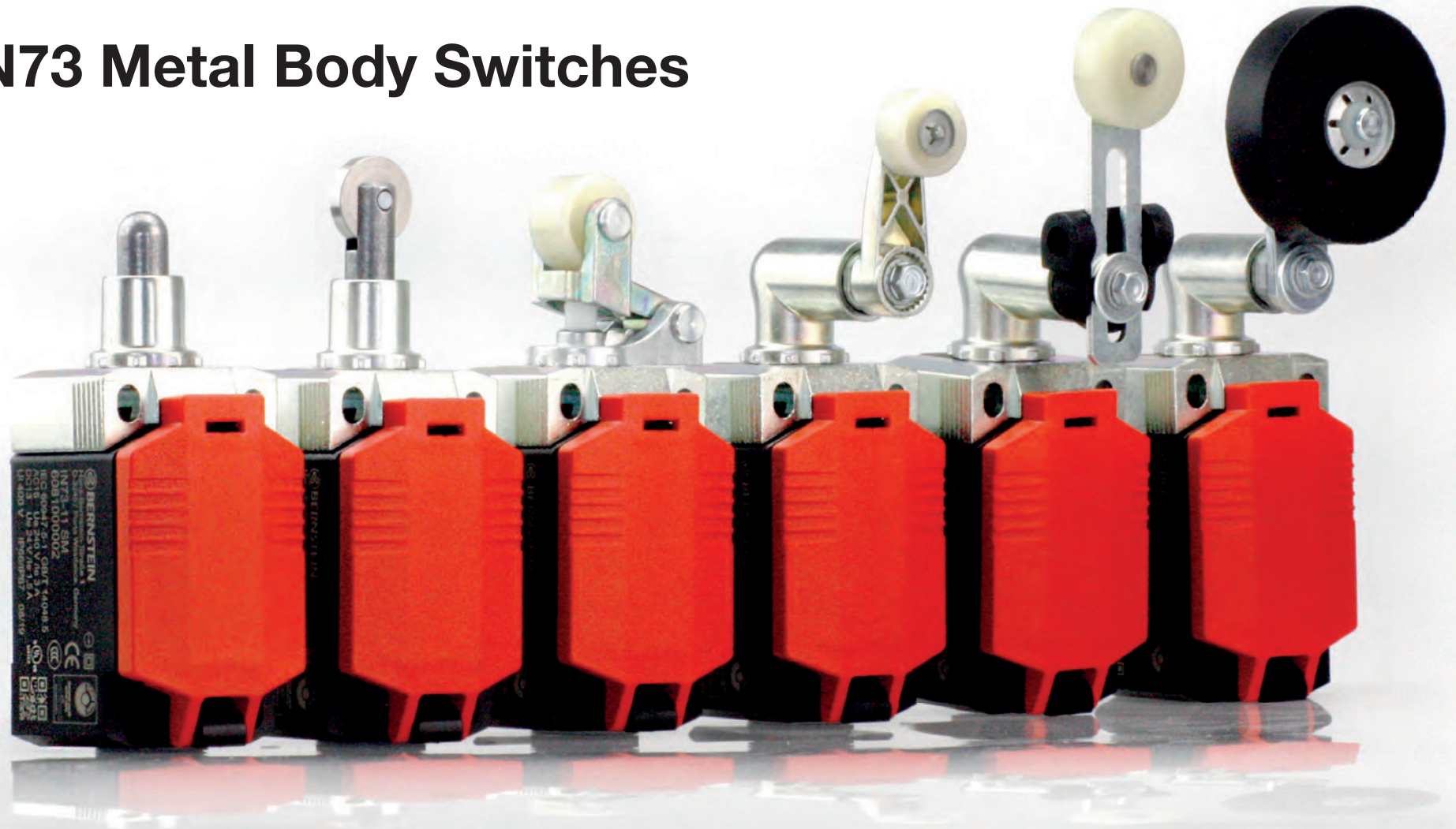


MN73 Metal Body Switches



Position switches
IN73 and MN78

Altech Corp.[®]
Your Source for Automation & Control Components

Metal enclosure

Position switches Metal MN78

NEW



2 OR 4 CONTACTS

Product characteristics

- Standard switch according to DIN EN 50041, standard actuator according to DIN EN 50041
- Protection class IP66 and IP67 conforming to EN 60529
- Enclosure: Die-cast aluminium
- Cover: Aluminium
- Actuator rotatable by $8 \times 45^\circ$
- Cable entry M20 \times 1.5

Good to know ...

The MN78 is the metal version of the IN73 and designed for the use in very rough environments. A modular, robust metal enclosure with a wide range of Metalast actuators. Just as with the IN73, the MN78 offers additional fixing holes for safe installation.

It can be equipped with the C14 or C17 switch insert (2 contacts or 4 contacts).

Rough environments, outdoor areas, or high mechanical loads are all no problem for the MN78.

Altech Corp.[®]

Technical design

- Slow- and snap action
- **Versions:**
 With C14 switch insert: 2 NC, 2 NO, 1 NC/1 NO
 With C17 switch insert: 4 NO, 4 NC, 2 NO/2 NC
 1 NC/3 NO and 3 NC/1 NO

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		Metal, 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)		20 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		
☒ Depending on switching system		

Options

- Available with M12 connector
- Customised cables and connectors are available on request

Mounting

- 2 screws M5, adjustment with oval holes
- 2 screws M5 for safety applications without additional fixation required





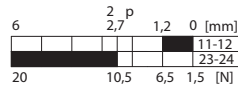
Replacement actuator: 3918172417

MN78-... RM

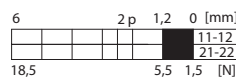
	1 NC / 1 NO	2 NC	2 NO	2 NC / 2 NO
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Slow-action system

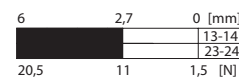
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MN78-11 RM



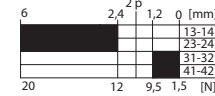
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MN78-20 RM



6087000018
MN78-02 RM

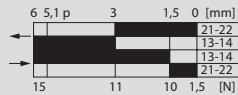


6087000020
MN78-22 RM

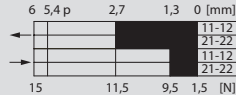


Snap-action system

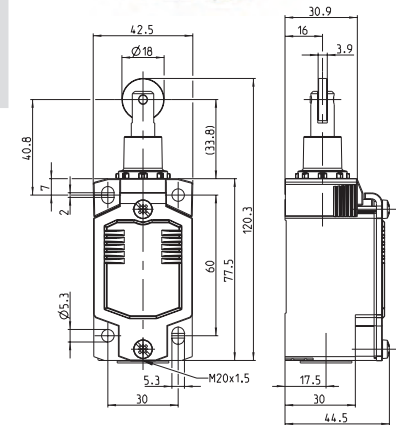
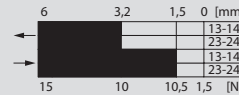
6087000013
MN78-S11 RM



6087000015
MN78-S20 RM



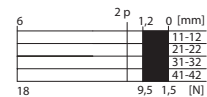
6087000017
MN78-S02 RM



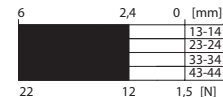
	4 NC	4 NO	3 NC / 1 NO	1 NC / 3 NO	1 NC / 1 NO overlapping
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Slow-action system

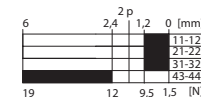
6087000021
MN78-40 RM



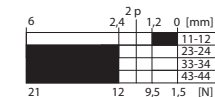
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MN78-04 RM



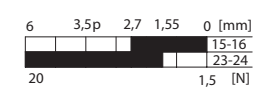
6087000023
MN78-31 RM



6087000024
MN78-13 RM



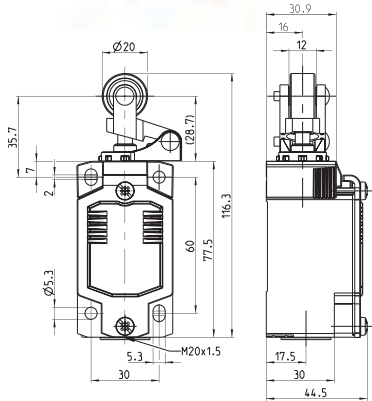
6087000019
MN78-V11 RM



POSITION SWITCHES METAL MN78

MN78-... HK

Replacement actuator: 3918202432



	1 NC / 1 NO	2 NC	2 NO	2 NC / 2 NO
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Slow-action system	6087000026 MN78-11 HK	6087000028 MN78-20 HK	6087000030 MN78-02 HK	6087000032 MN78-22 HK
	6,7 2,8 1,2 0 [mm] 20 11,5 7,4 2 [N]	6,7 2,1p 1,2 0 [mm] 18 6,5 2 [N]	6,7 2,8 0 [mm] 21 12,5 2 [N]	6,7 2,5 1,2 0 [mm] 20 12,5 10,5 2 [N]

Snap-action system	6087000025 MN78-S11 HK	6087000027 MN78-S20 HK	6087000029 MN78-S02 HK
	6,7 5,6 p 3,2 1,5 0 [mm] 15 12 10 2 [N]	6,7 5,65 p 2,8 1,3 0 [mm] 15 11,5 10 2 [N]	6,7 3,4 1,5 0 [mm] 15 12 10 2 [N]

	4 NC	4 NO	3 NC / 1 NO	1 NC / 3 NO	1 NC / 1 NO overlapping
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Slow-action system	6087000033 MN78-40 HK	6087000034 MN78-04 HK	6087000035 MN78-31 HK	6087000036 MN78-13 HK	6087000031 MN78-V11 HK
	6,7 2,1p 1,2 0 [mm] 18,5 10,5 1,5 [N]	6,7 2,5 0 [mm] 21,5 12,5 2 [N]	6,7 2,5 1,2 0 [mm] 19 12,5 10,5 2 [N]	6,7 2,5 1,2 0 [mm] 21 12,5 10,5 2 [N]	6,7 3,75 p 2,8 1,65 0 [mm] 20 11 9 2 [N]



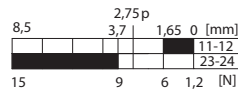
Replacement actuator: 3918202428

MN78-... DGHK

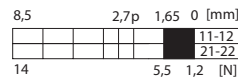
	1 NC / 1 NO	2 NC	2 NO	2 NC / 2 NO
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Slow-action system

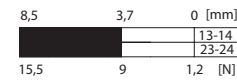
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MN78-11 DGHK



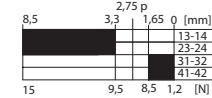
6087000040
MN78-20 DGHK



6087000042
MN78-02 DGHK

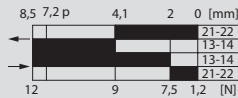


6087000044
MN78-22 DGHK

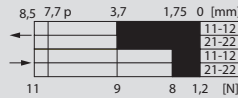


Snap-action system

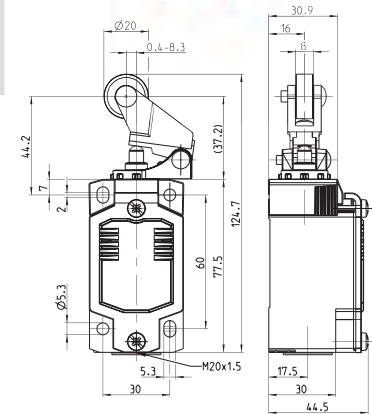
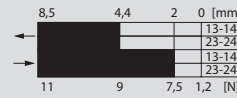
6087000037
MN78-S11 DGHK



6087000039
MN78-S20 DGHK



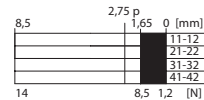
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MN78-S02 DGHK



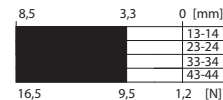
	4 NC	4 NO	3 NC / 1 NO	1 NC / 3 NO	1 NC / 1 NO overlapping
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Slow-action system

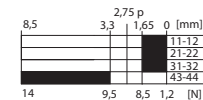
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MN78-40 DGHK



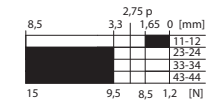
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MN78-04 DGHK



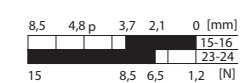
6087000047
MN78-31 DGHK



6087000048
MN78-13 DGHK



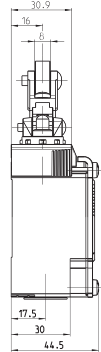
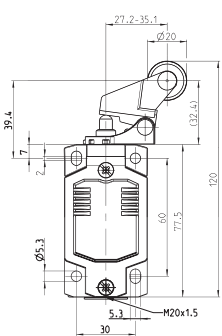
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MN78-V11 DGHK



POSITION SWITCHES METAL MN78

MN78-... DGKK

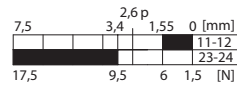
Replacement actuator: 3918202430



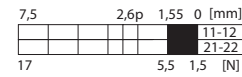
	1 NC / 1 NO	2 NC	2 NO	2 NC / 2 NO
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Slow-action system

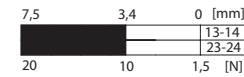
608700050
MN78-11 DGKK



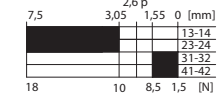
608700052
MN78-20 DGKK



608700054
MN78-02 DGKK

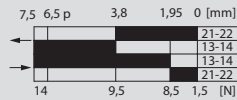


608700056
MN78-22 DGKK

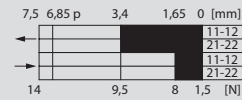


Snap-action system

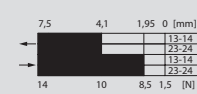
608700049
MN78-S11 DGKK



608700051
MN78-S20 DGKK



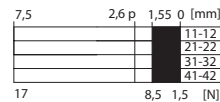
608700053
MN78-S02 DGKK



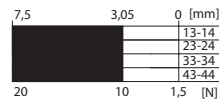
	4 NC	4 NO	3 NC / 1 NO	1 NC / 3 NO	1 NC / 1 NO overlapping
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Slow-action system

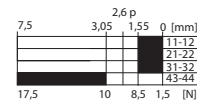
608700057
MN78-40 DGKK



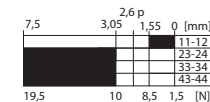
608700058
MN78-04 DGKK



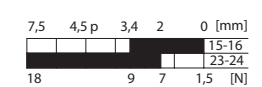
608700059
MN78-31 DGKK



608700060
MN78-13 DGKK



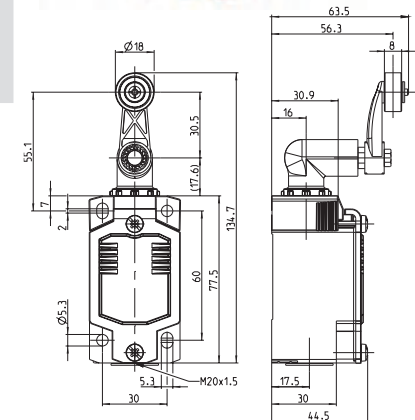
608700055
MN78-V11 DGKK





Replacement actuator: 3918352393

MN78-... AHK



	1 NC / 1 NO	2 NC	2 NO	2 NC / 2 NO
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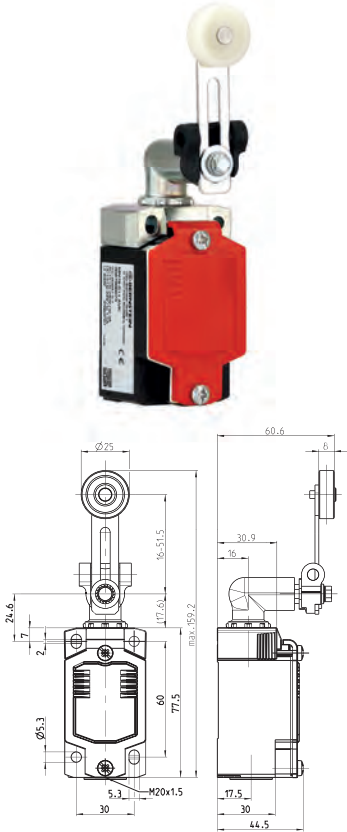
Slow-action system	6087000062 MN78-11 AHK 	6087000064 MN78-20 AHK 	6087000066 MN78-02 AHK 	6087000068 MN78-22 AHK
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Snap-action system	6087000061 MN78-S11 AHK 	6087000063 MN78-S20 AHK 	6087000065 MN78-S02 AHK
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	4 NC	4 NO	3 NC / 1 NO	1 NC / 3 NO	1 NC / 1 NO overlapping
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Slow-action system	6087000069 MN78-40 AHK 	6087000070 MN78-04 AHK 	6087000071 MN78-31 AHK 	6087000072 MN78-13 AHK 	6087000067 MN78-V11 AHK
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POSITION SWITCHES METAL MN78



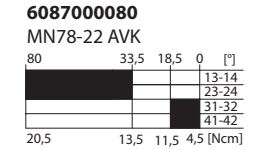
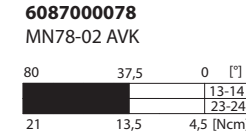
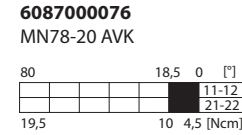
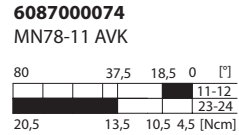
MN78-... AVK

Replacement actuator: 3918362424

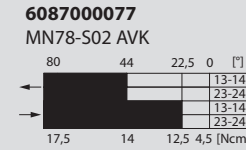
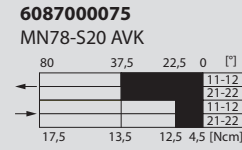
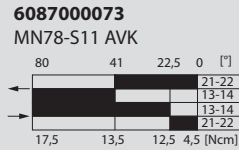


	1 NC / 1 NO	2 NC	2 NO	2 NC / 2 NO
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Slow-action system

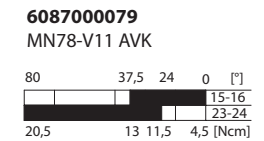
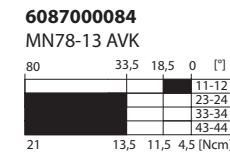
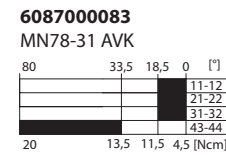
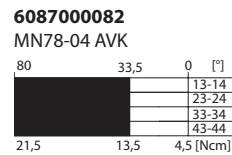
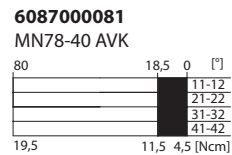


Snap-action system



	4 NC	4 NO	3 NC / 1 NO	1 NC / 3 NO	1 NC / 1 NO overlapping
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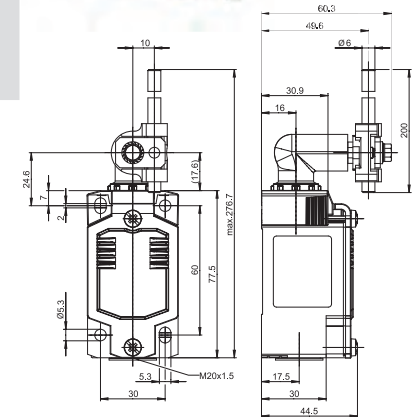
Slow-action system





Replacement actuator: 3918372421

MN78-... AHDM



	1 NC / 1 NO	2 NC	2 NO	2 NC / 2 NO
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Slow-action system	6087000086 MN78-11 AHDM 	6087000088 MN78-20 AHDM 	6087000090 MN78-02 AHDM 	6087000092 MN78-22 AHDM
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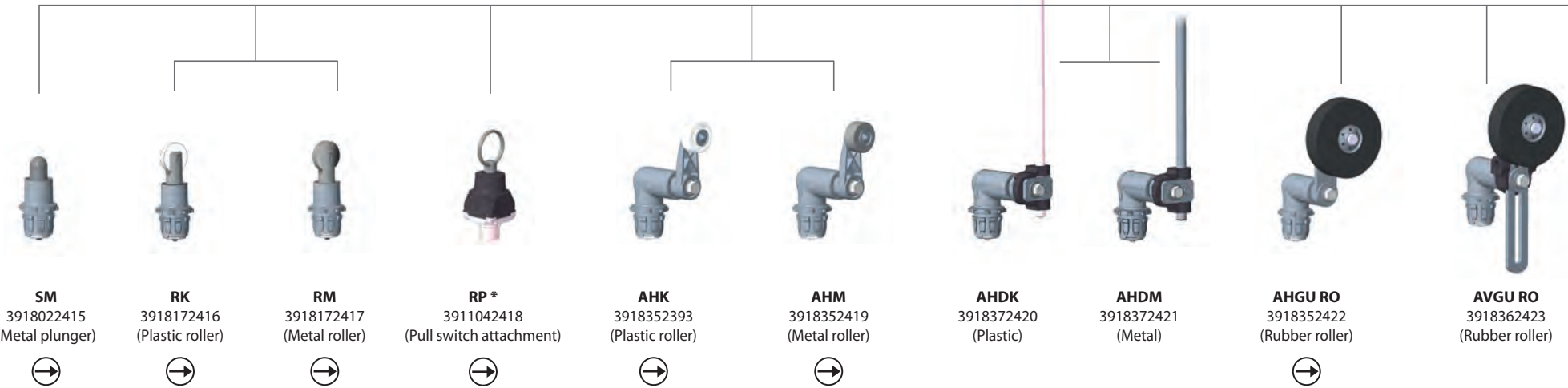
Snap-action system	6087000085 MN78-S11 AHDM 	6087000087 MN78-S20 AHDM 	6087000089 MN78-S02 AHDM 	
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	4 NC	4 NO	3 NC / 1 NO	1 NC / 3 NO	1 NC / 1 NO overlapping
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Slow-action system	6087000093 MN78-40 AHDM 	6087000094 MN78-04 AHDM 	6087000095 MN78-31 AHDM 	6087000096 MN78-13 AHDM 	6087000091 MN78-V11 AHDM
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ACTUATORS IN73, MN78

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



IN73 partially assembled with a switching unit

	1 NC / 1 NO	2 NC	2 NO	2 NC / 2 NO
Slow-action system	6081000113 IN73-11 M20	6081000115 IN73-20 M20	6081000117 IN73-02 M20	6081000119 IN73-22 M20
Snap-action system	6081000112 IN73-S11 M20	6081000114 IN73-S20 M20	6081000116 IN73-S02 M20	



	4 NC	4 NO	3 NC / 1 NO	1 NC / 3 NO	1 NC / 1 NO overlapping
Slow-action system	6081000120 IN73-40 M20	6081000121 IN73-04 M20	6081000122 IN73-31 M20	6081000123 IN73-13 M20	6081000118 IN73-V11 M20

* Can only be used with slow-action systems.



AVK
3918362424
(Plastic roller)



AVZK
3918362426
(Plastic roller)



AVM
3918362425
(Metal roller)



AVZM
3918362427
(Metal roller)



DGHK
3918202428
(Plastic roller)



DGHM
3918202429
(Metal roller)



DGKK
3918202430
(Plastic roller)



DGKM
3918202431
(Metal roller)



HK
3918202432
(Plastic roller)



HM
3918202433
(Metal roller)



MN78 partially assembled with a switching unit

	1 NC / 1 NO	2 NC	2 NO	2 NC / 2 NO
Slow-action system	6087000103 MN78-11 M20	6087000105 MN78-20 M20	6087000107 MN78-02 M20	6087000109 MN78-22 M20
Snap-action system	6087000102 MN78-S11 M20	6087000104 MN78-S20 M20	6087000106 MN78-S02 M20	



	4 NC	4 NO	3 NC / 1 NO	1 NC / 3 NO	1 NC / 1 NO overlapping
Slow-action system	6087000110 MN78-40 M20	6087000111 MN78-04 M20	6087000112 MN78-31 M20	6087000113 MN78-13 M2	6087000108 MN78-V11 M20

POSITION SWITCHES

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

