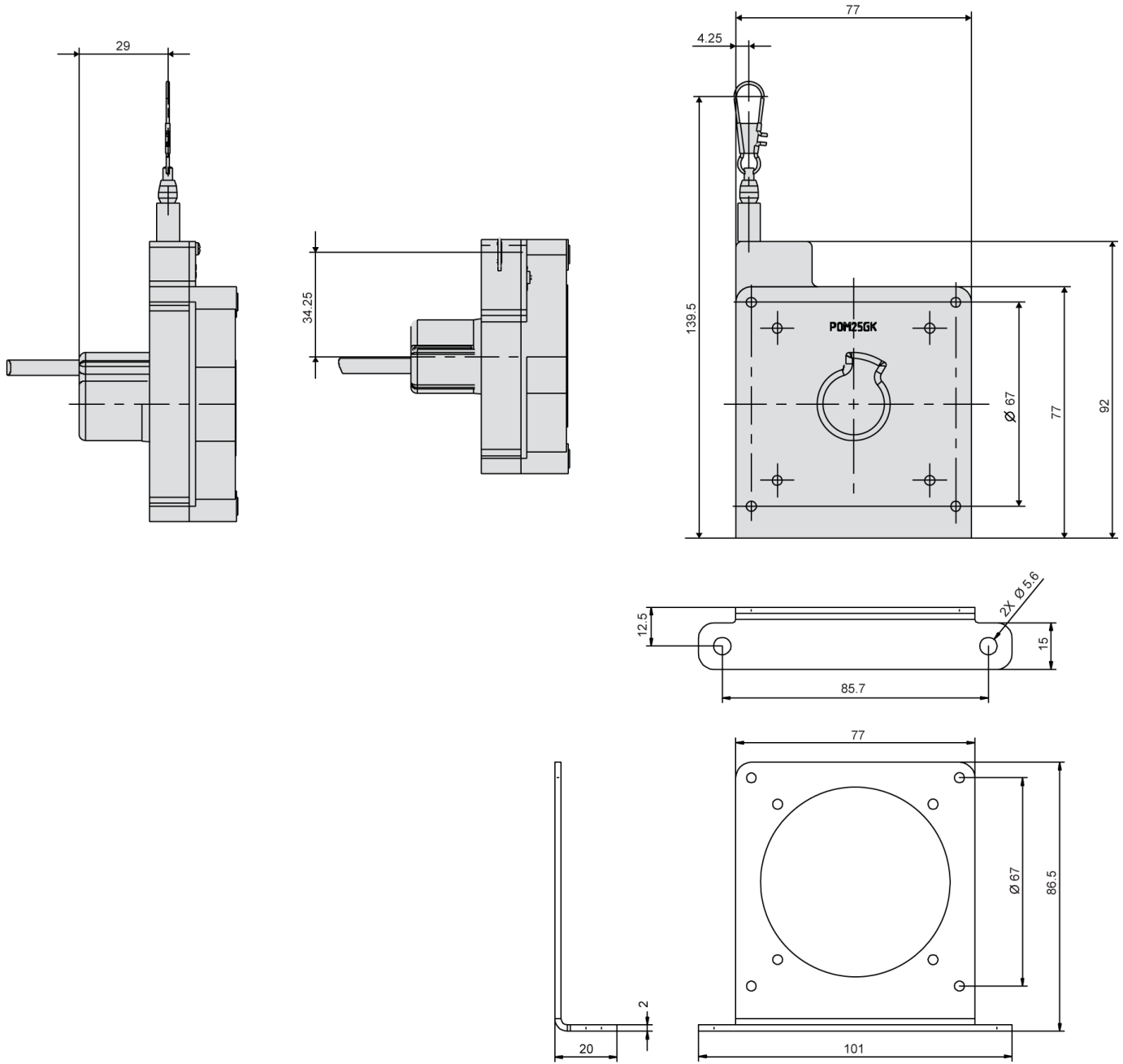
Connection diagrams



Dimensions



DXA.B130 Dimensions



DXA.B200 Dimensions

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