

IN62, IN65 & I81- Series

Modular Plastic Body

Position & Limit Switches



Position & Limit Switches

IN62, IN65 & I81 Series - Plastic Body



Latching



Product characteristics

- Highest reliability at low currents (1 mA/24VDC)
- Actuator and parts of the cover made of metal (IN65 and I81)
- Tool-free rotation (8 x 45°) and changing of the actuators (IN65 und I81) is possible without a tool
- Standard switch and standard actuator conforming to DIN EN 50047
- Protection class IP66 und IP67 conforming to EN 60529

Options

- Available with M12 connector
- Cable entry M16 x 1.5

Position & Limit Switches

IN62, IN65 & I81 Series - Plastic Body

Good to know ...



The new standard switches, IN62 and IN65, and the position switch I81, are the latest in our I88 series. All three switches, i.e. IN62, IN65 and I81, include the integrated, new type C14 switch insert. The C14 has encapsulated contacts that ensure good functioning at very low currents (1 mA / 24 VDC). Due to the modular design and the easy-to-change actuator, they can be used for all applications in mechanical and plant engineering.

The standard IN62 switch is the basic switch. Its actuators can handle many lift and escalator applications.

The standard IN65 switch is the “all-rounder”. It is as effective as a moulded plastic switch, as robust as a metal switch, and clever due to its modular design and the easy-to-change actuator.

The I81 position switch completes the new series of position switches. It is the bistable version of the IN65, our “latching” switch.



What's so special about the C14?

We installed a modern assembly line in our factory in Hille-Hartum to produce the new C14 switch inserts (1 NC/1 NO, 2 NC, 2 NO). The modular design of the line allows maximum flexibility for the production of all the different switch inserts. During the fully-automatic manufacturing process, all switch inserts are tested to ensure the highest quality. More than 800 switch inserts can be produced per hour.

The most important feature of the C14 switch insert is the encapsulated contacts. Production takes place in a cleanroom environment to ensure that the contact surfaces are extremely clean, even during the assembly. And due to the encapsulated enclosure of the C14 switch insert, we can ensure that, even after the manufacturing process, no dirt or dust can contaminate the contacts. The switch can therefore handle very low currents of 1 mA at 24 VDC.



C14 SWITCH INSERT

Position & Limit Switches

IN62, IN65 & I81 Series - Plastic Body

Technical design

- Slow- and snap action
- **Versions:** 1 NC/1 NO, 2 NC, 2 NO, overlapping contacts

Technical data

Electrical data

| | | |
|-------------------------------------|-------------------|--|
| Design insulation voltage | U_i max. | 400 V AC |
| Conventional thermoelectric current | (up to) I_{the} | 5 A |
| Rated operating voltage | U_e max. | 240 V AC / 24 V DC |
| Utilisation category (up to) | | AC-15, U_e/I_e 240 V/3 A DC-13 U_e/I_e 24 V/1.5 A (B300 Table A.1) |
| Short-circuit protection (up to) | | Safety fuse 4 A gG |
| Protection class | | II, protective insulation |

Mechanical data

| | |
|--------------------------------|--|
| Enclosure material | Thermoplastics, glass-fibre reinforced (UL 94-V0) |
| Ambient temperature | -30 °C to +75 °C |
| Mechanical lifetime (up to) | 30×10^6 switching cycles |
| B10d NC Contact cycles (up to) | 30 million |
| B10d NO Contact cycles (up to) | 1 million |
| Switching frequency | ≤ 60 /min. |
| Type of connection | 4 screwed connections (M3) |
| Conductor cross-sections | Single-wire 0.5 – 1.5 mm ² or strand with wire-end ferrule 0.5 – 1.5 mm ² |
| Cable entry | 1 × M20 × 1.5 |
| Protection class | IP66/IP67 according to EN 60529; DIN VDE 0470 T1 |

Standards

VDE 0660 T211, DIN EN 60947-5-4, IEC 60947-5-4
DIN EN ISO 13849-1, DIN EN ISO 13849-2

Mounting

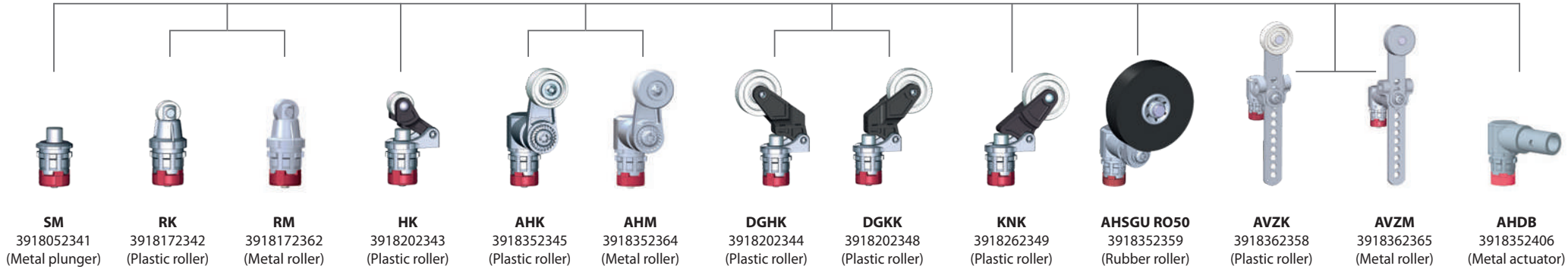
- 2 screws M4 (distance 22 mm), adjustment with oval holes
- 2 screws M5 for safety applications without any additional fixation required



Position & Limit Switches

IN65 & I81 Actuators - Plastic Body

Here is a small selection of our actuators. Others are available on request.



IN65 enclosure with C14 switching unit

| | 1 NC / 1 NO | 2 NC | 2 NO | 1 NC / 1 NO overlapping |
|--------------------|------------------------------------|------------------------------------|-----------------------------------|------------------------------------|
| Slow-action system | 6083000272 IN65-U1Z M20 | 6083000274 IN65-A2Z M20 | 6083000276 IN65-E2 M20 | 6083000277 IN65-UV1Z M20 |
| Snap-action system | 6083000271 IN65-SU1Z M20 | 6083000273 IN65-SA2Z M20 | 6083000275 IN65-SE2 M20 | |



The enclosures are also available in black.

Modular concept

Changing an actuator of our new position switches is very easy, no tools are required: Simply pull the metal clamp to the front, remove the actuator, insert the new actuator and push the metal clamp back — done.

Optional

Our position switches are usually equipped with an M20 thread for cable glands. All switches are also available with M12-connectors.

IN65 enclosure with C14 switching unit and M12 plug connector

| | 1 NC / 1 NO | 2 NC | 2 NO | 1 NC / 1 NO overlapping |
|--------------------|------------------------------------|------------------------------------|-----------------------------------|------------------------------------|
| Slow-action system | 6083000289 IN65-U1Z M12 | 6083000290 IN65-A2Z M12 | 6083000291 IN65-E2 M12 | 6083000292 IN65-UV1Z M12 |
| Snap-action system | 6083000293 IN65-SU1Z M12 | 6083000294 IN65-SA2Z M12 | 6083000295 IN65-SE2 M12 | |

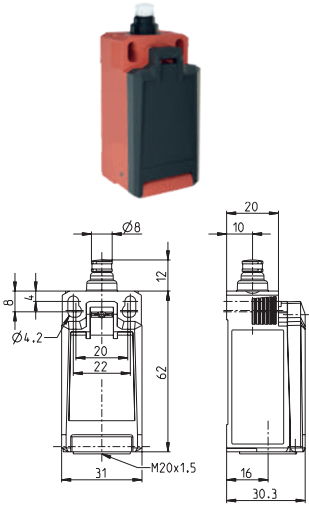


Position & Limit Switches

IN62 Series - Plastic Body

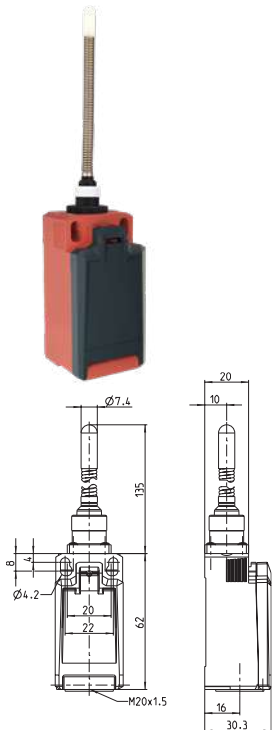


IN62-... SK



| | 1 NC / 1 NO \rightarrow | 2 NC \rightarrow | 2 NO \rightarrow | 1 NC / 1 NO overlapping \rightarrow |
|---------------------------|--|--|---|---|
| Slow-action system | 6083000201 IN62-U1Z SK 5,9 1,8 2,5 1,0 0 [mm] 11,5 2,5 [N] | 6083000203 IN62-A2Z SK 5,9 1,8 1,0 0 [mm] 10,5 1,5 [N] | 6083000205 IN62-E2 SK 5,9 2,5 0 [mm] 13 3,5 [N] | 6083000206 IN62-UV1Z SK 5,9 3,3 2,5 1,5 0 [mm] 12 2,4 [N] |
| Snap-action system | 6083000200 IN62-SU1Z SK 5,9 5,0 2,8 1,3 0 [mm] 6,5 7,5 [N] | 6083000202 IN62-SA2Z SK 5,3 5,9 2,5 1,1 0 [mm] 6,5 7,5 [N] | 6083000204 IN62-SE2 SK 5,9 3,0 1,5 0 [mm] 6,5 7,5 [N] | |

IN62-... FF



| | 1 NC / 1 NO \rightarrow | 2 NC \rightarrow | 2 NO | 1 NC / 1 NO overlapping \rightarrow |
|---------------------------|--|--|--|--|
| Slow-action system | 6083000362 IN62-U1 FF 20 11,2 2,8 0 [°] 23-24 | 6083000364 IN62-A2 FF 20 2,8 0 [°] 21-22 | 6083000366 IN62-E2 FF 20 11,2 0 [°] 13-14 23-24 | 6083000367 IN62-UV1 FF 20 11,2 5,6 0 [°] 15-16 23-24 |
| Snap-action system | 6083000361 IN62-SU1 FF 20 13 4,4 0 [°] 13-14 21-22 13-14 21-22 | 6083000363 IN62-SA2 FF 20 11,2 3,3 0 [°] 11-12 21-22 11-12 21-22 | 6083000365 IN62-SE2 FF 20 14,2 5,6 0 [°] 13-14 23-24 13-14 23-24 | |

Position & Limit Switches

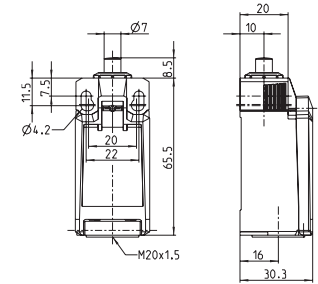
IN65 Series - Plastic Body



Replacement actuator: 3918052341

IN65-... SM

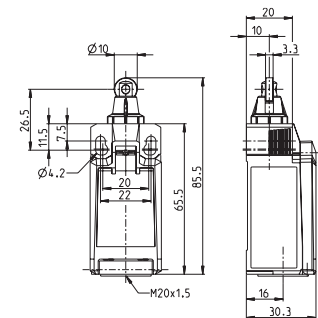
| | 1 NC / 1 NO \rightarrow | 2 NC \rightarrow | 2 NO | 1 NC / 1 NO overlapping \rightarrow |
|---------------------------|---------------------------------------|---------------------------------------|--------------------------------------|---------------------------------------|
| Slow-action system | 6083000208 IN65-U1Z SM | 6083000210 IN65-A2Z SM | 6083000212 IN65-E2 SM | 6083000213 IN65-UV1Z SM |
| Snap-action system | 6083000207 IN65-SU1Z SM | 6083000209 IN65-SA2Z SM | 6083000211 IN65-SE2 SM | |



Replacement actuator: 3918172342

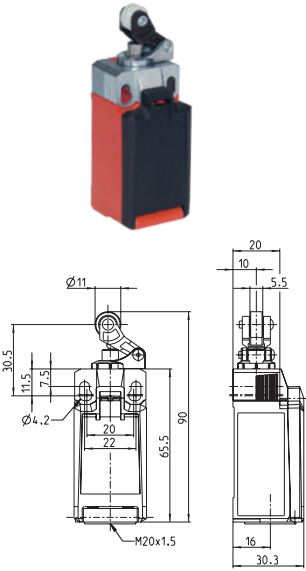
IN65-... RK

| | 1 NC / 1 NO \rightarrow | 2 NC \rightarrow | 2 NO | 1 NC / 1 NO overlapping \rightarrow |
|---------------------------|---------------------------------------|---------------------------------------|--------------------------------------|---------------------------------------|
| Slow-action system | 6083000215 IN65-U1Z RK | 6083000217 IN65-A2Z RK | 6083000219 IN65-E2 RK | 6083000220 IN65-UV1Z R |
| Snap-action system | 6083000214 IN65-SU1Z RK | 6083000216 IN65-SA2Z RK | 6083000218 IN65-SE2 RK | |



Position & Limit Switches

IN65 Series - Plastic Body



IN65-... HK

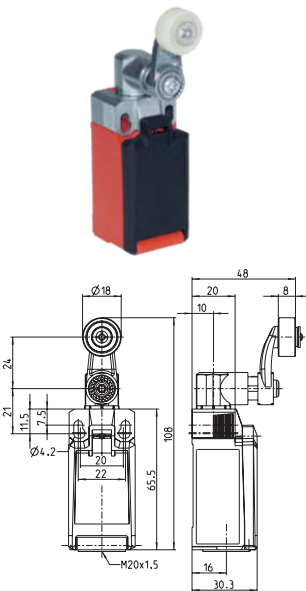
Replacement actuator: 3918202343



| | 1 NC / 1 NO \rightarrow | 2 NC \rightarrow | 2 NO | 1 NC / 1 NO overlapping \rightarrow |
|---------------------------|---|---|---|--|
| Slow-action system | 6083000222 IN65-U1Z HK 7,7 2,3 \oplus 3,2 1,3 0 [mm] 18 5 | 6083000224 IN65-A2Z HK 7,7 2,3 \oplus 1,3 0 [mm] 17 4 [N] | 6083000226 IN65-E2 HK 7,7 3,2 0 [mm] 19 6 [N] | 6083000227 IN65-UV1Z HK 7,7 4,2 \oplus 3,2 1,9 0 [mm] 18 5 [N] |
| Snap-action system | 6083000221 IN65-SU1Z HK 7,7 6,6 \oplus 3,6 1,7 0 [mm] 13 10 [N] | 6083000223 IN65-SA2Z HK 7,7 7 \oplus 3,2 1,4 0 [mm] 13 10 [N] | 6083000225 IN65-SE2 HK 7,7 3,8 1,9 0 [mm] 13 10 [N] | |

IN65-... AHK

Replacement actuator: 3918352345



| | 1 NC / 1 NO \rightarrow | 2 NC \rightarrow | 2 NO | 1 NC / 1 NO overlapping \rightarrow |
|---------------------------|--|--|--|---|
| Slow-action system | 6083000236 IN65-U1Z AHK 75,6° 25,9° \oplus 34,8° 15,6° 0° 22,7 11,1 9,1 8,9 7,3 [Ncm] | 6083000238 IN65-A2Z AHK 75,6° 25,9° \oplus 15,6° 0° 22,7 9,7 8,8 7,1 [Ncm] | 6083000240 IN65-E2 AHK 75,6° 34,8° 0° 22,9 11,8 6,9 [Ncm] | 6083000241 IN65-UV1Z AHK 75,6° 45,1° \oplus 34,8° 22° 0° 23,5 11,9 10,8 9,1 6,7 [Ncm] |
| Snap-action system | 6083000235 IN65-SU1Z AHK 66,2° \oplus 75,6° 38,7° 19,5° 0° 22,7 14,7 11,3 10,7 9,8 [Ncm] | 6083000237 IN65-SA2Z AHK 69,7° \oplus 75,6° 34,8° 17° 0° 22,5 13,8 11 12,4 8,9 [Ncm] | 6083000239 IN65-SE2 AHK 75,6° 41,2° 22° 0° 23,2 11,4 11,4 10,5 [Ncm] | |

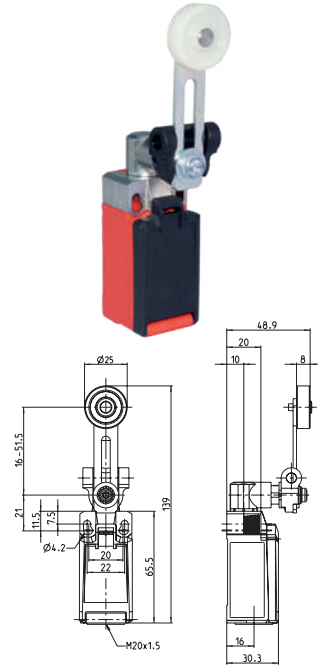
Position & Limit Switches

IN65 Series - Plastic Body



IN65-... AVK

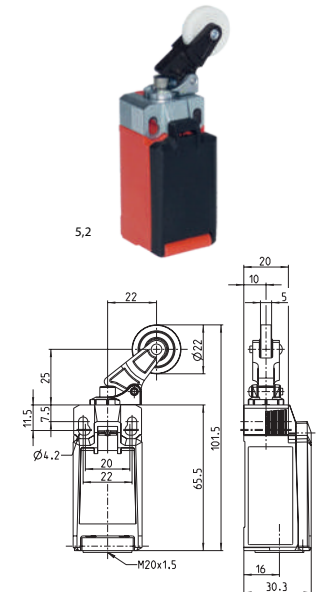
| | 1 NC / 1 NO \rightarrow | 2 NC \rightarrow | 2 NO | 1 NC / 1 NO overlapping \rightarrow |
|---------------------------|---|---|--|--|
| Slow-action system | 6083000284 IN65-U1 AVK 75,6° 34,8° 15,6° 0° 22,7 11,1 8,9 7,3 [Ncm] | 6083000279 IN65-A2 AVK 75,6° 15,6° 0° 22,7 8,8 7,1 [Ncm] | 6083000287 IN65-E2 AVK 75,6° 34,8° 0° 22,9 11,8 6,9 [Ncm] | 6083000285 IN65-UV1 AVK 75,6° 34,8° 22° 0° 23,5 10,8 9,1 6,7 [Ncm] |
| Snap-action system | 6083000280 IN65-SU1 AVK 75,6° 38,7° 19,5° 0° 22,7 11,3 10,7 9,8 [Ncm] | 6083000286 IN65-SA2 AVK 75,6° 34,8° 17° 0° 22,5 11 12,4 8,9 [Ncm] | 6083000288 IN65-SE2 AVK 75,6° 41,2° 22° 0° 23,2 11,4 11,4 10,5 [Ncm] | |



Replacement actuator: 3918262349

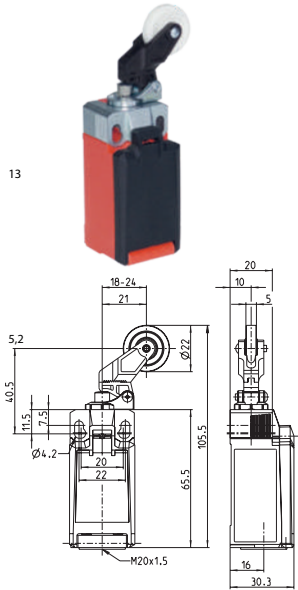
IN65-... KNK

| | 1 NC / 1 NO \rightarrow | 2 NC \rightarrow | 2 NO | 1 NC / 1 NO overlapping \rightarrow |
|---------------------------|--|--|---|---|
| Slow-action system | 6083000262 IN65-U1Z KNK 10,1 3,2 \rightarrow 4,4 1,9 0 [mm] 18 5 [N] | 6083000264 IN65-A2Z KNK 10,1 3,2 \rightarrow 1,9 0 [mm] 17 4 [N] | 6083000266 IN65-E2 KNK 10,1 4,4 0 [mm] 19 6 [N] | 6083000267 IN65-UV1Z KNK 10,1 5,8 \rightarrow 4,4 2,7 0 [mm] 18 5 [N] |
| Snap-action system | 6083000261 IN65-SU1Z KNK 10,1 8,7 \rightarrow 4,9 2,4 0 [mm] 13 10 [N] | 6083000263 IN65-SA2Z KNK 10,1 9,2 \rightarrow 4,4 2,0 0 [mm] 13 10 [N] | 6083000265 IN65-SE2 KNK 10,1 2,7 0 [mm] 13 10 [N] | |



Position & Limit Switches

IN65 Series - Plastic Body

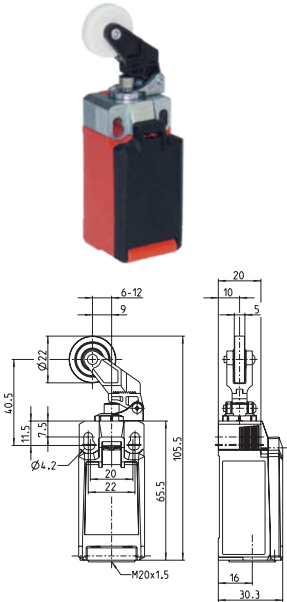


IN65-... DGKK

Replacement actuator: 3918202348



| | 1 NC / 1 NO \rightarrow | 2 NC \rightarrow | 2 NO | 1 NC / 1 NO overlapping \rightarrow |
|---------------------------|---|---|--|---|
| Slow-action system | 6083000255 IN65-U1Z DGKK | 6083000257 IN65-A2Z DGKK | 6083000259 IN65-E2 DGKK | 6083000260 IN65-UV1Z DGKK |
| Snap-action system | 6083000254 IN65-SU1Z DGKK | 6083000256 IN65-SA2Z DGKK | 6083000258 IN65-SE2 DGKK | |



IN65-... DGHK

Replacement actuator: 3918202344



| | 1 NC / 1 NO \rightarrow | 2 NC \rightarrow | 2 NO | 1 NC / 1 NO overlapping \rightarrow |
|---------------------------|---|---|--|---|
| Slow-action system | 6083000229 IN65-U1Z DGHK | 6083000231 IN65-A2Z DGHK | 6083000233 IN65-E2 DGHK | 6083000234 IN65-UV1Z DGHK |
| Snap-action system | 6083000228 IN65-SU1Z DGHK | 6083000230 IN65-SA2Z DGHK | 6083000232 IN65-SE2 DGHK | |

Position & Limit Switches

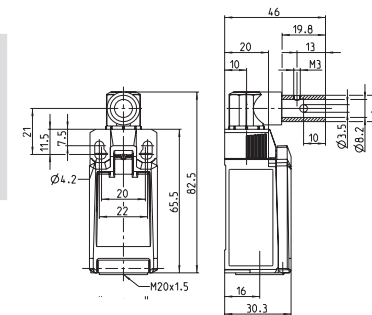
IN65 Series - Plastic Body



Replacement actuator: 3918352406

IN65-... AHDB

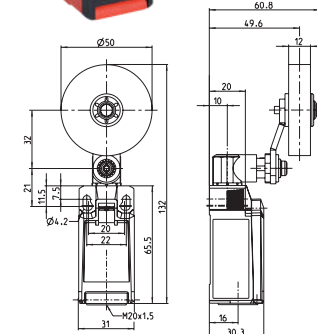
| | 1 NC / 1 NO → | 2 NC → | 2 NO | 1 NC / 1 NO overlapping → |
|---------------------------|---|---|--|---|
| Slow-action system | 6083000345 IN65-U1Z AHDB | 6083000347 IN65-A2Z AHDB | 6083000349 IN65-E2 AHDB | 6083000350 IN65-UV1Z AHDB |
| Snap-action system | 6083000344 IN65-SU1Z AHDB | 6083000346 IN65-SA2Z AHDB | 6083000348 IN65-SE2 AHDB | |



Replacement actuator: 3918352359

IN65-... AHSGU RO50

| | 1 NC / 1 NO → | 2 NC → | 2 NO | 1 NC / 1 NO overlapping → |
|---------------------------|---|---|--|---|
| Slow-action system | 6083000296 IN65-U1Z AHSGU RO50 | 6083000297 IN65-A2Z AHSGU RO50 | 6083000298 IN65-E2 AHSGU RO50 | 6083000299 IN65-UV1Z AHSGU RO50 |
| Snap-action system | 6083000300 IN65-SU1Z AHSGU RO50 | 6083000301 IN65-SA2Z AHSGU RO50 | 6083000302 IN65-SE2 AHSGU RO50 | |

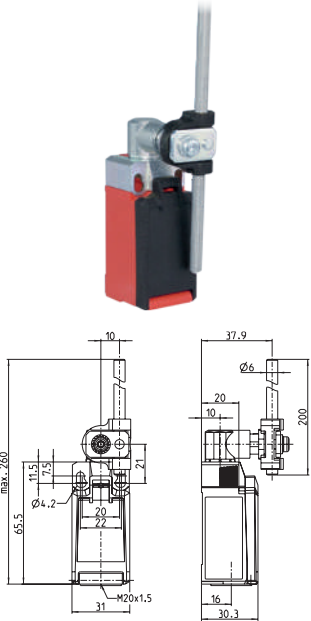


Position & Limit Switches

IN65 Series - Plastic Body

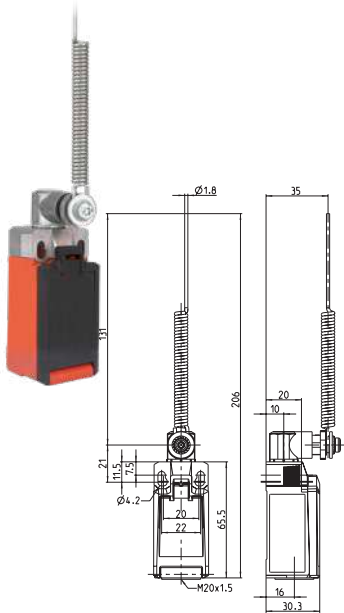


IN65-... AHDM



| | 1 NC / 1 NO \rightarrow | 2 NC \rightarrow | 2 NO | 1 NC / 1 NO overlapping \rightarrow |
|---------------------------|--|--|---|---|
| Slow-action system | 6083000303 IN65-U1 AHDM 75,6° 34,8° 15,6° 0° 22,7 11,1 8,9 7,3 [Ncm] | 6083000304 IN65-A2 AHDM 75,6° 15,6° 0° 22,7 8,8 7,1 [Ncm] | 6083000305 IN65-E2 AHDM 75,6° 34,8° 0° 22,9 11,8 6,9 [Ncm] | 6083000306 IN65-UV1 AHDM 75,6° 34,8° 22° 0° 23,5 10,8 9,1 6,7 [Ncm] |
| Snap-action system | 6083000307 IN65-SU1 AHDM 75,6° 38,7° 19,5° 0° 22,7 11,3 10,7 9,8 [Ncm] | 6083000308 IN65-SA2 AHDM 75,6° 34,8° 17° 0° 22,5 11 12,4 8,9 [Ncm] | 6083000309 IN65-SE2 AHDM 75,6° 41,2° 22° 0° 23,2 11,4 11,4 10,5 [Ncm] | |

IN65-... AF



| | 1 NC / 1 NO \rightarrow | 2 NC \rightarrow | 2 NO | 1 NC / 1 NO overlapping \rightarrow |
|---------------------------|--|--|---|---|
| Slow-action system | 6083000338 IN65-U1 AF 75,6° 34,8° 15,6° 0° 22,7 11,1 8,9 7,3 [Ncm] | 6083000340 IN65-A2 AF 75,6° 15,6° 0° 22,7 8,8 7,1 [Ncm] | 6083000342 IN65-E2 AF 75,6° 34,8° 0° 22,9 11,8 6,9 [Ncm] | 6083000343 IN65-UV1 AF 75,6° 34,8° 22° 0° 23,5 10,8 9,1 6,7 [Ncm] |
| Snap-action system | 6083000337 IN65-SU1 AF 75,6° 38,7° 19,5° 0° 22,7 11,3 10,7 9,8 [Ncm] | 6083000339 IN65-SA2 AF 75,6° 34,8° 17° 0° 22,5 11 12,4 8,9 [Ncm] | 6083000341 IN65-SE2 AF 75,6° 41,2° 22° 0° 23,2 11,4 11,4 10,5 [Ncm] | |

Position & Limit Switches

I81 Series - Plastic Body

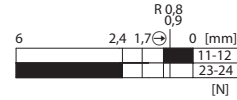
I81-... SM



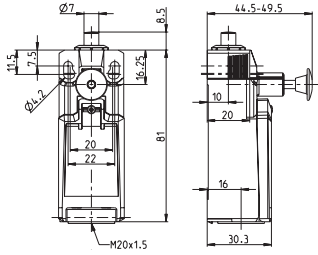
1 NC / 1 NO →

Slow-action system

6083000242
I81-U1Z SM



Replacement actuator: 3918052341



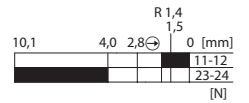
I81-... KNK



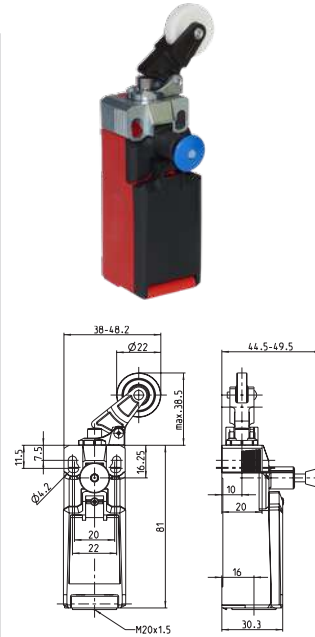
1 NC / 1 NO →

Slow-action system

6083000269
I81-U1Z KNK



Replacement actuator: 3918262349



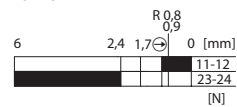
I81-... RK



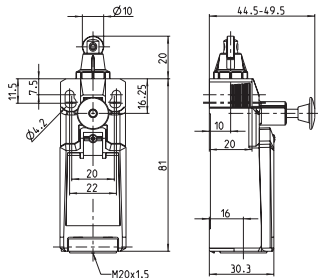
1 NC / 1 NO →

Slow-action system

6083000243
I81-U1Z RK



Replacement actuator: 3918172342



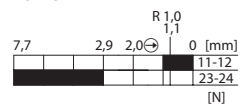
I81-... HK



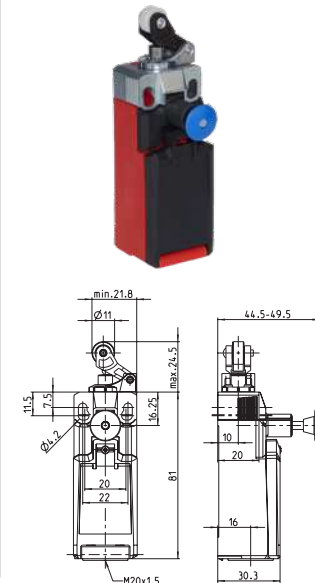
1 NC / 1 NO →

Slow-action system

6083000244
I81-U1Z HK



Replacement actuator: 3918202343



Position & Limit Switches

I81 Series - Plastic Body

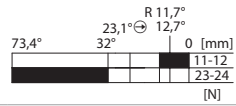
I81-... AHK



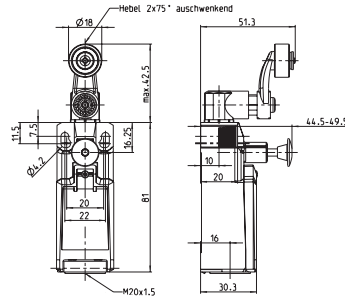
1 NC / 1 NO →

Slow-action system

6083000246
I81-U1Z AHK



Replacement actuator: 3918352345



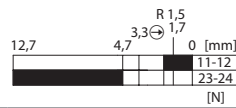
I81-... DGHK



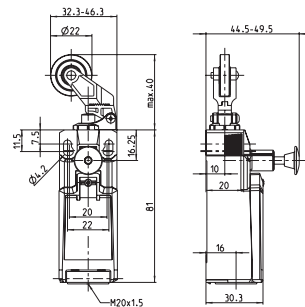
1 NC / 1 NO →

Slow-action system

6083000245
I81-U1Z DGHK



Replacement actuator: 3918202344



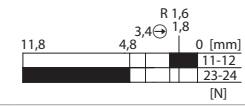
I81-... DGKK



1 NC / 1 NO →

Slow-action system

6083000268
I81-U1Z DGKK



Replacement actuator: 3918202348

