11341E00

- Dimensions and characteristic values according to EN 50047
- Replaceable contact
- Positive opening contacts
- Category 1 safety position switch with a variable system of actuators
- All inserts may be displaced by 4 x 90°
- Contacts with:
  - Snap-action contact
  - Slow-action contact
  - Make before break slow-action contact
- Possible as version with unconnected cable end

Position switches are used to monitor the position of moving parts of machines and systems.
They can be used in safety circuits as the device satisfies the standard EN 60947-5-1 (VDE 0660 Part 200) and the normally closed contacts are positive opening contacts.
The switching element and the actuating element of category 1 safety switches form a constructional and functional unit.
As a result of the galvanic isolation of the moving contacts, the position switch is suitable for switching various potentials.

	ATEX					
Zone	0	1	2	20	21	22
For use in					x	x

WebCode 7060A

Position Switches
Series 7060

Selection Table

Version	Actuator		Order number	Weight kg
 09386E00	Extended plunger	Plunger of moulded material	**7060/1-..-S**	0.069
 09387E00	Roller plunger	Roller of moulded material	**7060/1-..-RS**	0.073
 09388E00	Roller lever plunger, form E	Roller of moulded material	**7060/1-..-AR**	0.074
 09393E00	Angled roller lever	Roller of moulded material	**7060/1-..-WR**	0.074
 09389E00	Swivelling roller lever, form A	Roller of moulded material	**7060/1-..-R**	0.085
 09390E00	Adjustable roller lever	Roller of moulded material Roller rod of stainless steel	**7060/1-..-V**	0.104
 09391E00	Actuating rod	Rod of moulded material **No positive opening, not suitable for safety circuits!**	**7060/1-..-H**	0.097
 09392E00	Spring-rod actuator	Spring of stainless steel Only for use with snap-action contact! **No positive opening, not suitable for safety circuits!**	**7060/1-2-F**	0.140

Order Number Supplement

Switching function	1 NC + 1 NO	Slow-action contact	**7060/1-1-...**	
	2 NC	Slow-action contact	**7060/1-3-...**	
	2 NO	Slow-action contact	**7060/1-4-...**	
	1 NC + 1 NO	Slow-action contact, make before break	**7060/1-5-...**	
	1 NC + 1 NO	Snap-action contact, with spring	**7060/1-2-...**	
	Version with unconnected cable end		**7060/1-..-...-K**	
Note	The actuators enclosed are not mounted			

Explosion Protection

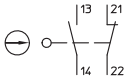
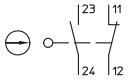
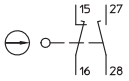
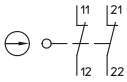
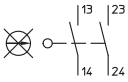
Marking	
Europe (ATEX)	
Dust explosion protection	Ⓔx II 2 D Ex tD A21 IP65 T80°C
Certificates	
Europe (ATEX)	
Dust explosion protection	PTB 06 ATEX 1019

Technical Data

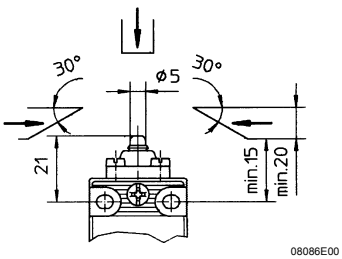
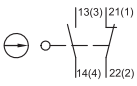
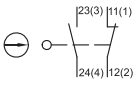
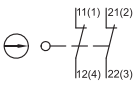
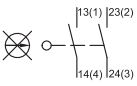
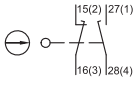
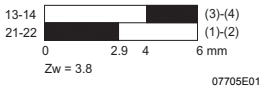
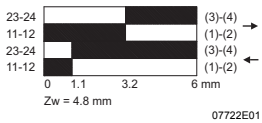
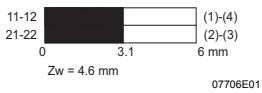
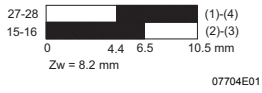
Electrical data					
Short circuit protection	10 A gG				
Rated impulse with stand voltage	6 kV				
Rated insulation voltage	550 V				
Switching capacity	AC-12		AC-15		DC-12
	7060/1-1 7060/1-2 7060/1-5	7060/1-3 7060/1-4	7060/1-1 7060/1-2 7060/1-5	7060/1-3 7060/1-4	7060/1-.
	max. 250 V max. 500 V **) max. 10 A max. 5000 VA	max. 250 V max. 400 V **) max. 10 A max. 4000 VA	max. 250 V max. 500 V **) max. 10 A max. 1000 VA	max. 250 V max. 400 V **) max. 10 A max. 1000 VA	max. 125 V max. 10 A max. 400 W
	**) Only for equal potential				
Rated operational current I_e	max. 10 A				
Rated operational voltage U_e			7060/1-1 7060/1-2 7060/1-5	7060/1-3 7060/1-4	
	Alternating current for equal potential:		max. 500 V	max. 400 V	
	Alternating current for unequal potential:		max. 250 V	max. 250 V	
	Direct current:		250 V	250 V	
Ambient conditions					
Operating temperature range	- 20 ... + 50 °C (10 A) - 20 ... + 70 °C (6 A)				
Mechanical data					
Degree of protection	IP65				
Enclosure material	Polyamide, glass fibre reinforced, black				
Mechanical shock resistance	Snap-action contact: 2 g Slow-action contact: 20 g				
Mounting / Installation					
Cable glands	8161/5-M20-13 On the enclosure bottom: 1 x M20 x 1.5				
Terminals	1 x 2.5 mm^2 or 2 x 1 mm^2, single-wire / finely-stranded				
Connection	With cable glands 8161: For plastic sheathed cable 4 x 2.5 mm^2 (diameter 6 ... 13 mm); recommended 4 x 1.5 mm^2 With mounted connecting cable: Plastic sheathed cable HK-SO-X05VV-F-OZ 4 x 1.5 mm, cable length 6 m				

Technical Data

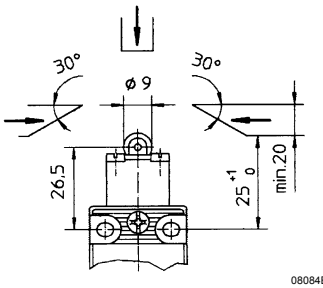
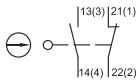
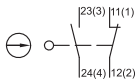
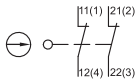
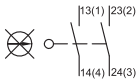
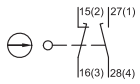
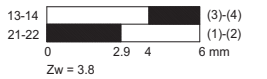
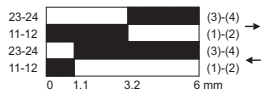
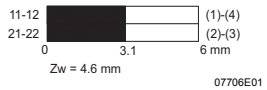
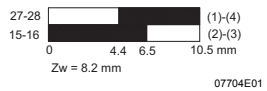
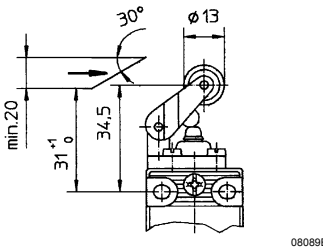
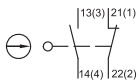
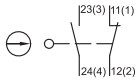
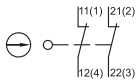
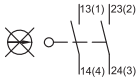
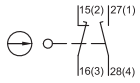
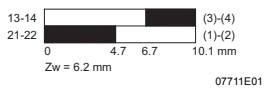
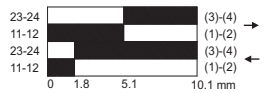
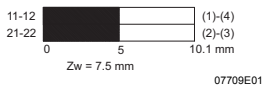
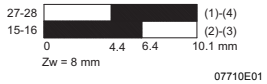
Contact

Version	Slow-action contact	Snap-action contact	Slow-action contact, make before break
	 08667E00	 08668E00	 08675E00
	7060/1-1	7060/1-2	7060/1-5
	 08669E00	Attention: The positive opening function ⊖ depends on the actuator used	
	7060/1-3		
	 08670E00		
	7060/1-4		
Contact arrangement	2-pole, galvanically isolated, with double break action		
Contact opening	≥ 1.5 mm (isolating distance ≥ 3 mm)		
Contacts	Silver-nickel		
Service life			
mechanical	max. 10^6 operations		
electrical	max. 10^6 operations		
Enclosure contact	Polyamide, glass fibre reinforced		

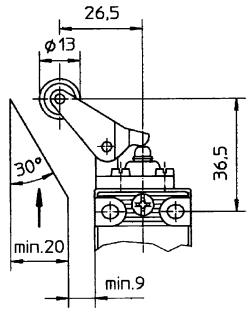
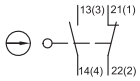
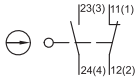
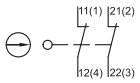
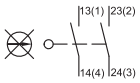
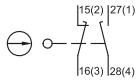
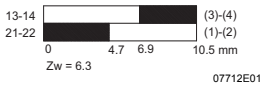
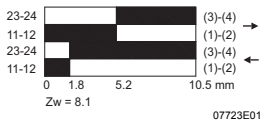
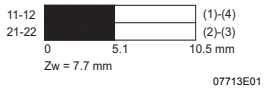
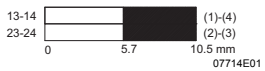
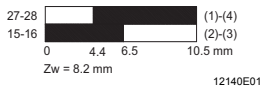
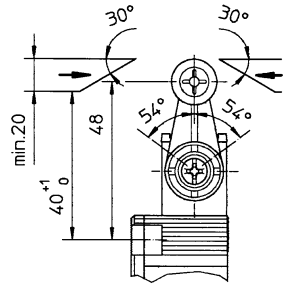
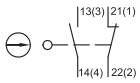
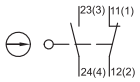
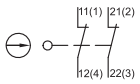
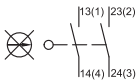
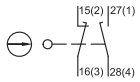
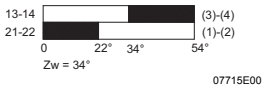
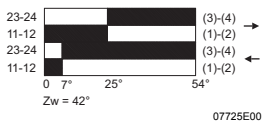
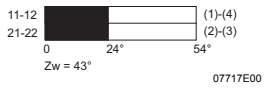
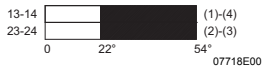
Technical Data
Operation, operating speed, contact travel or angle

Actuator	Operation	Diagram	Nominal contact travels or angles	Minimum force/ torque
Type 7060/1	V = Max. operating speed → = Direction of operation () = Connection for device with unconnected cable end	⊖ = Positive opening	■ = Contact closed □ = Contact open Zw = Travel for positive opening	
Extended plunger 7060/1- . - S	 08086E00 Lateral operation: V = 0.5 m/s Operation in stroke direction: V = 1.0 m/s	 07695E00  07696E00  07697E00  07698E00  07699E00	In stroke direction 7060/1-1:  07705E01 7060/1-2:  07722E01 7060/1-3:  07706E01 7060/1-4:  07707E01 7060/1-5:  07704E01	14 N

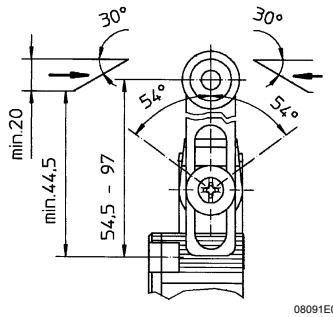
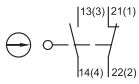
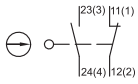
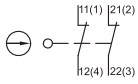
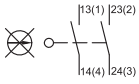
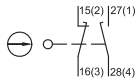
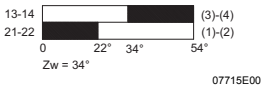
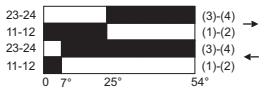
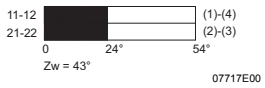
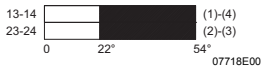
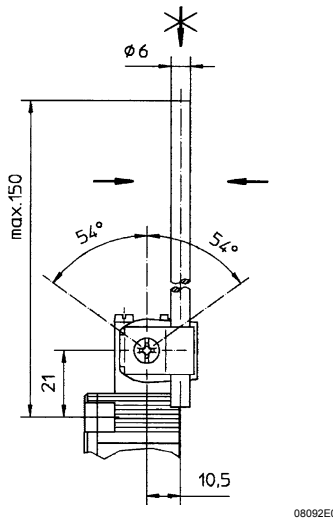
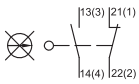
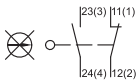
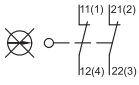
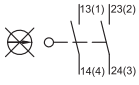
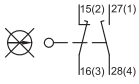
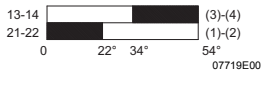
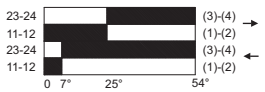
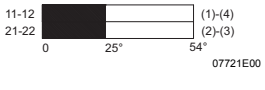
Technical Data
Operation, operating speed, contact travel or angle

Actuator	Operation	Diagram	Nominal contact travels or angles	Minimum force/ torque
Type 7060/1	V = Max. operating speed → = Direction of operation () = Connection for device with unconnected cable end	⊖ = Positive opening	■ = Contact closed □ = Contact open Zw = Travel for positive opening	
Roller plunger 7060/1- . -RS	 08084E00 Lateral operation: V = 1.0 m/s Operation in stroke direction: V = 1.0 m/s	 07695E00  07696E00  07697E00  07698E00  07699E00	In stroke direction 7060/1-1:  07705E01 7060/1-2:  07722E01 7060/1-3:  07706E01 7060/1-4:  07707E01 7060/1-5:  07704E01	14 N
Roller lever plunger, form E 7060/1- . -AR	 08089E00 V = 1.0 m/s	 07695E00  07696E00  07697E00  07698E00  07699E00	Movement of the roller in stroke direction of the plunger after plunger starts moving 7060/1-1:  07711E01 7060/1-2:  07727E01 7060/1-3:  07709E01 7060/1-4:  07708E01 7060/1-5:  07710E01	12 N

Technical Data
Operation, operating speed, contact travel or angle

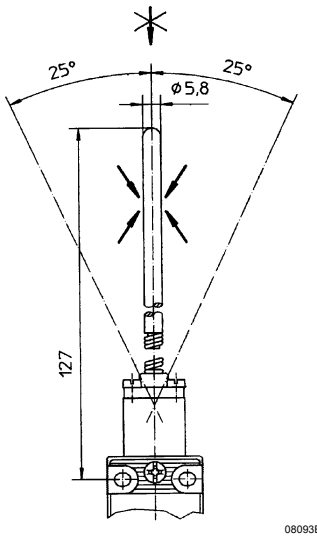
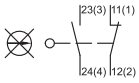
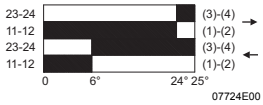
Actuator	Operation	Diagram	Nominal contact travels or angles	Minimum force/ torque
Type 7060/1	V = Max. operating speed → = Direction of operation () = Connection for device with unconnected cable end	⊖ = Positive opening	■ = Contact closed □ = Contact open Zw = Travel for positive opening	
Angled roller lever 7060/1- . -WR	 08094E00 V = 1.0 m/s	 07695E00  07696E00  07697E00  07698E00  07699E00	Movement of the roller vertically to stroke direction of the plunger after plunger starts moving 7060/1-1:  07712E01 7060/1-2:  07723E01 7060/1-3:  07713E01 7060/1-4:  07714E01 7060/1-5:  12140E01	12 N
Swivelling roller lever, form A 7060/1- . -R	 08743E00 V = 1.5 m/s	 07695E00  07696E00  07697Eoo  07698E00  07699E00	7060/1-1:  07715E00 7060/1-2:  07725E00 7060/1-3:  07717E00 7060/1-4:  07718E00 7060/1-5:  07716E00	0.3 Nm

Technical Data
Operation, operating speed, contact travel or angle

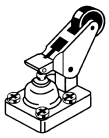
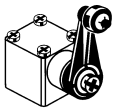
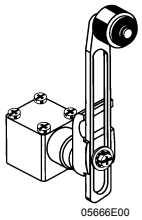
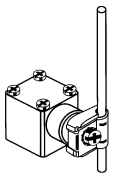
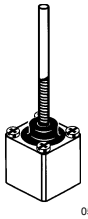
Actuator	Operation	Diagram	Nominal contact travels or angles	Minimum force/ torque
Type 7060/1	V = Max. operating speed → = Direction of operation () = Connection for device with unconnected cable end	⊖ = Positive opening	■ = Contact closed □ = Contact open Zw = Travel for positive opening	
Adjustable roller lever 7060/1- . -V	 08091E00 V = 1.5 m/s	 07965E00  07696E00  07697E00  07698E00  07699E00	7060/1-1:  07715E00 7060/1-2:  07725E00 7060/1-3:  07717E00 7060/1-4:  07718E00 7060/1-5:  07716E00	0.3 Nm
Actuating rod 7060/1- . -H	 08092E00 V = 1.5 m/s No positive opening, not suitable for safety circuits	 07700E00  07701E00  07702E00  07698E00  07703E00	7060/1-1:  07719E00 7060/1-2:  07726E00 7060/1-3:  07721E00 7060/1-4:  07718E00 7060/1-5:  07720E00	0.3 Nm

E4

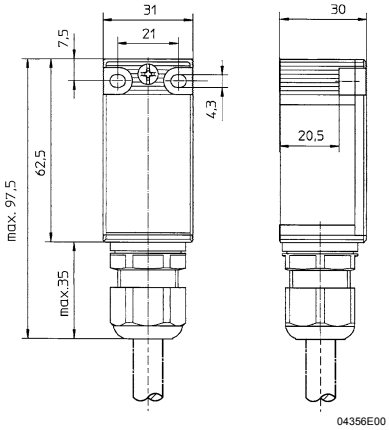
Technical Data
Operation, operating speed, contact travel or angle

Actuator	Operation	Diagram	Nominal contact travels or angles	Minimum force/ torque
Type 7060/1	V = Max. operating speed → = Direction of operation () = Connection for device with unconnected cable end	⊖ = Positive opening	■ = Contact closed □ = Contact open Zw = Travel for positive opening	
Spring-rod actuator 7060/1-2-F	 08093E00 No positive opening, not suitable for safety circuits	 07701E00	Only for use with snap-action contact! 7060/1-2:  07724E00	- -

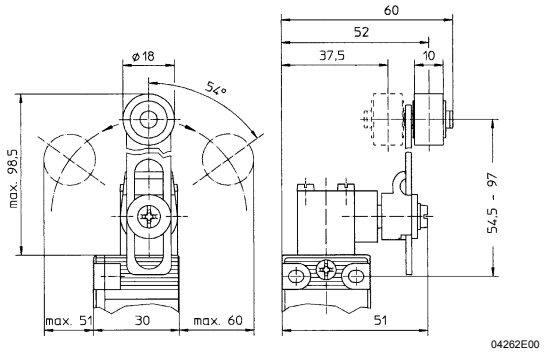
Accessories and Spare Parts

Designation	Illustration	Description			Order number	Weight kg
Actuator	 05662E00	Extended plunger	8060/1-0-S		**131251**	0.016
	 05663E00	Roller plunger	8060/1-0-RS		**131254**	0.019
	 05664E00	Roller lever plunger, form E	8060/1-0-AR		**131257**	0.020
	 05669E00	Angled roller lever	8060/1-0-WR		**131272**	0.021
	 05665E00	Swivelling roller lever, form A	8060/1-0-R		**131260**	0.034
	 05666E00	Adjustable roller lever	8060/1-0-V		**131263**	0.052
	 05667E00	Actuating rod	8060/1-0-H		**131266**	0.045
	 05668E00	Spring-rod actuator **Only for use with snap-action contact!**	8060/1-0-F		**131269**	0.034
Cable gland	 05864E00	8161/5-M20-13		1 piece	**138518**	0.012
Contact	 10809E00	1 NC + 1 NO	Slow-action contact	G080/1-1	**132541**	0.025
		2 NC	Slow-action contact	G080/1-3	**132544**	0.025
		2 NO	Slow-action contact	G080/1-4	**132545**	0.025
		1 NC + 1 NO	Slow-action contact, make before break	G080/1-5	**132546**	0.025
		1 NC + 1 NO	Snap-action contact	G080/1-2	**132543**	0.025

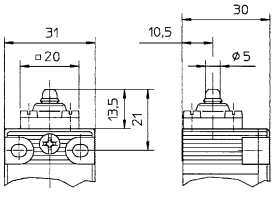
Dimensional Drawings (All Dimensions in mm) - Subject to Alterations



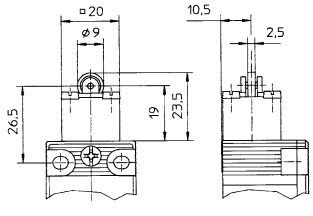
7060/1- . -OV
Position switch without insert



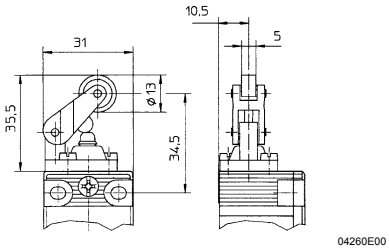
7060/1- . -V
Adjustable roller lever



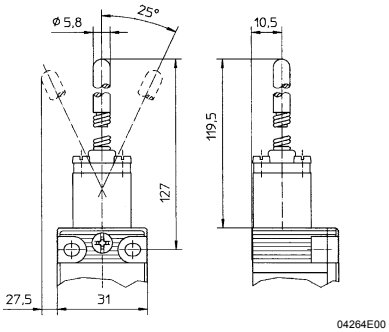
7060/1- . -S
Extended plunger



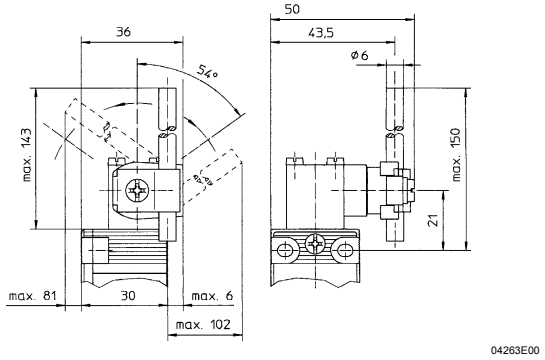
7060/1- . -RS
Roller plunger



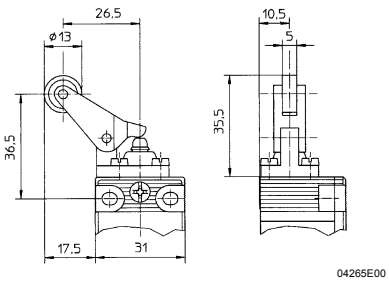
7060/1- . -AR
Roller lever plunger, form E



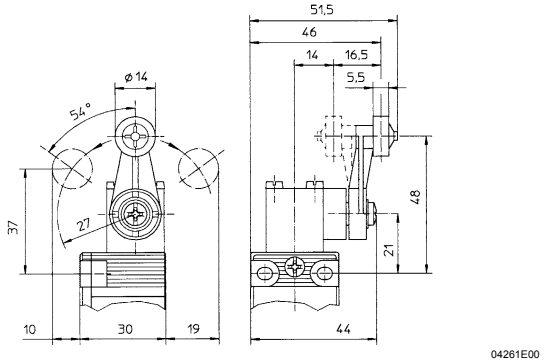
7060/1- 2 -F
Spring rod actuator



7060/1- . -H
Actuating rod



7060/1- . -WR
Angled roller lever



7060/1- . -R
Swivelling roller lever, form A