

# 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)	$30 \times 10^6$ switching cycles
B10d NC Contact cycles (up to)	30 million
B10d NO Contact cycles (up to)	1 million
Switching frequency	$\leq 60$ /min.
Type of connection	4 screwed connections (M3)
Conductor cross-sections	Single-wire 0.5 – 1.5 mm <sup>2</sup> or strand with wire-end ferrule 0.5 – 1.5 mm <sup>2</sup>
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

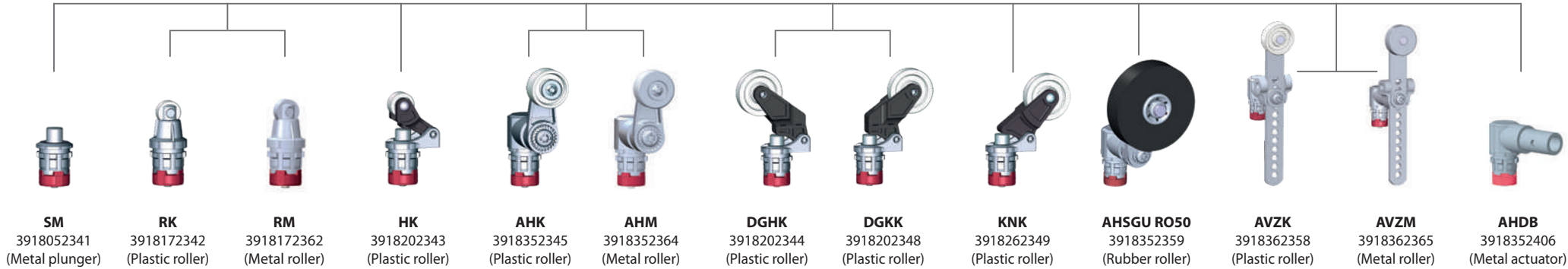
- 2 screws M4 (distance 22 mm), adjustment with oval holes
- 2 screws M5 for safety applications without any additional fixation required



# Position & Limit Switches

## IN65 & I81 Actuators & Plastic Body Separate

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	<b>6083000272</b> IN65-U1Z M20	<b>6083000274</b> IN65-A2Z M20	<b>6083000276</b> IN65-E2 M20	<b>6083000277</b> IN65-UV1Z M20
Snap-action system	<b>6083000271</b> IN65-SU1Z M20	<b>6083000273</b> IN65-SA2Z M20	<b>6083000275</b> 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	<b>6083000289</b> IN65-U1Z M12	<b>6083000290</b> IN65-A2Z M12	<b>6083000291</b> IN65-E2 M12	<b>6083000292</b> IN65-UV1Z M12
Snap-action system	<b>6083000293</b> IN65-SU1Z M12	<b>6083000294</b> IN65-SA2Z M12	<b>6083000295</b> IN65-SE2 M12	

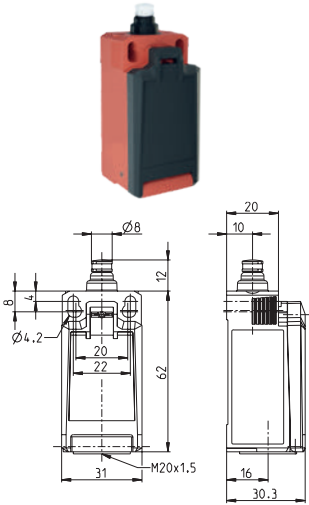


# Position & Limit Switches

## IN62 Series - Plastic Body

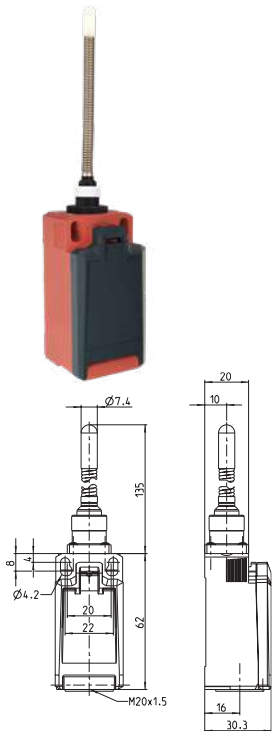


### IN62-... SK



	1 NC / 1 NO $\rightarrow$	2 NC $\rightarrow$	2 NO $\rightarrow$	1 NC / 1 NO overlapping $\rightarrow$
<b>Slow-action system</b>	<b>6083000201</b> IN62-U1Z SK 5,9 1,8 $\ominus$ 2,5 1,0 0 [mm]  11,5 2,5 [N]	<b>6083000203</b> IN62-A2Z SK 5,9 1,8 $\ominus$ 1,0 0 [mm]  10,5 1,5 [N]	<b>6083000205</b> IN62-E2 SK 5,9 2,5 0 [mm]  13 3,5 [N]	<b>6083000206</b> IN62-UV1Z SK 5,9 3,3 $\ominus$ 2,5 1,5 0 [mm]  12 2,4 [N]
<b>Snap-action system</b>	<b>6083000200</b> IN62-SU1Z SK 5,9 5,0 $\ominus$ 2,8 1,3 0 [mm]  6,5 7,5 [N]	<b>6083000202</b> IN62-SA2Z SK 5,3 $\ominus$ 5,9 2,5 1,1 0 [mm]  6,5 7,5 [N]	<b>6083000204</b> 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 $\rightarrow$
<b>Slow-action system</b>	<b>6083000362</b> IN62-U1 FF 20 11,2 2,8 0 [°]  20 11,2 2,8 0 [°]	<b>6083000364</b> IN62-A2 FF 20 2,8 0 [°]  20 2,8 0 [°]	<b>6083000366</b> IN62-E2 FF 20 11,2 0 [°]  20 11,2 0 [°]	<b>6083000367</b> IN62-UV1 FF 20 11,2 5,6 0 [°]  20 11,2 5,6 0 [°]
<b>Snap-action system</b>	<b>6083000361</b> IN62-SU1 FF 20 13 4,4 0 [°]  20 13 4,4 0 [°]	<b>6083000363</b> IN62-SA2 FF 20 11,2 3,3 0 [°]  20 11,2 3,3 0 [°]	<b>6083000365</b> IN62-SE2 FF 20 14,2 5,6 0 [°]  20 14,2 5,6 0 [°]	

# Position & Limit Switches

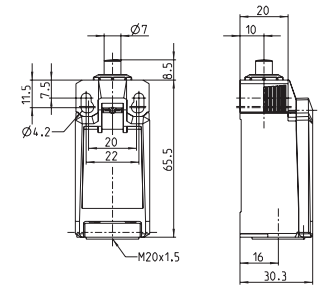
## IN65 Series - Plastic Body



Replacement actuator: 3918052341

IN65-... SM

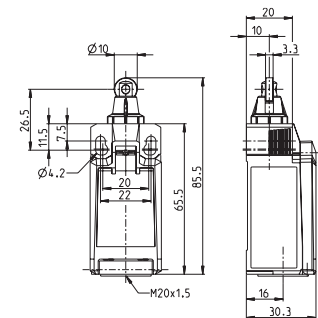
	1 NC / 1 NO $\rightarrow$	2 NC $\rightarrow$	2 NO	1 NC / 1 NO overlapping $\rightarrow$
<b>Slow-action system</b>	<b>6083000208</b> IN65-U1Z SM 	<b>6083000210</b> IN65-A2Z SM 	<b>6083000212</b> IN65-E2 SM 	<b>6083000213</b> IN65-UV1Z SM 
<b>Snap-action system</b>	<b>6083000207</b> IN65-SU1Z SM 	<b>6083000209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



Replacement actuator: 3918172342

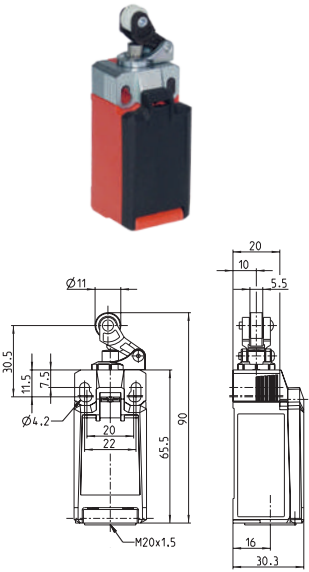
IN65-... RK

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



# Position & Limit Switches

## IN65 Series - Plastic Body



### IN65-... HK

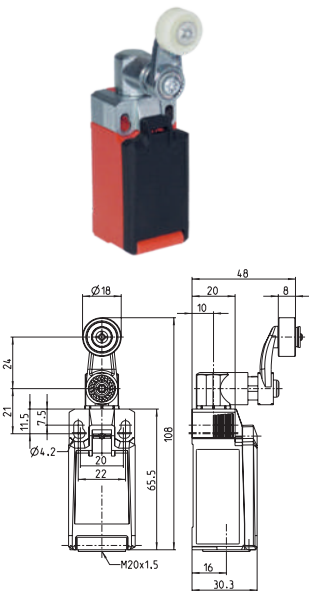
Replacement actuator: 3918202343



	1 NC / 1 NO $\rightarrow$	2 NC $\rightarrow$	2 NO	1 NC / 1 NO overlapping $\rightarrow$
<b>Slow-action system</b>	<b>6083000222</b> IN65-U1Z HK 7,7 2,3 $\oplus$ 3,2 1,3 0 [mm]  18 5	<b>6083000224</b> IN65-A2Z HK 7,7 2,3 $\oplus$ 1,3 0 [mm]  17 4 [N]	<b>6083000226</b> IN65-E2 HK 7,7 3,2 0 [mm]  19 6 [N]	<b>6083000227</b> IN65-UV1Z HK 7,7 4,2 $\oplus$ 3,2 1,9 0 [mm]  18 5 [N]
<b>Snap-action system</b>	<b>6083000221</b> IN65-SU1Z HK 7,7 6,6 $\oplus$ 3,6 1,7 0 [mm]  13 10 [N]	<b>6083000223</b> IN65-SA2Z HK 7,7 7 $\oplus$ 3,2 1,4 0 [mm]  13 10 [N]	<b>6083000225</b> 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 $\rightarrow$
<b>Slow-action system</b>	<b>6083000236</b> IN65-U1Z AHK 75,6° 25,9° $\oplus$ 34,8° 15,6° 0°  22,7 11,1 9,1 8,9 7,3 [Ncm]	<b>6083000238</b> IN65-A2Z AHK 75,6° 25,9° $\oplus$ 15,6° 0°  22,7 9,7 8,8 7,1 [Ncm]	<b>6083000240</b> IN65-E2 AHK 75,6° 34,8° 0°  22,9 11,8 6,9 [Ncm]	<b>6083000241</b> IN65-UV1Z AHK 75,6° 45,1° $\oplus$ 34,8° 22° 0°  23,5 11,9 10,8 9,1 6,7 [Ncm]
<b>Snap-action system</b>	<b>6083000235</b> IN65-SU1Z AHK 66,2° $\oplus$ 75,6° 38,7° 19,5° 0°  22,7 14,7 11,3 10,7 9,8 [Ncm]	<b>6083000237</b> IN65-SA2Z AHK 69,7° $\oplus$ 75,6° 34,8° 17° 0°  22,5 13,8 11 12,4 8,9 [Ncm]	<b>6083000239</b> IN65-SE2 AHK 75,6° 41,2° 22° 0°  23,2 11,4 11,4 10,5 [Ncm]	



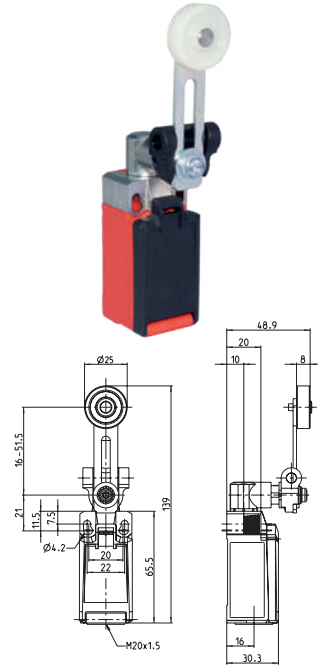
# Position & Limit Switches

## IN65 Series - Plastic Body



### IN65-... AVK

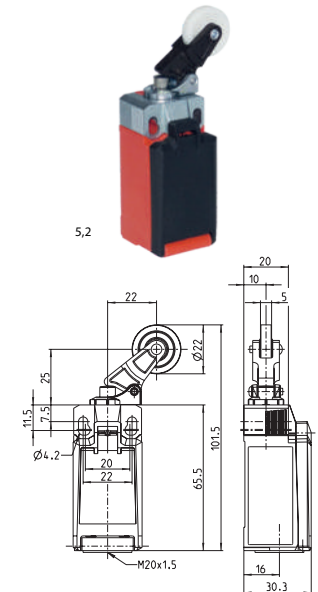
	1 NC / 1 NO $\rightarrow$	2 NC $\rightarrow$	2 NO	1 NC / 1 NO overlapping $\rightarrow$
<b>Slow-action system</b>	<b>6083000284</b> IN65-U1 AVK 75,6° 34,8° 15,6° 0°  22,7 11,1 8,9 7,3 [Ncm]	<b>6083000279</b> IN65-A2 AVK 75,6° 15,6° 0°  22,7 8,8 7,1 [Ncm]	<b>6083000287</b> IN65-E2 AVK 75,6° 34,8° 0° 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



### Replacement actuator: 3918262349

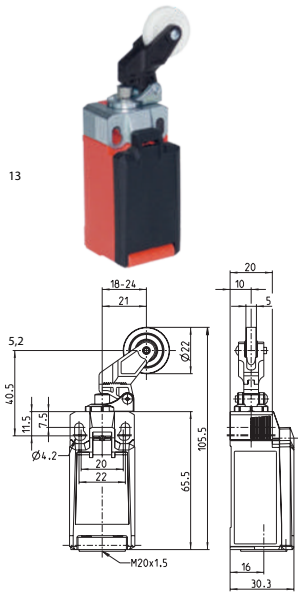
### IN65-... KNK

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



# Position & Limit Switches

## IN65 Series - Plastic Body

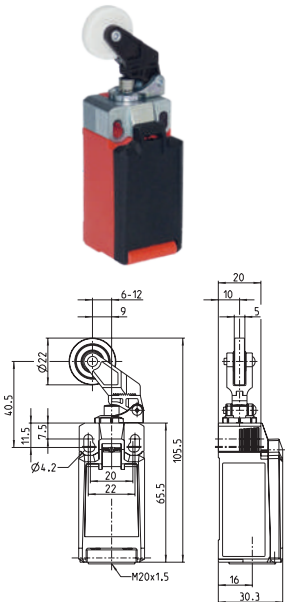


### IN65-... DGKK

Replacement actuator: 3918202348



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



### IN65-... DGHK

Replacement actuator: 3918202344



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

# Position & Limit Switches

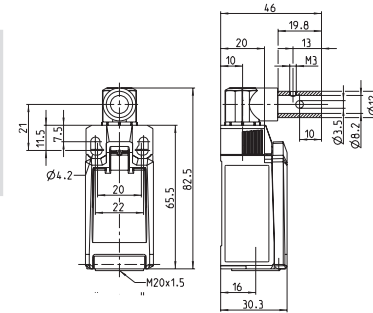
## IN65 Series - Plastic Body



Replacement actuator: 3918352406

IN65-... AHDB

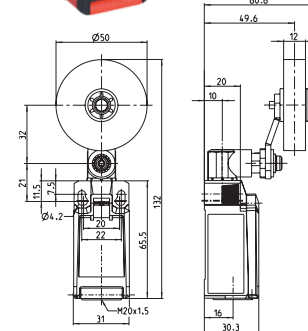
	1 NC / 1 NO →	2 NC →	2 NO	1 NC / 1 NO overlapping →
<b>Slow-action system</b>	<b>6083000345</b> IN65-U1Z AHDB 	<b>6083000347</b> IN65-A2Z AHDB 	<b>6083000349</b> IN65-E2 AHDB 	<b>6083000350</b> IN65-UV1Z AHDB 
<b>Snap-action system</b>	<b>6083000344</b> IN65-SU1Z AHDB 	<b>6083000346</b> IN65-SA2Z AHDB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



Replacement actuator: 3918352359

IN65-... AHSGU RO50

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

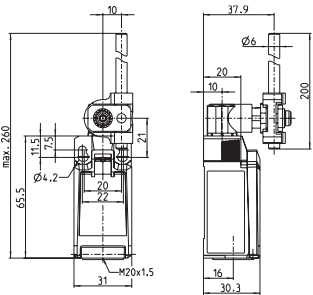


# Position & Limit Switches

## IN65 Series - Plastic Body

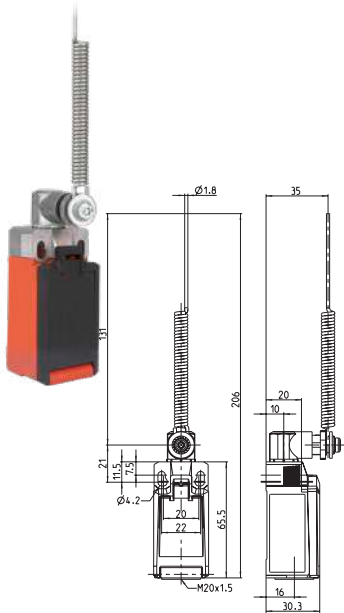


### IN65-... AHDM



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

### IN65-... AF



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

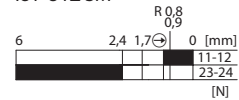
### I81-... SM



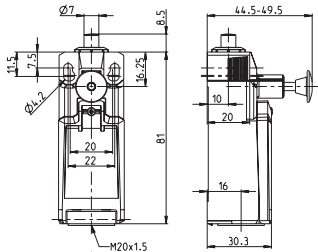
1 NC / 1 NO →

Slow-action system

**6083000242**  
I81-U1Z SM



Replacement actuator: 3918052341



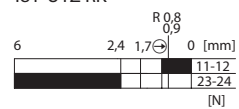
### I81-... RK



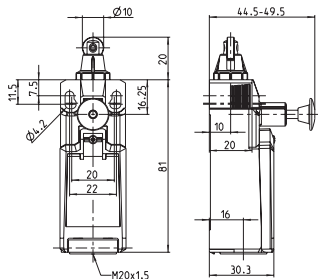
1 NC / 1 NO →

Slow-action system

**6083000243**  
I81-U1Z RK



Replacement actuator: 3918172342



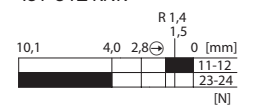
### I81-... KNK



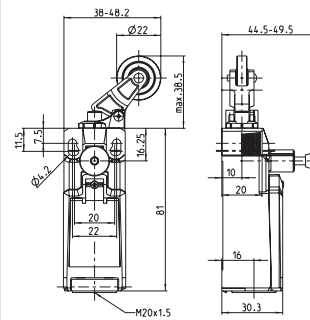
1 NC / 1 NO →

Slow-action system

**6083000269**  
I81-U1Z KNK



Replacement actuator: 3918262349



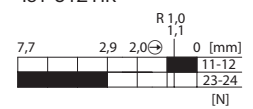
### I81-... HK



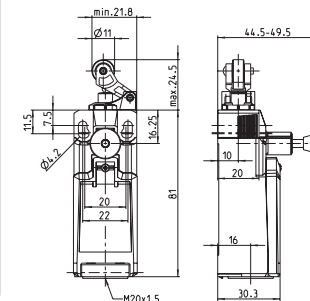
1 NC / 1 NO →

Slow-action system

**6083000244**  
I81-U1Z HK



Replacement actuator: 3918202343



# Position & Limit Switches

## I81 Series - Plastic Body

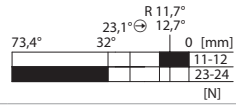
### I81-... AHK



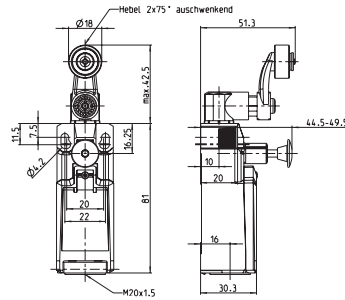
1 NC / 1 NO →

Slow-action system

**6083000246**  
I81-U1Z AHK



Replacement actuator: 3918352345



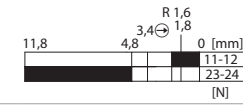
### I81-... DGKK



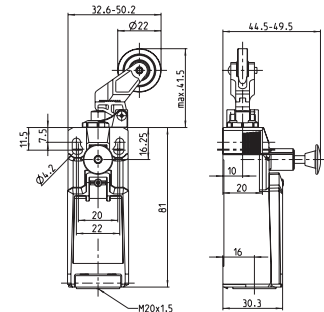
1 NC / 1 NO →

Slow-action system

**6083000268**  
I81-U1Z DGKK



Replacement actuator: 3918202348



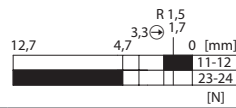
### I81-... DGHK



1 NC / 1 NO →

Slow-action system

**6083000245**  
I81-U1Z DGHK



Replacement actuator: 3918202344

