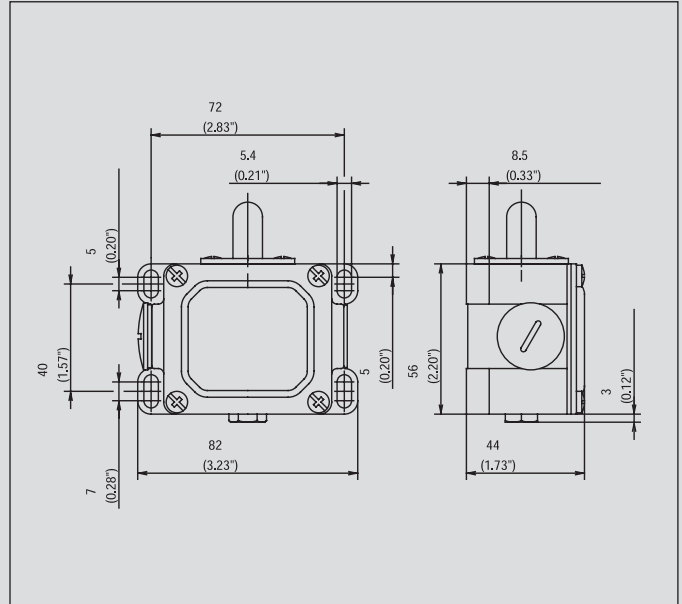


Metal-Enclosed Limit Switches

D



Recommended use

Heavy duty enclosure for harsh operating conditions with particularly tough design of actuator and switching systems.

Product advantages

- Protection class IP65 to VDE 0470 T1
- Enclosure: Aluminium pressure die-casting
- Cover: Sheet aluminium
- Actuator can be repositioned by 4 x 90° (depending on type)
- Cable entries 2x M20 x 1.5
- Connection designation conforming to DIN EN 50013
- Sturdy contacts
- Hard wearing guide bushes

Options

- AS interface versions on request
- Preassembled with customer-specific cables and connectors on request

Design layout

- Slow-action and snap-action contacts
- Versions: 1 NC / 1NO, 2 NC, 2 NO, 3 NC, 3 NO, overlapping contacts
- All NC contacts with ⊕ in the circuit diagram are positively opening contacts
- Latching function on request

Mounting

- 4 slots for M5 screws

Installation advantages

- 2 cable entries for through-wiring
- Generously dimensioned connection space
- Captive cover screws

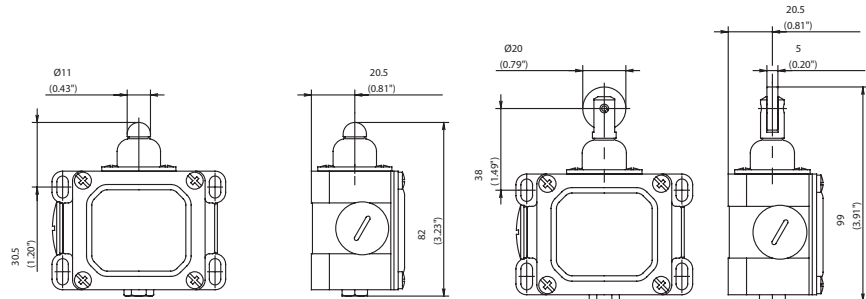
Technical data

Electrical data	
Rated insulation voltage	U _i max. 400 V AC
Conventional thermal current (up to) ^①	I _{the} 10 A
Rated operating voltage	U _e max. 240 V
Utilization category	AC-15, U _e /I _e 240 V/3 A
Short-circuit protection (up to) ^①	Fuse 10 A gL/gG
Protection class	I
Mechanical data	
Enclosure material	Aluminium pressure die-casting
Ambient temperature	-30 °C to + 80 °C
Mechanical service life	10 x 10 ⁶ switching cycles
B10d	20 Mill.
Switching frequency	≤ 100/min.
Type of connection	Screw connections
Conductor cross sections	Single-wire 0.5 – 1.5 mm ² or Stranded wire with ferrule 0.5 – 1.5 mm ²
Cable entry	2 x M20 x 1.5
Protection class	IP65 conforming to IEC/EN 60529
Standards	
VDE 0660 T100, DIN EN 60947-1, IEC 60947-1 VDE 0660 T200, DIN EN 60947-5-1, IEC 60947-5-1	

^① Depending on switching system. See Table on Pages 72 – 75.

W

RW



Switching operation

Slow-action

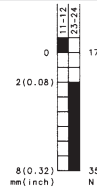
Snap-action

Slow-action

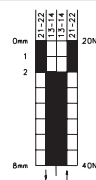
Snap-action

1 NC / 1 NO contact

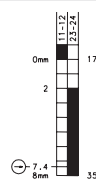
6041103002
D-U1 W



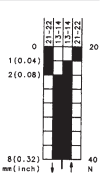
6041153156
D-SU1 W



6041182229
D-U1Z RW

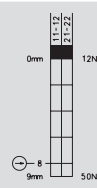


6041168162
D-SU1 RW

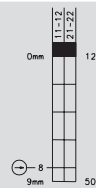


2 NC contacts

6041803090
D-A2 W

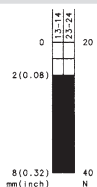


6041818741
D-A2Z RW

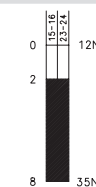


2 NO contacts

6041803046
D-E2 W

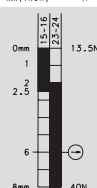


6041818052
D-E2 RW

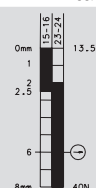


**1 NC / 1 NO contact
Overlapping**

6041303134
D-UV1Z W



6041318140
D-UV1Z RW



Approvals



Replacement actuator: -

Replacement actuator: -

Special features / variants
(on request)

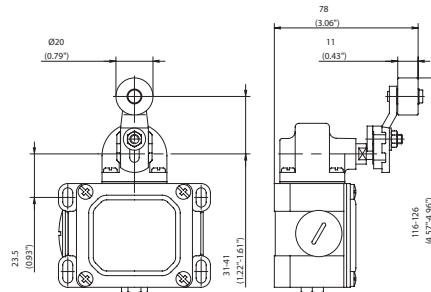
- Also available with following contacts:
3 NC contacts
3 NO contacts
2 NC / 2 NO contact
(larger enclosure)

Special features / variants
(on request)

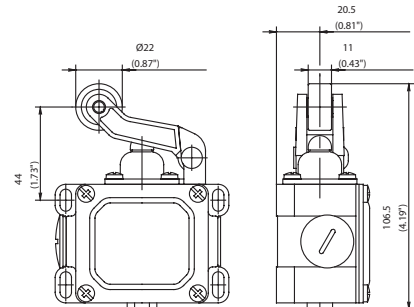
- Available for high temperature range
- With following contacts:
3 NC contacts
3 NO contacts
2 NC / 2 NO contact
(larger enclosure)

D

AH



HW

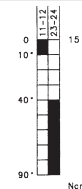


Switching operation

1 NC / 1 NO contact

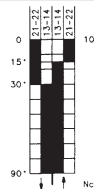
Slow-action

6041135019
D-U1 AH



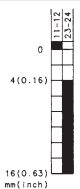
Snap-action

6041185173
D-SU1 AH



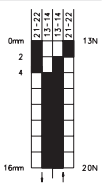
Slow-action

6041121010
D-U1 HW



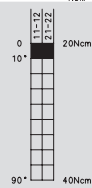
Snap-action

6041171164
D-SU1 HW



2 NC contacts

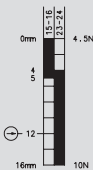
6041835107
D-A2 AH



2 NO contacts

1 NC / 1 NO contact
Overlapping

6041321142
D-UV1Z HW



Approvals



Replacement actuator: 3914350924

Replacement actuator: 3914211065

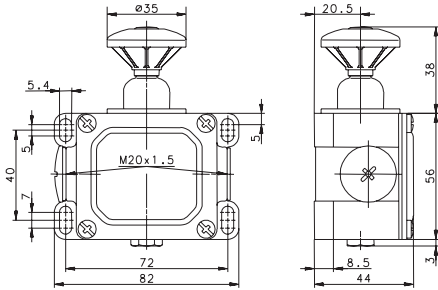
Special features / variants (on request)

- With steel roller, various roller diameters
- Cranked or straight lever
- Different lever lengths
- Also available with following contacts:
 - 3 NC contacts
 - 2 NC / 2 NO contact

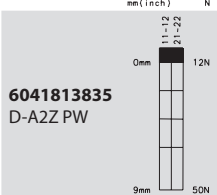
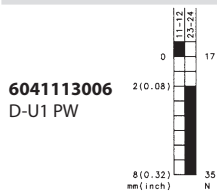
Special features / variants (on request)

- Available for high temperature range
- With following contacts:
 - 3 NC contacts
 - 2 NC / 2 NO contact (larger enclosure)

PW



Slow-action



Replacement actuator: –




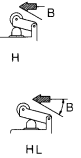






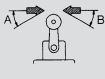
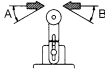


Special features / variants

(on request)

- Also available with following contacts:
 - 3 NC contacts
 - 3 NO contacts
 - 2 NC / 2 NO contact
 - (larger enclosure)

Overview of Actuators

Actuator	Designation	Collar iw = internal w = external	Plastic series					Metal series			
			COMBI	TINY 2	IN62 IN65	BIGGY 2	ENK	GCI	SN 2	ENM 2	DI
Plunger	-	iw	-	-	-	-	●	-	-	-	-
	-	w	-	●	●	●	-	-	-	-	-
	-	IP30	●	-	-	-	-	-	-	-	-
	-	IP43	-	-	-	-	-	-	-	-	○
Ball	KU	iw	-	-	-	-	-	○	○	○	-
Mushroom head	P	w	-	-	-	-	-	-	-	-	●
Telescopic plunger	L	iw	-	-	-	-	-	●	○	○	-
Adjustable plunger	ST	w	-	-	-	-	-	●	○	○	●
Plunger	SM	iw	-	-	●	-	-	-	-	-	-
	SK	w	-	-	●	-	-	-	-	-	-
	ST	iw	-	-	-	-	-	●	○	○	-
	ST	IP30	●	-	-	-	-	-	-	-	-
Button	K	IP30	●	-	-	-	-	-	-	-	-
Roller	R	IP30	●	-	-	-	-	-	-	-	-
	R	iw	-	●	○	●	●	●	●	●	-
	RK	iw	-	-	●	-	-	-	-	-	-
		w	-	-	-	-	-	-	-	-	●
		IP43	-	-	-	-	-	-	-	-	○
Roller, long	R...L	iw	-	○	●	○	-	-	-	-	-
Roller, short	R...K	iw	-	○	●	○	-	-	-	-	-
Lever	H	IP30	●	-	-	-	-	-	-	-	-
	H	w	-	●	●	●	●	-	-	-	-
	H, HT	iw	-	-	-	-	-	●	○	○	-
	HK	iw	-	-	●	-	-	-	-	-	-
	H/D-WI	w	-	-	-	-	-	●	●	○	●
	HL	iw	-	-	-	-	-	●	○	○	-
	HL/D-H	w	-	-	-	-	-	●	○	○	●
Lever, long	D-H	IP43	-	-	-	-	-	-	-	-	○
	DGH	w	-	○	●	○	○	○	●	●	-
Pivot joint, lever	DGHK	iw	-	-	●	-	-	-	-	-	-
Pivot joint, cranked lever	DGK	w	-	○	●	○	○	○	●	●	-
	DGKK	iw	-	-	●	-	-	-	-	-	-
Cranked lever	KN	iw	-	-	-	-	-	●	○	○	-
	KN	w	-	○	●	○	-	●	○	○	○
	KNK	iw	-	-	●	-	-	-	-	-	-
Cranked lever link	KG	iw	-	-	-	-	-	●	○	○	-
	KG	w	-	○	●	○	-	●	○	○	-
Double roller	DR	iw	-	-	-	-	-	●	○	○	-
Spring feeler	FF	iw	-	-	-	-	-	●	●	○	-
	FF	w	-	●	○	●	●	-	-	-	-
Spring feeler, long	FFL	w	-	-	-	-	-	●	○	○	-
Spindle-mounted lever	AH	iw	-	●	-	●	-	●	○	○	●
Spindle-mounted lever, star clamping	AHK	iw	-	-	●	-	-	-	-	-	-
	AHS	iw	-	●	●	●	-	○	●	○	-
Spindle-mounted lever, star clamping, rubber roller	AHSGU	iw	-	-	●	-	●	-	-	-	-
Spindle-mounted lever, star clamping, fine spline	AHS-V	iw	-	-	-	-	●	○	●	●	-
Spindle-mounted lever for positive opening in forward/return dir.	AHZ	iw	-	-	-	-	-	○	○	●	-
Spindle-mounted lever, adjustable	AV	iw	-	●	-	●	●	●	○	●	●
	AVK	iw	-	-	●	-	-	-	-	-	-
Spindle-mounted lever, wire	AD	iw	-	●	-	●	●	●	○	●	○
	AHDM	iw	-	-	●	-	-	-	-	-	-
Spindle-mounted lever, spring	AF	iw	-	○	-	○	○	●	●	○	-

Approach direction	Plunger direction	Approach speed/approach angle							Remarks		
		m/s	0,1	0,5	1	2	5				
	↓	Metal	A	20°	20°	10°	5°	-	<ul style="list-style-type: none"> ● The values shown in the switching diagrams for switching travel/force refer to plunger direction 		
			B	20°	20°	10°	5°	-			
Plastic	A	20°	20°	10°	5°	-					
	B	20°	20°	10°	5°	-					
	↓	Metal	A	30°	5°	-	-	-		<ul style="list-style-type: none"> ● The values shown in the switching diagrams for switching travel/force refer to plunger direction ● Plunger tip adjustable in ST version 	
			B	30°	5°	-	-	-			
Plastic	A	30°	5°	-	-	-					
	B	30°	5°	-	-	-					
	↓	Metal	A	30°	30°	20°	10°	5°			<ul style="list-style-type: none"> ● The values shown in the switching diagrams for switching travel/force refer to plunger direction
			B	30°	30°	20°	10°	5°			
Plastic	A	30°	30°	20°	10°	5°					
	B	30°	30°	20°	10°	5°					
	↓	Metal	A	-	-	-	-	-		<ul style="list-style-type: none"> ● The values shown in the switching diagrams for switching travel/force refer to plunger direction 	
			B	20°	20°	10°	-	-			
Plastic	A	-	-	-	-	-					
	B	40°	40°	30°	20°	10°					
	↓	Metal	A	-	-	-	-	-	<ul style="list-style-type: none"> ● The values shown in the switching diagrams for switching travel / force refer to plunger direction ● Adjustable upper section of actuator with roller 		
			B	20°	20°	10°	-	-			
Plastic	A	-	-	-	-	-					
	B	40°	40°	30°	20°	10°					
	↓	Metal	A	-	-	-	-	-		<ul style="list-style-type: none"> ● The values shown in the switching diagrams for switching travel / force refer to 90° to plunger direction ● Adjustable upper section of actuator with roller 	
			B	30°	30°	20°	10°	-			
Plastic	A	-	-	-	-	-					
	B	40°	40°	40°	30°	20°					
	↓	Metal	A	-	-	-	-	-			<ul style="list-style-type: none"> ● The values shown in the switching diagrams for switching travel / force refer to 90° to plunger direction
			B	30°	30°	20°	10°	-			
Plastic	A	-	-	-	-	-					
	B	40°	40°	40°	30°	20°					
	↓	Metal	A	-	-	-	-	-		<ul style="list-style-type: none"> ● The values shown in the switching diagrams for switching travel / force refer to plunger direction 	
			B	40°	40°	30°	20°	-			
Plastic	A	-	-	-	-	-					
	B	40°	40°	40°	30°	20°					
	↓	Metal	A	45°	45°	40°	30°	-	<ul style="list-style-type: none"> ● The values shown in the switching diagrams for switching travel / force refer to direction of rotation ● Switch position retained after actuation 		
			B	45°	45°	40°	30°	-			
Plastic	A	-	-	-	-	-					
	B	-	-	-	-	-					
	↓	Metal	A	60°	50°	45°	-	-			<ul style="list-style-type: none"> ● The values shown in the switching diagrams for switching angle / actuation torque refer to any approach direction ● Not suitable for personal protection
			B	-	-	-	-	-			
Plastic	A	20°	20°	10°	5°	-					
	B	-	-	-	-	-					
	↓	Metal	A	45°	45°	45°	40°	30°	<ul style="list-style-type: none"> ● The values shown in the switching diagrams for switching angle / actuation torque refer to direction of rotation ● Graduated adjustment of roller lever on spindle with 180° repositioning 		
			B	45°	45°	45°	40°	30°			
Plastic	A	45°	45°	45°	40°	30°					
	B	45°	45°	45°	40°	30°					
	↓	Metal	A	45°	45°	45°	40°	30°		<ul style="list-style-type: none"> ● The values shown in the switching diagrams for switching angle / actuation torque refer to direction of rotation ● Graduated adjustment of roller lever on spindle with 180° repositioning ● Not suitable for personal protection 	
			B	45°	45°	45°	40°	30°			
Plastic	A	45°	45°	45°	40°	30°					
	B	45°	45°	45°	40°	30°					
	↓	Metal	A	45°	45°	40°	30°	20°	<ul style="list-style-type: none"> ● The values shown in the switching diagrams for switching angle / actuation torque refer to direction of rotation ● Graduate adjustment of rod about pivot axis and in longitudinal direction 		
			B	45°	45°	40°	30°	20°			
Plastic	A	45°	45°	40°	30°	20°					
	B	45°	45°	40°	30°	20°					
	↓	Metal	A	45°	45°	40°	30°	20°			<ul style="list-style-type: none"> ● The values shown in the switching diagrams for switching angle / actuation torque refer to direction of rotation ● Graduated adjustment of spring about pivot axis ● Not suitable for personal protection
			B	45°	45°	40°	30°	20°			
Plastic	A	45°	45°	40°	30°	20°					
	B	45°	45°	40°	30°	20°					

Limit Switch – Spindle-Mounted Lever

Switching devices with spindle-mounted lever enclosure

On delivery, contact-making takes place in both pivot directions corresponding to the switching diagrams.

Adaptation of basic actuator setting on spindle

The basic setting of the device can be varied in steps and fixed for exact positioning:

- AH, AHS, AHZ, AF, AD, AV:
Adjustment in steps of 15° (Fig. 1)
- AHS-V:
Adjustment in steps of 7.5° or 15° (only here ⊕) by repositioning the intermediate piece (Fig. 2)
- Adaptation AV, AD:
Adjustment in radial direction
- AH, AHS, AHS-V, AHZ, AV:
The roller levers can be used in a different axial actuating plane by repositioning by 180° (Fig. 3 and 4)

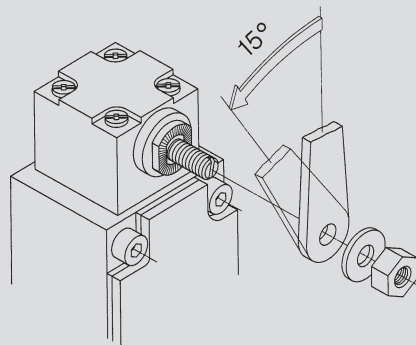


Fig. 1

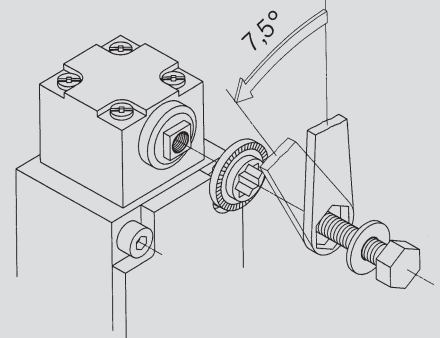


Fig. 2

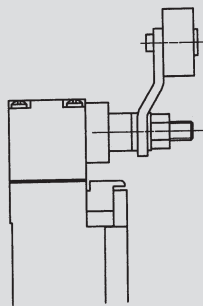


Fig. 3

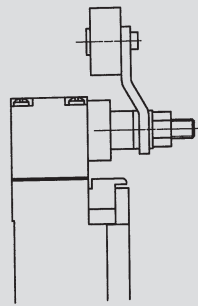


Fig. 4

Adaptation of direction-independent switching function

With actuators AHS, AHS-V, AV, AD.

On delivery, contact-making takes place in both pivot directions corresponding to the switching diagrams. An idle function in the required pivot direction is achieved by simply repositioning the actuator cam (Fig. 5 and 6).

The idle function can be used in control systems that cannot process successive rebound pulses caused by oscillatory movement of extremely long AV/AD actuators.

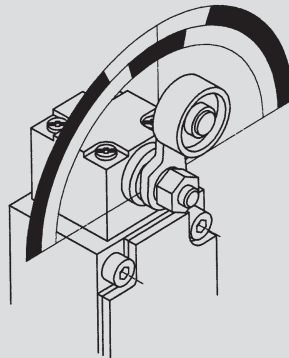


Fig. 5

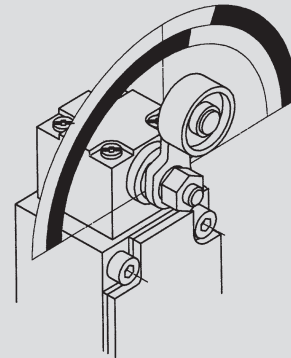


Fig. 6

Positive opening action Forward and return AHZ

For special safety applications, the positive opening action of the normally-closed contacts takes place both in forward (moving in one direction) as well as in return (moving back to home position) direction. For personal protection applications movement of the roller must be restrained in a guide block in both directions (Fig. 7 and 8).

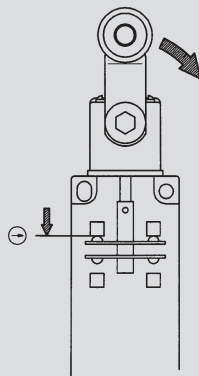


Fig. 7

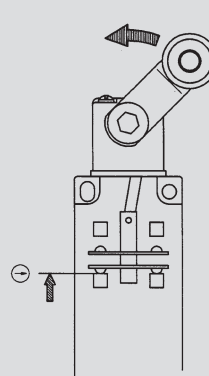


Fig. 8

Note on changing actuators AH, AHS, AHS-V, AHZ, AF, AD, AV, DGH, DGK

The guaranteed as-delivered properties change when the actuation directions are adjusted and when actuators are repositioned by 90°.

The user himself must ensure that the device achieves safe operation for its intended purpose.

Accessories for Insulation-Enclosed Limit Switches

The Finger guard help to prevent the user from an electric shock.

The guide element allows additional support to the rear of the switch.



Article
Series
Article number

Finger guard
Biggy 2, ENK
3595900060

Guide element
IN62 / IN65 / I81
3515900209

The mounting plate allows IN62 / IN65 / I81 switches to be din rail mounted in control enclosures.



Article
Series
Article number

Mounting plate, control cabinet
IN62 / IN65
3595900087

Sealed cable gland
M16 M20
3998000120 3998000121



Article
Series
Article number

NPT adapter M16 on 1/2" (NPT 14)
Various families
3998000115

NPT adapter M20 on 1/2" (NPT 14)
Various families
3998000116

Electrical data

Type 1 switches

Slow-action contact			C2 / Ti2								
Switching function	Switching contacts	Designation	U _i	I _{the}	Utilization category	Short-circuit protection	Mechanical service life	B10d	U _i	I _{the}	
Normally-closed contact	2NC	A2Z	250 V	10 A	AC-15 U _v /I _e 240 V/3 A	Fuse 6 A gL/gG	3 x 10 ⁶	6 mill.	250 V	10 A	
Changeover contact	1NC/1S	U1Z	250 V	10 A	AC-15 U _v /I _e 240 V/3 A	Fuse 6 A gL/gG	3 x 10 ⁶	6 mill.	250 V	10 A	
Changeover contact, overlapping	1NC/1S	UV1Z	–	–	–	–	–	–	–	–	
Normally-open contact	2S	E2	250 V	10 A	AC-15 U _v /I _e 240 V/3 A	Fuse 6 A gL/gG	3 x 10 ⁶	–	–	–	

Snap-action contact			C2 / Ti2								
Switching function	Switching contacts	Designation	U _i	I _{the}	Utilization category	Short-circuit protection	Mechanical service life	B10d	U _i	I _{the}	
Normally-closed contact	2NC	SA2Z	250 V	10 A	AC-15 U _v /I _e 240 V/3 A	Fuse 6 A gL/gG	3 x 10 ⁶	6 mill.	250 V	10 A	
Changeover contact	1NC/1S	SU1Z	250 V	10 A	AC-15 U _v /I _e 240 V/3 A	Fuse 6 A gL/gG	3 x 10 ⁶	6 mill.	250 V	10 A	
Normally-open contact	2S	SE2	250 V	10 A	AC-15 U _v /I _e 240 V/3 A	Fuse 6 A gL/gG	3 x 10 ⁶	–	–	–	

Slow-action contact			Bi2								
Switching function	Switching contacts	Designation	U _i	I _{the}	Utilization category	Short-circuit protection	Mechanical service life	B10d	U _i	I _{the}	
Normally-closed contact	2NC	A2Z	400 V	10 A	AC-15 U _v /I _e 240 V/3 A	Fuse 6 A gL/gG	1 x 10 ⁶	2 mill.	400 V	5 A	
Changeover contact	1NC / 1NO	U1Z	400 V	10 A	AC-15 U _v /I _e 240 V/3 A	Fuse 10 A gL/gG	10 x 10 ⁶	20 mill.	400 V	10 A	
Changeover contact, overlapping	1NC / 1NO	UV1Z	400 V	10 A	AC-15 U _v /I _e 240 V/3 A	Fuse 10 A gL/gG	10 x 10 ⁶	20 mill.	400 V	10 A	
Normally-open contact	2S	E2	–	–	–	–	–	–	–	–	

Snap-action contact			Bi2								
Switching function	Switching contacts	Designation	U _i	I _{the}	Utilization category	Short-circuit protection	Mechanical service life	B10d	U _i	I _{the}	
Normally-closed contact	2NC	SA2Z	–	–	–	–	–	–	–	–	
Changeover contact	1NC / NO	SU1Z	400 V	10 A	AC-15 U _v /I _e 240 V/3 A	Fuse 2 A gL/gG	10 x 10 ⁶	20 mill.	400 V	10 A	
Normally-open contact	2S	SE2	–	–	–	–	–	–	–	–	

Slow-action contact			GC								
Switching function	Switching contacts	Designation	U _i	I _{the}	Utilization category	Short-circuit protection	Mechanical service life	B10d	U _i	I _{the}	
Normally-closed contact	2NC	A2Z	400 V	6 A	–	Fuse 6 A gL/gG	1 x 10 ⁵	0,2 mill. ^①	400 V	10 A	
Changeover contact	1NC / 1NO	U1Z	400 V	10 A	AC-15 U _v /I _e 240 V/3 A	Fuse 10 A gL/gG	10 x 10 ⁶	20 mill. ^②	400 V	10 A	
Changeover contact, overlapping	1NC / 1NO	UV1Z	400 V	10 A	AC-15 U _v /I _e 240 V/3 A	Fuse 10 A gL/gG	10 x 10 ⁶	20 mill.	–	–	
Normally-open contact	2S	E2	400 V	6 A	–	Fuse 6 A gL/gG	3 x 10 ⁶	–	–	–	

① 6021820175 GC-A2 HIW = 20 million ② 60121100622 GC-U1Z VKS, 6121100623 GC-U1Z VKW = 2 million

Snap-action contact			GC								
Switching function	Switching contacts	Designation	U _i	I _{the}	Utilization category	Short-circuit protection	Mechanical service life	B10d	U _i	I _{the}	
Normally-closed contact	2NC	SA2Z	–	–	–	–	–	–	–	–	
Changeover contact	1NC / 1NO	SU1Z	400 V	10 A	AC-15 U _v /I _e 240 V/3 A	Fuse 2 A gL/gG	10 x 10 ⁶	20 mill.	400 V	10 A	
Normally-open contact	2S	SE2	–	–	–	–	–	–	–	–	

IF				I88					
Utilization category	Short-circuit protection	Mechanical service life	B10d	U _i	I _{the}	Utilization category	Short-circuit protection	Mechanical service life	B10d
AC-15 U _e /I _e 240 V/3 A	Fuse 6 A gL/gG	3 x 10 ⁶	6 mill.	250 V	5 A	AC-15 U _e /I _e 240 V/1.5 A	Fuse 6 A gL/gG	1 x 10 ⁶	2 mill.
AC-15 U _e /I _e 240 V/3 A	Fuse 6 A gL/gG	3 x 10 ⁶	6 mill.	250 V	10 A	AC-15 U _e /I _e 240 V/3 A	Fuse 10 A gL/gG	10 x 10 ⁶	20 mill.*
-	-	-	-	250 V	10 A	AC-15 U _e /I _e 240 V/3 A	Fuse 10 A gL/gG	10 x 10 ⁶	20 mill.
-	-	-	-	250 V	5 A	AC-15 U _e /I _e 240 V/1.5 A	Fuse 6 A gL/gG	1 x 10 ⁶	-

*6116819140 I88-U1Z KS, 6186103005 I88-U1Z W RAST = 2 million

IF				I88					
Utilization category	Short-circuit protection	Mechanical service life	B10d	U _i	I _{the}	Utilization category	Short-circuit protection	Mechanical service life	B10d
AC-15 U _e /I _e 240 V/3 A	Fuse 6 A gL/gG	3 x 10 ⁶	6 mill.	-	-	-	-	-	-
AC-15 U _e /I _e 240 V/3 A	Fuse 6 A gL/gG	3 x 10 ⁶	6 mill.	250 V	10 A	AC-15 U _e /I _e 240 V/3 A	Fuse 2 A gL/gG	10 x 10 ⁶	20 mill.
-	-	-	-	-	-	-	-	-	-

ENK			
Utilization category	Short-circuit protection	Mechanical service life	B10d
AC-15 U _e /I _e 240 V/1.5 A	Fuse 6 A gL/gG	1 x 10 ⁶	2 mill.
AC-15 U _e /I _e 240 V/3 A	Fuse 10 A gL/gG	10 x 10 ⁶	20 mill.*
AC-15 U _e /I _e 240 V/3 A	Fuse 10 A gL/gG	10 x 10 ⁶	20 mill.
-	-	-	-

*6181135251 ENK-U1Z AHSGU RAST RO50 = 2 million

ENK			
Utilization category	Short-circuit protection	Mechanical service life	B10d
-	-	-	-
AC-15 U _e /I _e 240 V/3 A	Fuse 2 A gL/gG	10 x 10 ⁶	20 mill.
-	-	-	-

SN2				ENM2					
Utilization category	Short-circuit protection	Mechanical service life	B10d	U _i	I _{the}	Utilization category	Short-circuit protection	Mechanical service life	B10d
AC-15 U _e /I _e 240 V/3 A	Fuse 6 A gL/gG	10 x 10 ⁶	20 mill.	250 V	10 A	AC-15 U _e /I _e 240 V/3 A	Fuse 6 A gL/gG	1 x 10 ⁶	2 mill.
AC-15 U _e /I _e 240 V/3 A	Fuse 10 A gL/gG	-	20 mill.	400 V	10 A	AC-15 U _e /I _e 240 V/3 A	Fuse 10 A gL/gG	10 x 10 ⁶	20 mill.*
-	-	-	-	400 V	10 A	AC-15 U _e /I _e 240 V/3 A	Fuse 10 A gL/gG	10 x 10 ⁶	20 mill.
-	-	-	-	250 V	10 A	AC-15 U _e /I _e 240 V/3 A	Fuse 10 A gL/gG	10 x 10 ⁶	-

*6087135013 ENM2-U1Z AHS-V, 6087135030 ENM2-U1Z AHZ = 2 million

SN2				ENM2					
Utilization category	Short-circuit protection	Mechanical service life	B10d	U _i	I _{the}	Utilization category	Short-circuit protection	Mechanical service life	B10d
-	-	-	-	250 V	10 A	AC-15 U _e /I _e 240 V/3 A	Fuse 6 A gL/gG	3 x 10 ⁶	6 mill.
AC-15 U _e /I _e 240 V/3 A	Fuse 2 A gL/gG	10 x 10 ⁶	20 mill.	400 V	10 A	AC-15 U _e /I _e 240 V/3 A	Fuse 2 A gL/gG	10 x 10 ⁶	20 mill.
-	-	-	-	250 V	10 A	AC-15 U _e /I _e 240 V/3 A	Fuse 6 A gL/gG	3 x 10 ⁶	-

Electrical data

Type 1 switches

Slow-action contact			D					
Switching function	Switching contacts	Designation	U_i	I_{the}	Utilization category	Short-circuit protection	Mechanical service life	B10d
Normally-closed contact	2NC	A2Z	400 V	10 A	AC-15 U_e/I_e 240 V/3 A	Fuse 10 A gL/gG	10×10^6	20 mill.
Changeover contact	1NC/1S	U1Z	400 V	10 A	AC-15 U_e/I_e 240 V/3 A	Fuse 10 A gL/gG	10×10^6	20 mill.
Changeover contact, overlapping	1NC/1S	UV1Z	400 V	16 A	AC-15 U_e/I_e 240 V/3 A	Fuse 10 A gL/gG	10×10^6	20 mill.
Normally-open contact	2S	E2	400 V	10 A	AC-15 U_e/I_e 240 V/3 A	Fuse 10 A gL/gG	10×10^6	-

Snap-action contact			D					
Switching function	Switching contacts	Designation	U_i	I_{the}	Utilization category	Short-circuit protection	Mechanical service life	B10d
Normally-closed contact	2NC	SA2Z	-	-	-	-	-	-
Changeover contact	1NC/1S	SU1Z	400 V	10 A	AC-15 U_e/I_e 240 V/3 A	Fuse 10 A gL/gG	10×10^6	20 mill.
Normally-open contact	2S	SE2	-	-	-	-	-	-

Type 2 switches

Slow-action contact			SKT						U_i	I_{the}
Switching function	Switching contacts	Designation	U_i	I_{the}	Utilization category	Short-circuit protection	Mechanical service life	B10d	U_i	I_{the}
Normally-closed contact	1NC	A1Z	-	-	-	-	-	-	-	-
Normally-closed contact	2NC	A2Z	250 V	10 A	AC-15 U_e/I_e 240 V/3 A DC-13 U_e/I_e 250 V / 0.27 A	Fuse 6 A gL/gG	A* 1×10^6 B* 1×10^5	2 mill.	250 V	10 A
Changeover contact	1NC/1S	U1/U1Z	250 V	10 A	AC-15 U_e/I_e 240 V/3 A DC-13 U_e/I_e 250 V / 0.27 A	Fuse 6 A gL/gG	A* 1×10^6 B* 1×10^5	2 mill.	250 V	10 A
Changeover contact, overlapping	2NC/1S	UV15Z	250 V	5 A	-	-	-	-	250 V	5 A

*A = Standard; B = Increased actuating force

Slow-action contact			SK						U_i	I_{the}
Switching function	Switching contacts	Designation	U_i	I_{the}	Utilization category	Short-circuit protection	Mechanical service life	B10d	U_i	I_{the}
Normally-closed contact	1NC	A1Z	-	-	-	-	-	-	-	-
Normally-closed contact	2NC	A2Z	250 V	10 A	AC-15 U_e/I_e 240 V/3 A	Fuse 6 A gL/gG	1×10^6	2 mill.	250 V	10 A
Changeover contact	1NC/1S	U1/U1Z	250 V	10 A	AC-15 U_e/I_e 240 V/3 A	Fuse 10 A gL/gG	1×10^6	2 mill.	250 V	10 A
Changeover contact, overlapping	2NC/1S	UV15Z	400 V	5 A	AC-15 U_e/I_e 240 V/1.5 A	Fuse 6 A gL/gG	1×10^6	2 mill.	-	-

Slow-action contact			ENM2						U_i	I_{the}
Switching function	Switching contacts	Designation	U_i	I_{the}	Utilization category	Short-circuit protection	Mechanical service life	B10d	U_i	I_{the}
Normally-closed contact	1NC	A1Z	-	-	-	-	-	-	-	-
Normally-closed contact	2NC	A2Z	400 V	10 A	AC-15 U_e/I_e 240 V/3 A	Fuse 6 A gL/gG	1×10^6	2 mill.	400 V	6 A
Changeover contact	1NC/1S	U1/U1Z	400 V	10 A	AC-15 U_e/I_e 240 V/3 A	Fuse 10 A gL/gG	1×10^6	2 mill.	400 V	10 A
Changeover contact, overlapping	2NC/1S	UV15Z	250 V	5 A	AC-15 U_e/I_e 240 V/1.5 A	Fuse 6 A gL/gG	1×10^6	2 mill.	-	-

U_i Rated insulation voltage
 I_{the} Conventional thermal output from devices in enclosure

SKI				SKC					
Utilization category	Short-circuit protection	Mechanical service life	B10d	U _i	I _{the}	Utilization category	Short-circuit protection	Mechanical service life	B10d
				250 V	5 A	AC-15 U _e /I _e 240 V/1,5 A	Fuse 6 A gL/gG	1 x 10 ⁶	2 mill.
AC-15 U _e /I _e 240 V/3 A	Fuse 6 A gL/gG	A* 1 x 10 ⁶ B* 1 x 10 ⁵	2 mill.	-	-	-	-	-	-
AC-15 U _e /I _e 240 V/3 A	Fuse 10 A gL/gG	A* 1 x 10 ⁶ B* 1 x 10 ⁵	2 mill.	-	-	-	-	-	-
AC-15 U _e /I _e 240 V/1,5 A	Fuse 6 A gL/gG	A* 1 x 10 ⁶ B* 1 x 10 ⁵	2 mill.	-	-	-	-	-	-

*A = Standard; B = Increased actuating force

I88				ENK					
Utilization category	Short-circuit protection	Mechanical service life	B10d	U _i	I _{the}	Utilization category	Short-circuit protection	Mechanical service life	B10d
-	-	-	-	-	-	-	-	-	-
AC-15 U _e /I _e 240 V/3 A	Fuse 10 A gL/gG	1 x 10 ⁵	2 mill.	400 V	10 A	AC-15 U _e /I _e 240 V/3 A	Fuse 6 A gL/gG	1 x 10 ⁶	2 mill.
-	-	-	-	400 V	10 A	AC-15 U _e /I _e 240 V/3 A	Fuse 10 A gL/gG	1 x 10 ⁶	2 mill.
-	-	-	-	400 V	5 A	AC-15 U _e /I _e 240 V/1,5 A	Fuse 6 A gL/gG	1 x 10 ⁶	2 mill.

GC			
Utilization category	Short-circuit protection	Mechanical service life	B10d
-	-	-	-
AC-15 U _e /I _e 240 V/3 A	Fuse 6 A gL/gG	1 x 10 ⁶	2 mill.
AC-15 U _e /I _e 240 V/3 A	Fuse 10 A gL/gG	1 x 10 ⁶	2 mill.