





Scope

These operating instructions apply to all precision single hole fixing limit switches EGM/EGT with snap-action switching contacts. These operating instructions, the document *Safety information and maintenance* and any enclosed data sheet form the complete user information for your device.

Supplementary documents

The overall documentation for this device consists of the following documents:

Document title (document number)	Contents	
Safety information (2525460)	Basic safety information	
Operating instructions (MAN20001598)	(this document)	
Declaration of conformity	Declaration of conformity	
Any additions to the operating instructions	Take any associated additions to the operating instructions or data sheets into account.	

Important!

Always read all documents to gain a complete overview of safe installation, setup and use of the device. The documents can be downloaded from www.euchner.com. For this purpose enter the doc. no. or the order number for the device in the search box.

Correct use

Thanks to their round design and simple, single-hole mounting, precision single hole fixing limit switches are suitable for installation directly at the locations to be monitored. Exact adjustment is permitted by means of the precision metric thread.

Correct use includes compliance with the relevant requirements for installation and operation, in particular

- ▶ EN 60204-1
- ▶ EN ISO 12100

Important!

▶ If a product data sheet is included with the product, the information on the data sheet applies in case of discrepancies with the operating instructions.

Incorrect use

- ▶ Precision Single Hole Fixing Limit Switches with snap-action switching contacts must not be used in safety circuits.
- ▶ Single hole fixing limit switches must not be used as an end stop.

Function

Precision Single Hole Fixing Limit Switches are used for positioning and control applications in mechanical and systems engineering.

The switching contacts are actuated when the actuating element is moved from the free position to the end position.

Switching states

The detailed switching states for your switch can be found in the wiring diagrams. All available switching elements are described there.

Please refer to the data sheets for additional special versions of switching elements.

Mounting

NOTICE

Device damage due to improper mounting and unsuitable ambient conditions

- ▶ Mounting must be performed only by authorized personnel.
- ▶ Precision Single Hole Fixing Limit Switches and actuators must not be used as an end stop.
- ▶ Protect the Precision Single Hole Fixing Limit Switches against damage.
- ▶ The specified IP degree of protection is applicable only if the housing screws, cable entries and plug connectors are properly tightened. Observe the tightening torques.

Protection against environmental effects

- ▶ Mask plunger, plunger guide and type label during painting work!

Electrical connection

Important!

- ▶ Strip the insulation from the ends of the individual wires over a length of 6^{±1} mm to ensure a safe contact.

The following information applies to devices with plug connector:

- ▶ Check that the plug connector is sealed.

Function test

Mechanical function test

- ▶ The actuating element must move easily.
- ▶ Actuate plunger and check the switching functions.

Electrical function test

- ▶ Check correct function sequence.

Inspection and service

Inspection of the following is necessary to ensure trouble-free long-term operation:

- ▶ correct switching function
- ▶ secure mounting of all components
- ▶ precise adjustment of trip dogs in relation to single hole fixing limit switches
- ▶ damage, heavy contamination, dirt and wear
- ▶ loose plug connectors and cable connections

Info: The year of manufacture can be seen in the bottom, right corner of the type label.

Exclusion of liability and warranty

In case of failure to comply with the conditions for correct use stated above, or if the safety regulations are not followed, or if any servicing is not performed as required, liability will be excluded and the warranty void.

EU declaration of conformity

The declaration of conformity is part of the operating instructions.

The complete EU declaration of conformity can also be found at www.euchner.com. Enter the order number of your device in the search box. The document is available under *Downloads*.

Service

If servicing is required, please contact:

EUCHNER GmbH + Co. KG
Kohlhammerstraße 16
70771 Leinfelden-Echterdingen
Germany

Service telephone:

+49 711 7597-500

E-mail:

support@euchner.de

Internet:

www.euchner.com

Technical data

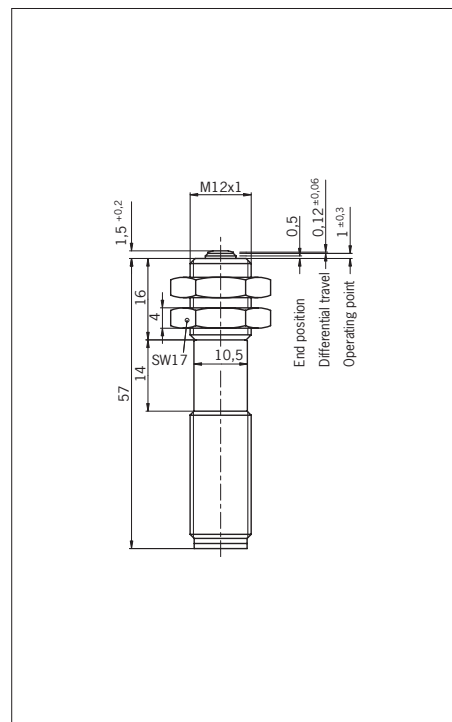
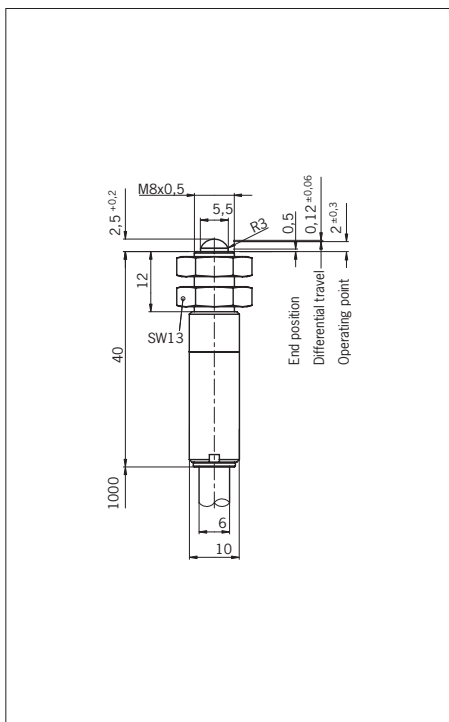
Type		EGM8-1000C2396	EGM12SEM4
Housing material		Stainless steel	Stainless steel
Degree of protection		IP65	IP65 ¹⁾
Ambient temperature	[°C]	-20 ²⁾ ... +80	-20 ... +85
Plunger type		Rounded plunger	Flat plunger
Approach speed, max.	[m/min]	8	8
Approach speed, min.	[m/min]	0.01	0.01
Mechanical life (axial actuation)		1 x 10 ⁶ operating cycles	1 x 10 ⁶ operating cycles
Operating point accuracy ³⁾	[mm]	± 0.01	± 0.01
Actuating force (end position)	[N]	Approx. 16	Approx. 16
Switching frequency, max.	[1/min]	30	30
Switching element		Snap-action switching contact	Snap-action switching contact
Switching contact		1 changeover contact	1 changeover contact
Contact material		Fine silver, gold plated	Silver alloy, gold plated
Rated insulation voltage U _i	[V]	250 \square	50
Rated impulse withstand voltage U _{imp}	[kV]	2.5	1.5
Utilization category acc. to IEC 60947-5-1		AC-15 U _e 230 V I _e 0.5 A DC-13 U _e 24 V I _e 0.6 A	AC-15 U _e 50 V I _e 0.5 A DC-13 U _e 24 V I _e 0.6 A
Switching current, min.	at 2 V [mA] at 24 V [mA]	- 10	- 10
Switching voltage, min.	[V DC]	12	12
Short circuit protection (control circuit fuse)	[A gG]	2	2
Connection		PUR cable 3 x 0.5 mm ²	Plug connector M12

1) Mating connector inserted and screwed tight.

2) Cable hard wired.

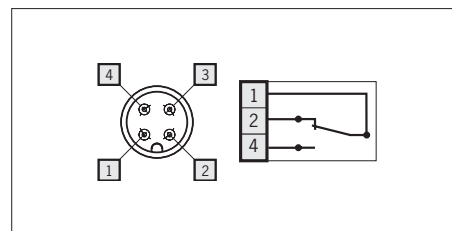
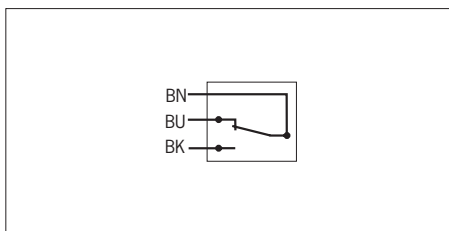
3) The reproducible operating point accuracy relates to axial actuation, after run-in of approx. 2,000 operating cycles.

Dimension drawings



Wiring diagrams

(illustration: plunger in free position)



Technical data

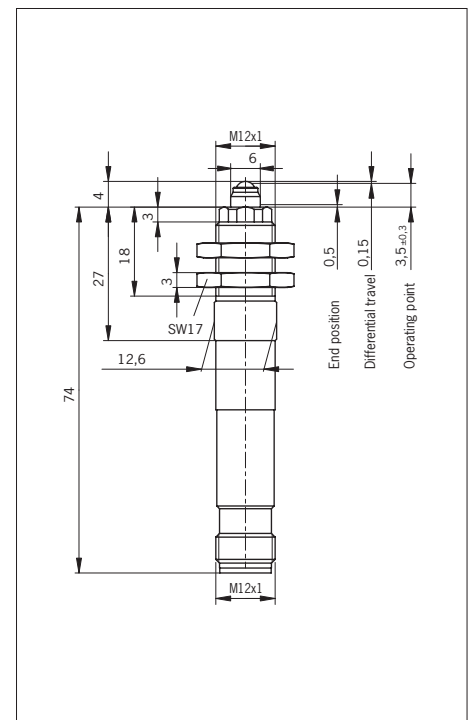
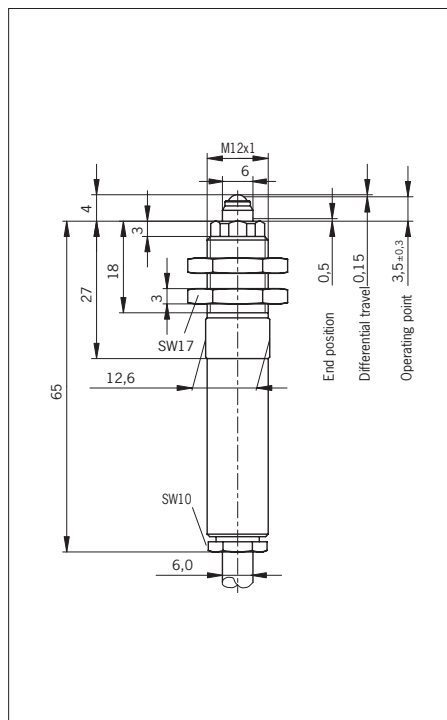
Type	EGT1M12-...	EGT1M12SEM4
Housing material	Brass, nickel plated	Stainless steel
Degree of protection	IP67	IP67 ¹⁾
Ambient temperature	[°C]	-25 ²⁾ ... +80
Plunger type	Ball plunger	Ball plunger
Approach speed, max.	[m/min]	8
Approach speed, min.	[m/min]	0.01
Mechanical life (axial actuation)	1 x 10 ⁶ operating cycles	1 x 10 ⁶ operating cycles
Operating point accuracy ³⁾	[mm]	± 0.01
Actuating force (end position)	[N]	Approx. 20
Switching frequency, max.	[1/min]	30
Switching element	Snap-action switching contact	Snap-action switching contact
Switching contact	1 changeover contact	1 changeover contact
Contact material	Silver alloy, gold plated	Silver alloy, gold plated
Rated insulation voltage U _i	[V]	250
Rated impulse withstand voltage U _{imp}	[kV]	2.5
Utilization category acc. to IEC 60947-5-1	AC-15 U _e 230 V I _e 0.5 A DC-13 U _e 24 V I _e 0.6 A	AC-15 U _e 50 V I _e 0.5 A DC-13 U _e 24 V I _e 0.6 A
Switching current, min.	at 2 V [mA] at 24 V [mA]	- 10
Switching voltage, min.	[V DC]	12
Short circuit protection (control circuit fuse)	[A gG]	2
Connection	PUR cable 4 x 0.5 mm ²	Plug connector M12

1) Mating connector inserted and screwed tight.

2) Cable hard wired.

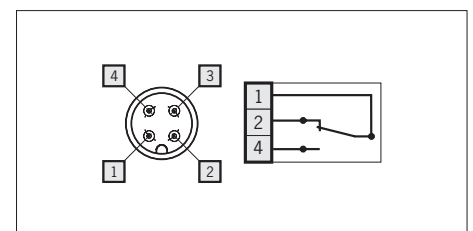
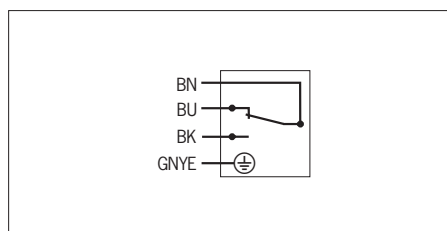
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Dimension drawings



Wiring diagrams

(illustration: plunger in free position)



Technical data

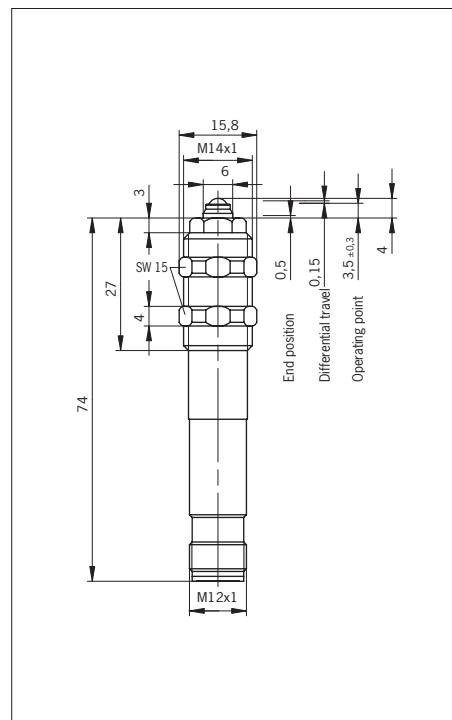
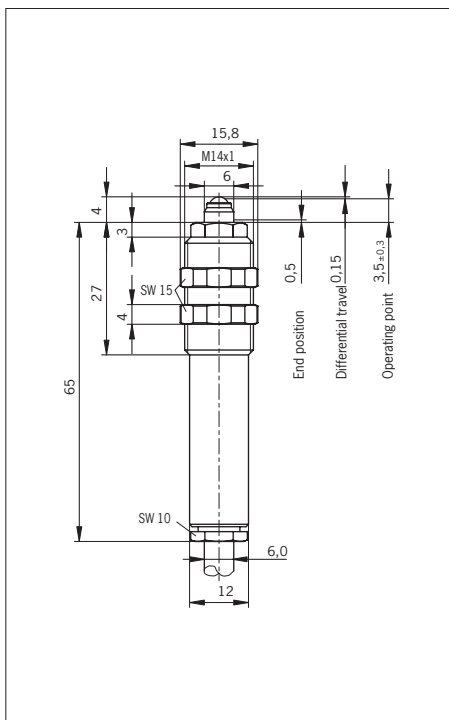
Type		EGT1-...	EGT1SEM4
Housing material		Brass, nickel plated	Stainless steel
Degree of protection		IP67	IP67 ¹⁾
Ambient temperature	[°C]	-25 ²⁾ ... +80	-25 ... +80
Plunger type		Ball plunger	Ball plunger
Approach speed, max.	[m/min]	8	8
Approach speed, min.	[m/min]	0.01	0.01
Mechanical life (axial actuation)		1 x 10 ⁶ operating cycles	1 x 10 ⁶ operating cycles
Operating point accuracy ³⁾	[mm]	± 0.01	± 0.01
Actuating force (end position)	[N]	Approx. 20	Approx. 20
Switching frequency, max.	[1/min]	30	30
Switching element		Snap-action switching contact	Snap-action switching contact
Switching contact		1 changeover contact	1 changeover contact
Contact material		Silver alloy, gold plated	Silver alloy, gold plated
Rated insulation voltage U _i	[V]	250	50
Rated impulse withstand voltage U _{imp}	[kV]	2.5	2.5
Utilization category acc. to IEC 60947-5-1		AC-15 U _e 230 V I _e 0.5 A DC-13 U _e 24 V I _e 0.6 A	AC-15 U _e 50 V I _e 0.5 A DC-13 U _e 24 V I _e 0.6 A
Switching current, min.	at 2 V [mA] at 24 V [mA]	- 10	- 10
Switching voltage, min.	[V DC]	12	12
Short circuit protection (control circuit fuse)	[A gG]	2	2
Connection		PUR cable 4 x 0.5 mm ²	Plug connector M12

1) Mating connector inserted and screwed tight.

2) Cable hard wired.

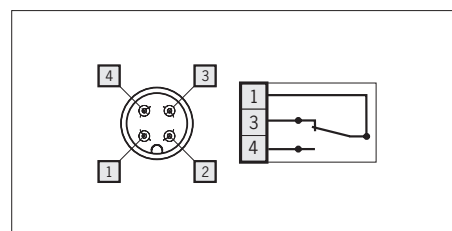
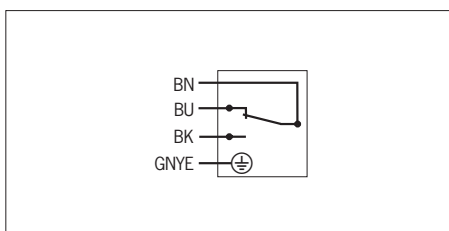
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Dimension drawings



Wiring diagrams

(illustration: plunger in free position)



Technical data

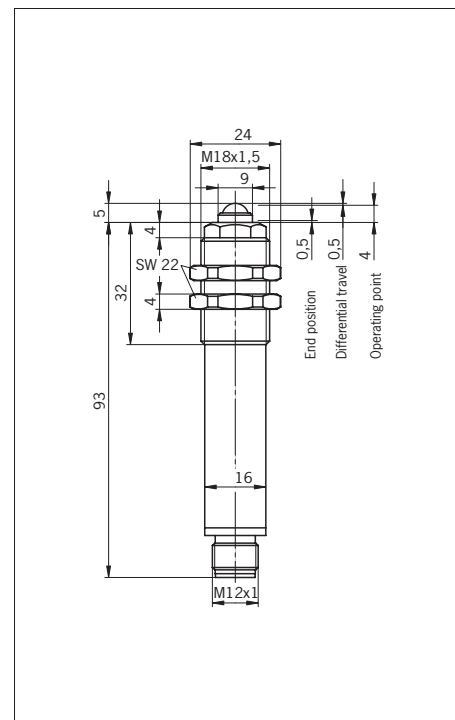
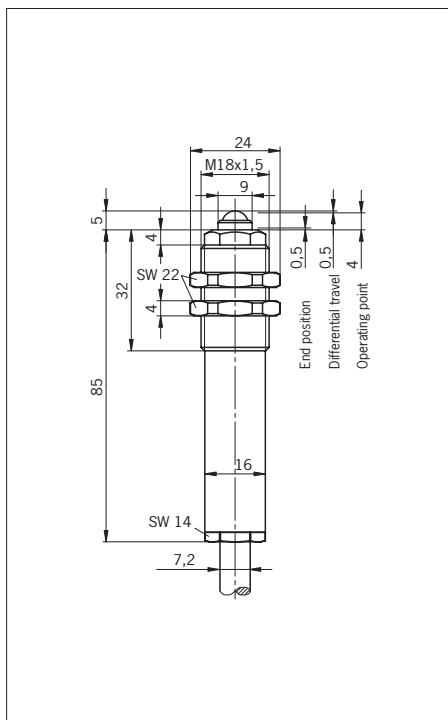
Type	EGT2-...	EGT2SEM4
Housing material	Brass, nickel plated	Stainless steel
Degree of protection	IP67	IP67 ¹⁾
Ambient temperature	[°C] 5 ²⁾ ... +60	-25 ... +80
Plunger type	Ball plunger	Ball plunger
Approach speed, max.	[m/min] 10	10
Approach speed, min.	[m/min] 0.01	0.01
Mechanical life (axial actuation)	1 x 10 ⁶ operating cycles	1 x 10 ⁶ operating cycles
Operating point accuracy ³⁾	[mm] ± 0.01	± 0.01
Actuating force (end position)	[N] Approx. 24	Approx. 24
Switching frequency, max.	[1/min] -	-
Switching element	Snap-action switching contact	Snap-action switching contact
Switching contact	1 NC and 1 NO	1 NC and 1 NO
Contact material	Fine silver, gold plated	Fine silver, gold plated
Rated insulation voltage U _i	[V] 250	50
Rated impulse withstand voltage U _{imp}	[kV] 2.5	2.5
Utilization category acc. to IEC 60947-5-1	AC-15 U _e 230 V I _e 2 A DC-13 U _e 24 V I _e 1 A	AC-15 U _e 30 V I _e 2 A DC-13 U _e 24 V I _e 1 A
Switching current, min.	at 2 V [mA] 10 at 24 V [mA] -	- 10
Switching voltage, min.	[V DC] 12	12
Short circuit protection (control circuit fuse)	[A gG] 2	2
Connection	PUR cable 5 x 0.75 mm ²	Plug connector M12

1) Mating connector inserted and screwed tight.

2) Cable hard wired.

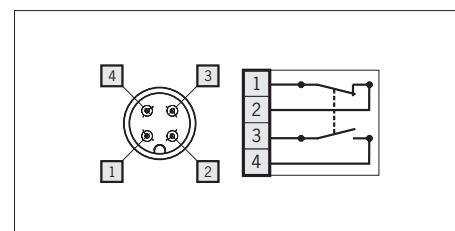
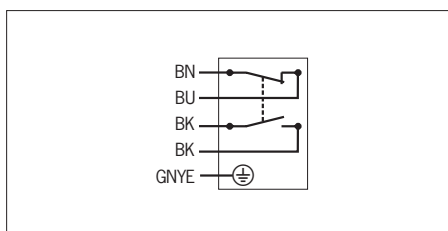
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Dimension drawings



Wiring diagrams

(illustration: plunger in free position)



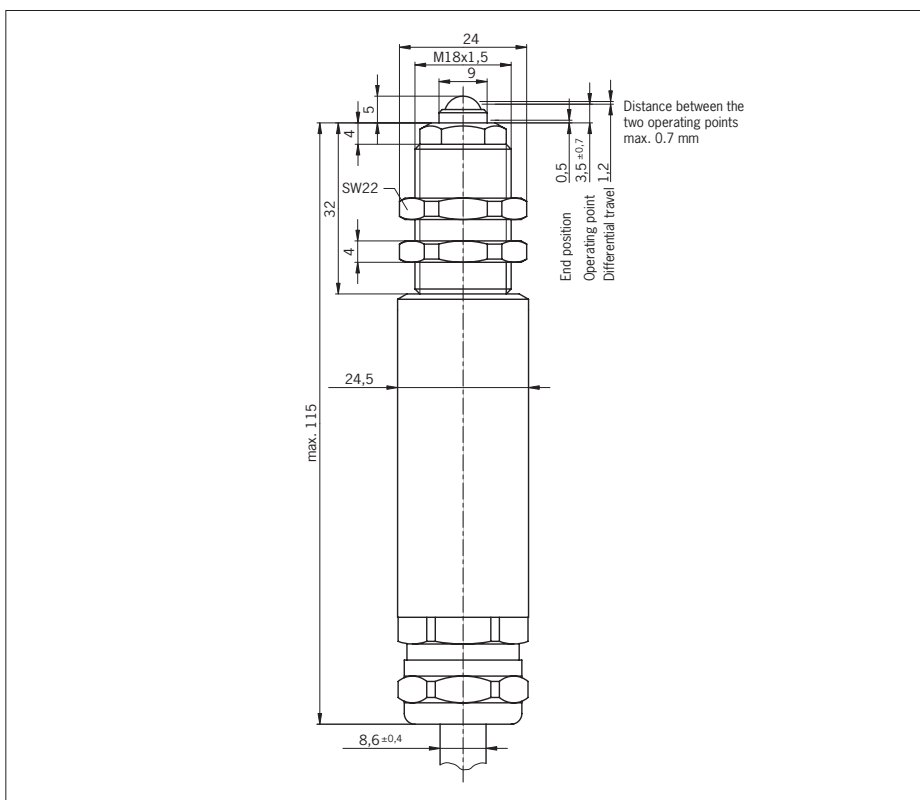
Technical data

Type	EGT4-...	
Housing material	Brass, nickel plated	
Degree of protection	IP67	
Ambient temperature	[°C]	5 ¹⁾ ... +60
Plunger type	Ball plunger	
Approach speed, max.	[m/min]	10
Approach speed, min.	[m/min]	0.01
Mechanical life (axial actuation)	1 x 10 ⁶ operating cycles	
Operating point accuracy ²⁾	[mm]	± 0.01
Actuating force (end position)	[N]	Approx. 24
Switching frequency, max.	[1/min]	-
Switching element	Snap-action switching contact	
Switching contact	1 NC and 1 NO	
Contact material	Fine silver, gold plated	
Rated insulation voltage U _i	[V]	250
Rated impulse withstand voltage U _{imp}	[kV]	2.5
Utilization category acc. to IEC 60947-5-1	AC-15 U _e 230 V I _e 2 A DC-13 U _e 24 V I _e 1 A	
Switching current, min.	at 2 V [mA]	10
	at 24 V [mA]	-
Switching voltage, min.	[V DC]	12
Short circuit protection (control circuit fuse)	[A gG]	2
Connection	PUR cable 5 x 0.75 mm ²	

1) Cable hard wired.

2) The reproducible operating point accuracy relates to axial actuation, after run-in of approx. 2,000 operating cycles.

Dimension drawings



Wiring diagrams

(illustration: plunger in free position)

