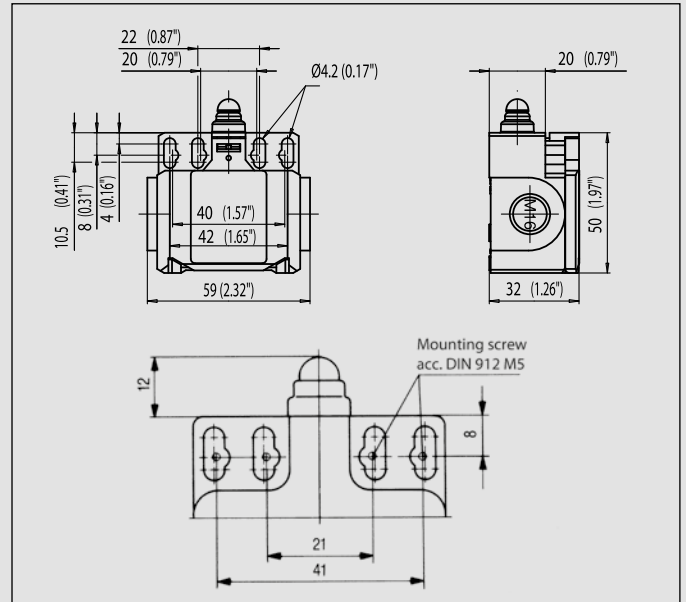


Insulation-Enclosed Limit Switches

Bi2



Recommended use

Thanks to its two cable entries, this switch is ideal for use in series-connected monitoring facilities.

Product advantages

- Protection class IP 65 to VDE 0470 T1
- Enclosure and cover PA 6, self-extinguishing (UL-94 V0)
- Actuator can be repositioned by 4 x 90°
- Cable entry 2x M16 x 1.5
- Connection designation conforming to DIN EN 50013

Options

- Available with M12 connector
- AS interface variants available
- Preassembled with customer-specific cables and connectors on request

Design layout

- Slow-action and snap-action contacts
- Versions: 1 NC / 1NO, 2 NC
- All NC contacts with \ominus in the circuit diagram are positively opening contacts
- Type: Zb (galvanically isolated changeover contact)

Mounting

- Two M4 adjustment slots (distance between centres 22 mm)
- Two M4 adjustment slots (distance between centres 42 mm)
- Two M5 holes (distance between centre 21 mm) for safety applications
- Two M5 holes (distance between centre 41 mm) for safety applications without additional securing element
- Front mounting

Installation advantages

- Cover opening range 135° (cover can also be detached from hinge)
- Screw connections with self-lifting clamping plates
- Easy-action cover lock (close and press)
- Cover additionally secured with screw
- 2 cable entries for through-wiring

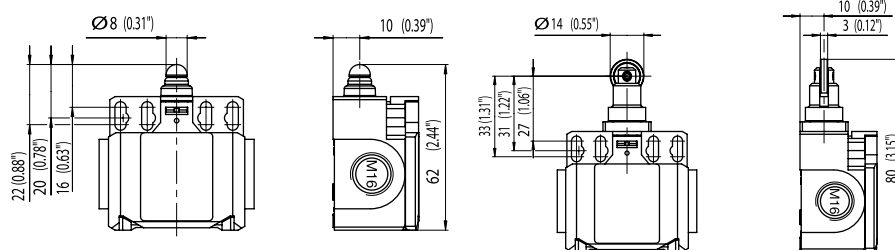
Technical data

Electrical data		
Rated insulation voltage	U _i max.	400 V AC
Conventional thermal current ^①	I _{th}	10 A
Rated operating voltage	U _e max.	240 V AC
Utilisation category		AC15, U _e /I _e 240 V/3 A
Short-circuit protection (up to) ^①		Fuse 10 A gL/gG
Protection class		II, Insulated
Mechanical data		
Enclosure material		Thermoplastic, glass fibre-reinforced
Ambient temperature		-30 °C to +80 °C
Mechanical service life (up to) ^①		10 x 10 ⁶ switching cycles
B10d (up to) ^①		20 Mio.
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 M16 x 1,5
Protection class		IP 65 conforming to EN 60529; DIN VDE 0470 T1
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 70 – 73.

W

RIW



Switching operation

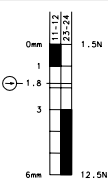
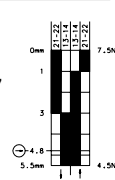
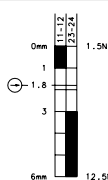
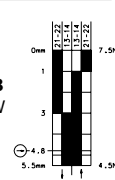
Slow-action

Snap-action

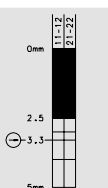
Slow-action

Snap-action

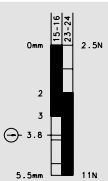
1 NC / 1 NO contact

6085103100
 BI2-U1Z W

6085153107
 BI2-SU1Z W

6085117101
 BI2-U1Z RIW

6085167108
 BI2-SU1Z RIW


2 NC contacts

6085803116
 BI2-A2Z W


2 NO contacts

1 NC / 1 NO contact
Overlapping
6085303115
 BI2-UV1Z W


Approvals



Replacement actuator: –

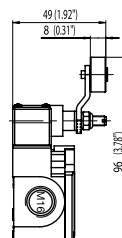
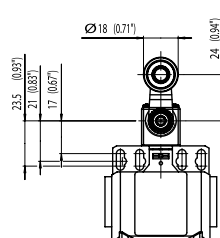
Replacement actuator: –

Special features / variants
 (on request)

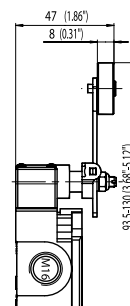
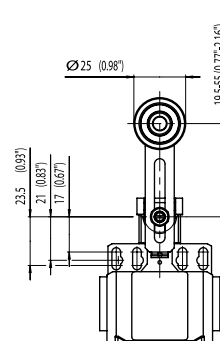
Special features / variants
 (on request)

- With steel roller

AH



AV



Switching operation

1 NC / 1 NO contact

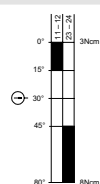
2 NC contacts

2 NO contacts

1 NC / 1 NO contact
Overlapping

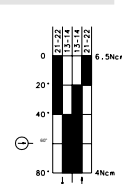
Slow-action

6085135104
BI2-U1Z AH



Snap-action

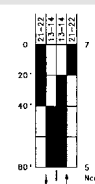
6085185111
BI2-SU1Z AH



Slow-action

Snap-action

6085186112
BI2-SU1 AV



Approvals



Replacement actuator: 3918351166

Replacement actuator: 3918360984

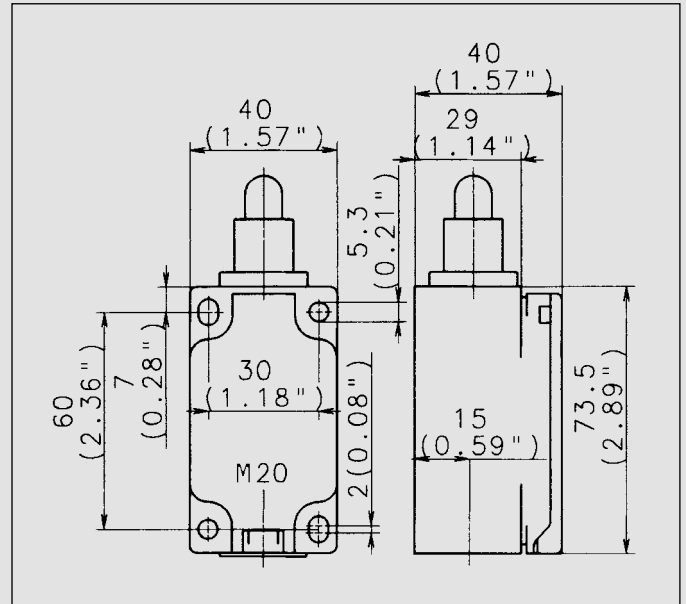
Special features / variants (on request)

- Available with different actuating directions
- With steel roller
- Various roller diameters
- Cranked or straight lever
- Various lever lengths

Special features / variants (on request)

Insulation-Enclosed Limit Switches

ENK



Recommended use

Thanks to its design and its metal actuator, the ENK limit switch is particularly suitable for applications requiring a sturdy safety switch made of plastic.

Product advantages

- Standard switch conforming to DIN EN 50041
- Standard actuator conforming to DIN EN 50041 (see page 16)
- Protection class IP 65 to VDE 0470 T1
- Enclosure and cover PA 6, (UL-94-V0)
- Actuator can be repositioned by 4 x 90°
- Cable entry M20 x 1.5
- Connection designation conforming to DIN EN 50013
- Metal actuators for high loads

Options

- Available with M12 connector
- AS interface variants available
- Preassembled with customer-specific cables and connectors on request

Design layout

- Slow-action and snap-action contacts
- Versions: 1 NC / 1NO, 2 NC, 3 NC, overlapping contacts
- Latching function on request
- All NC contacts with \ominus in the circuit diagram are positively opening contacts
- Type: Zb (galvanically isolated changeover contact)

Mounting

- 2 adjustment slots for M5 screws
- 2 holes for M5 mounting screws in safety applications

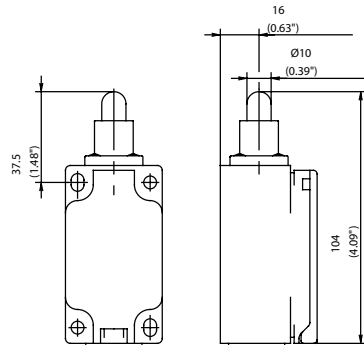
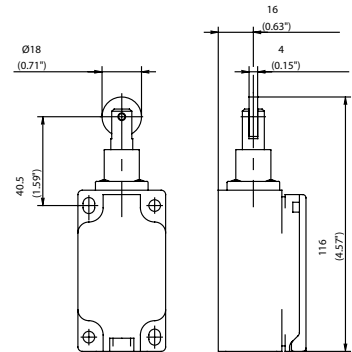
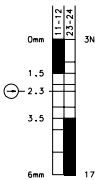
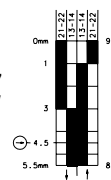
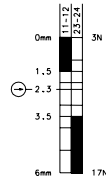
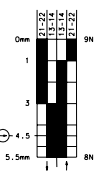
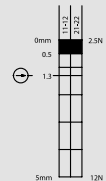
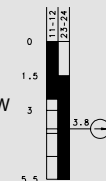
Installation advantages

- Snap-on cover can be released with screwdriver
- Cover opening range 150° (cover can also be detached from hinge)
- Cover protects switching element during installation
- Screw connections with self-lifting clamping plates
- Easy-action cover lock (close and press)

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
Utilisation category	AC-15, U _e /I _e 240 V/3 A	
Short-circuit protection (up to) ^①	Fuse 10 A gL/gG	
Protection class	II, Insulated	
Mechanical data		
Enclosure material	Thermoplastic, glass fibre-reinforced	
Ambient temperature	-30 °C to +80 °C	
Mechanical service life (up to) ^①	10 x 10 ⁶ switching cycles	
B10d (up to) ^①	20 Mio.	
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	1 x M20 x 1.5 ≈ 0.15 kg	
Protection class	IP 65 onforming to EN 60529; DIN VDE 0470 T1	
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 70 – 73.

IW (Form B)

RIW (Form C)

Switching operation
1 NC / 1 NO contact
Slow-action
Snap-action
6081102001
ENK-U1Z IW

6081152007
ENK-SU1Z IW

Slow-action
Snap-action
6081117002
ENK-U1Z RIW

6081167008
ENK-SU1Z RIW

2 NC contacts
2 NO contacts
**1 NC / 1 NO contact
Overlapping**
6081817281
ENK-A2Z RIW

6081317307
ENK-UV1Z RIW

Approvals

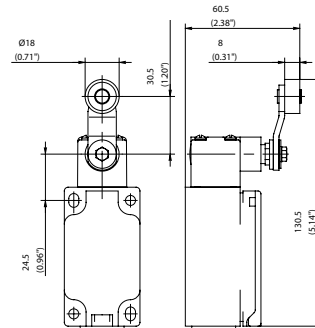
Replacement actuator: 3918020660
Replacement actuator: 3918170661
Special features / variants
(on request)

- Available with black enclosure and following contacts:
3 NC contacts

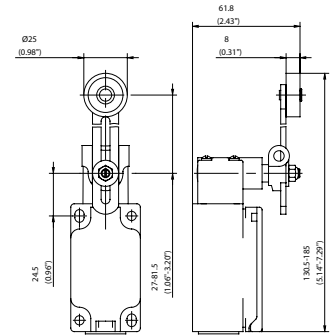
Special features / variants
(on request)

- Available for high temperature range and following contacts:
3 NC contacts

AHS-V (Form A)



AV



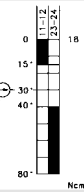
Switching operation

1 NC / 1 NO contact

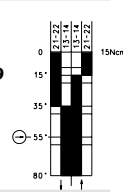
Slow-action

Snap-action

6081135003
ENK-U1Z AHS-V



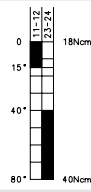
6081185009
ENK-SU1Z
AHS-V



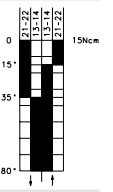
Slow-action

Snap-action

6081136012
ENK-U1 AV

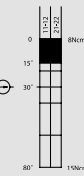


6081186018
ENK-SU1 AV



2 NC contacts

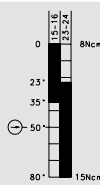
6081835323
ENK-A2Z AHS-V



2 NO contacts

1 NC / 1 NO contact
Overlapping

6081335006
ENK-UV1Z
AHS-V



Approvals



Replacement actuator: 3918350737

Replacement actuator: 3918360738

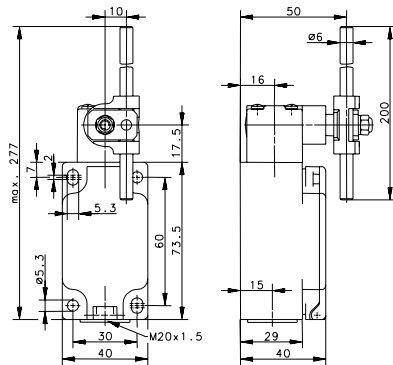
Special features / variants (on request)

- Available with black enclosure
- With 50 mm diameter rubber roller and following contacts:
3 NC contacts

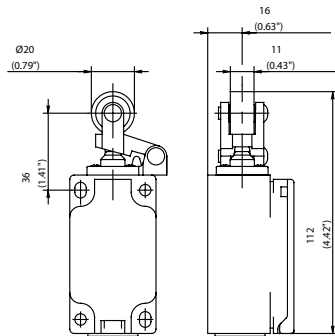
Special features / variants (on request)

- Available with different lever lengths and roller diameters
- With 50 mm diameter rubber roller
- With roller over switch

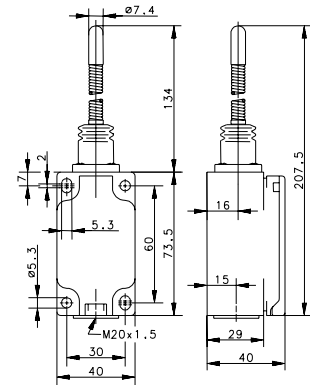
AD (Form D)



HW RO20



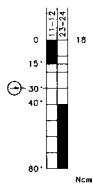
FF



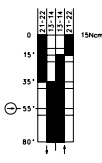
Slow-action

Snap-action

6081137011
ENK-U1 AD



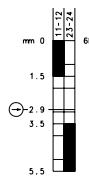
6081187017
ENK-SU1 AD



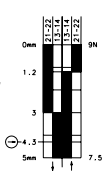
Slow-action

Snap-action

6081121095
ENK-U1Z HW
RO20



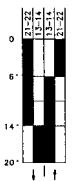
6081171096
ENK-SU1Z HW
RO20



Slow-action

Snap-action

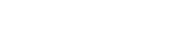
6081190045
ENK-SU1 FF



Replacement actuator: 3918370739



Replacement actuator: 3918200906



Replacement actuator: 3918400662

Special features / variants

(on request)

- Available with various actuator directions and actuator lengths

Special features / variants

(on request)

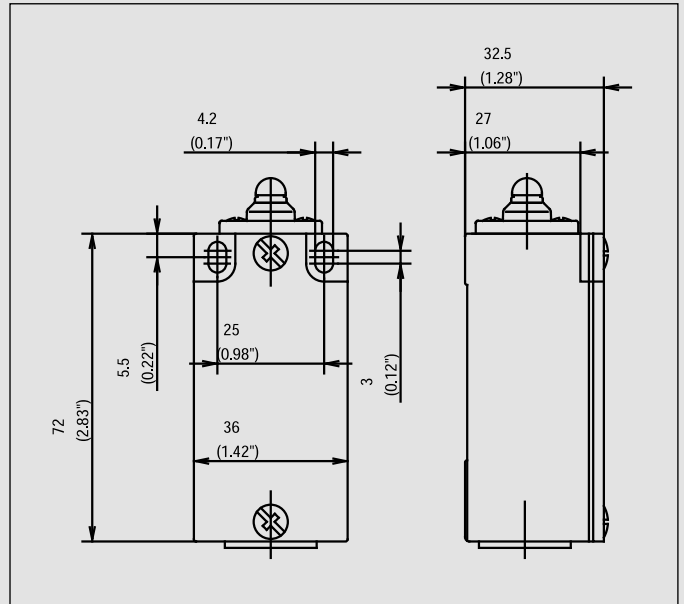
- Available with black enclosure and various roller diameters

Special features / variants

(on request)

Metal-Enclosed Limit Switches

GC



Recommended use

Thanks to its compact design, this metal-enclosed switch is ideally suited for virtually all safety and position monitoring applications.

Product advantages

- Protection class IP 65 to VDE 0470 T1
- Enclosure: Aluminium pressure die-casting
- Cover: Sheet aluminium
- Actuator can be repositioned by 4 x 90°
- Cable entry M20 x 1.5
- Connection designation conforming to DIN EN 50013
- Metal actuators for high loads
- Graduated adjustment of AH lever
- Selectable direction-dependent contact-making of AH actuator (basic setting: contact-making both sides)

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, 2 NC, overlapping contacts
- All NC contacts with \ominus in the circuit diagram are positively opening contacts
- Type: Zb (galvanically isolated changeover contact)
- Latching function on request

Mounting

- 2 adjustment slots for M4 screws (for safety applications with blind hole for \varnothing 4.0 mm fitted pin in enclosure base or enclosure with holes for M5)

Installation advantages

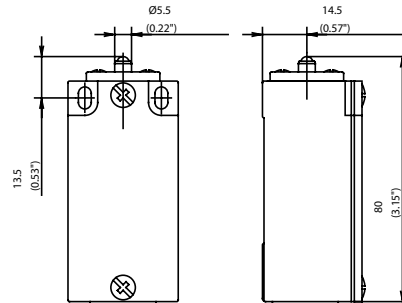
- Screw connections with self-lifting clamping plates
- Captive cover screws
- Easy-to-change switching system thanks to snap-in retainer
- Finely adjustable switching point with adjusting screw

Technical data

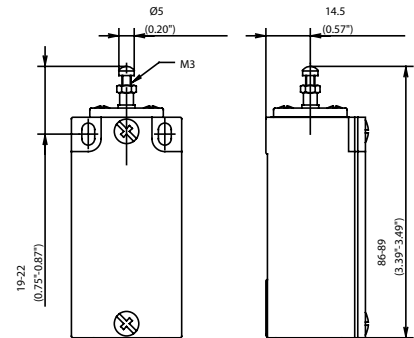
Electrical data	
Rated insulation voltage (up to) ^①	U _i max. 400 V AC
Conventional thermal current (up to) ^①	I _{the} 10 A
Rated operating voltage	U _e max. 240 V
Utilization category (up to) ^①	AC-15, U _e /I _e 240 V/3 A
Short-circuit protection (up to) ^①	Fuse 10 A gL/gG
Protection class	I
Mechanical data	
Enclosure material	Aluminium pressure die-casting
Ambient temperature	-30 °C to + 80 °C
Mechanical service life (up to) ^①	10 x 10 ⁶ switching cycles
B10d (up to) ^①	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	1 x M20 x 1.5
Protection class	IP 65 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 70 – 73.

IW



STIW



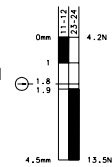
Switching operation

1 NC / 1 NO contact

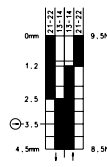
Slow-action

Snap-action

6021102001
GC-U1Z IW



6021352620
GC-SU1Z IW



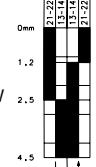
Slow-action

Snap-action

6021105015
GC-U1Z STIW

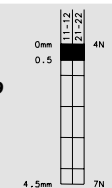


6021155017
GC-SU1Z STIW



2 NC contacts

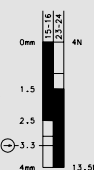
6021802189
GC-A2Z IW



2 NO contacts

1 NC / 1 NO contact Overlapping

6021305016
GC-UV1Z STIW



Approvals



Replacement actuator: 3912030546

Replacement actuator: 3912050523

Special features / variants (on request)

Special features / variants

- Actuator length adjustable with adjusting screw