

# MN78 - Series

Larger Modular Metal Body  
Position & Limit Switches



# Position Switches & Limit Switches

## MN78 Series - Metal Body



**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  $8 \times 45^\circ$

### 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.

# Position Switches & Limit Switches

## MN78 Series - Metal Body

### 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)		$30 \times 10^6$ switching cycles
B10d NC Contact cycles (up to)		20 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

① 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



# Position Switches & Limit Switches

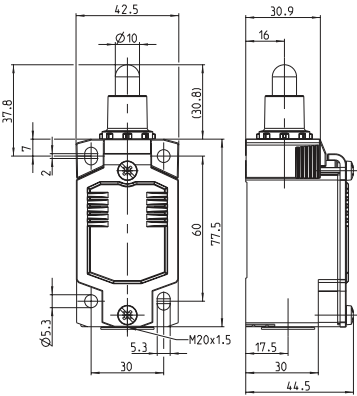
## MN78 Series - Metal Body

### MN78-... SM

Replacement actuator: 3918022415



	1 NC / 1 NO	2 NC	2 NO	2 NC / 2 NO
<b>Slow-action system</b>	<b>608700002</b> MN78-11 SM 	<b>608700004</b> MN78-20 SM 	<b>608700006</b> MN78-02 SM 	<b>608700008</b> MN78-22 SM 
<b>Snap-action system</b>	<b>608700001</b> MN78-S11 SM 	<b>608700003</b> MN78-S20 SM 	<b>608700005</b> MN78-S02 SM 	



	4 NC	4 NO	3 NC / 1 NO	1 NC / 3 NO	1 NC / 1 NO overlapping
<b>Slow-action system</b>	<b>608700009</b> MN78-40 SM 	<b>608700010</b> MN78-04 SM 	<b>608700011</b> MN78-31 SM 	<b>608700012</b> MN78-13 SM 	<b>608700007</b> MN78-V11 SM 

# Position Switches & Limit Switches

## MN78 Series - Metal Body



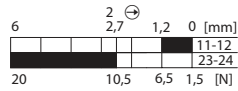
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MN78-... RM

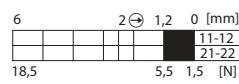
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Slow-action system

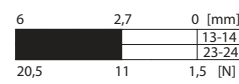
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MN78-11 RM



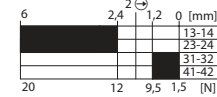
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**6087000018**  
MN78-02 RM



**6087000020**  
MN78-22 RM

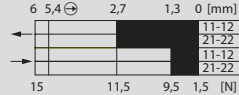


Snap-action system

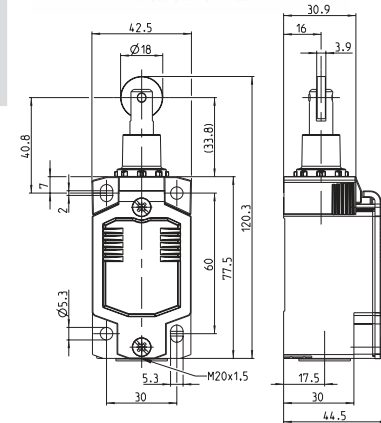
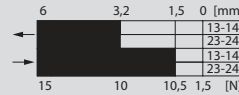
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**6087000015**  
MN78-S20 RM



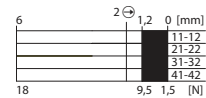
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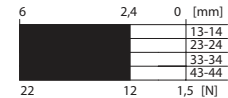
	4 NC	4 NO	3 NC / 1 NO	1 NC / 3 NO	1 NC / 1 NO overlapping
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Slow-action system

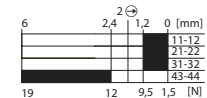
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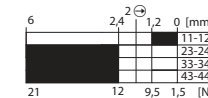
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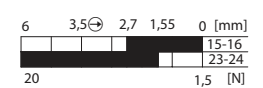
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MN78-31 RM



**6087000024**  
MN78-13 RM



**6087000019**  
MN78-V11 RM



# Position Switches & Limit Switches

## MN78 Series - Metal Body

### MN78-... HK

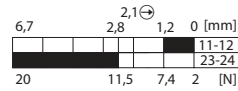
Replacement actuator: 3918202432



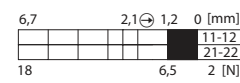
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#### Slow-action system

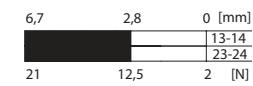
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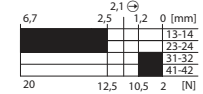
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MN78-20 HK



**6087000030**  
MN78-02 HK

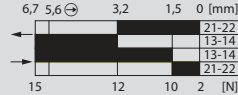


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MN78-22 HK

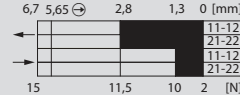


#### Snap-action system

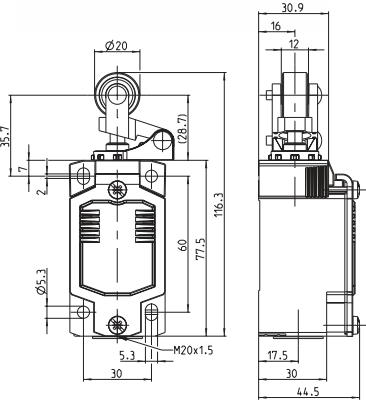
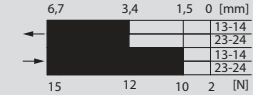
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MN78-S11 HK



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MN78-S20 HK



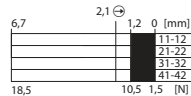
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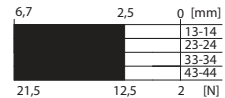
	4 NC	4 NO	3 NC / 1 NO	1 NC / 3 NO	1 NC / 1 NO overlapping
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#### Slow-action system

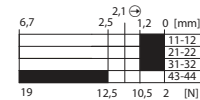
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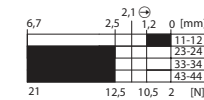
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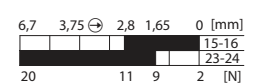
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MN78-31 HK



**6087000036**  
MN78-13 HK



**6087000031**  
MN78-V11 HK



# Position Switches & Limit Switches

## MN78 Series - Metal Body



Replacement actuator: 3918202428

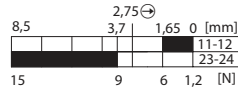
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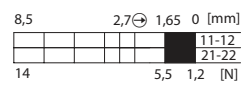
	1 NC / 1 NO	2 NC	2 NO	2 NC / 2 NO
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Slow-action system

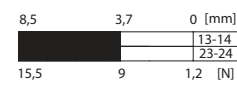
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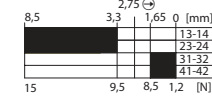
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MN78-20 DGHK



**6087000042**  
MN78-02 DGHK



**6087000044**  
MN78-22 DGHK

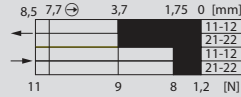


Snap-action system

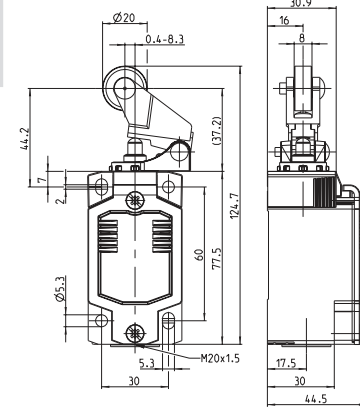
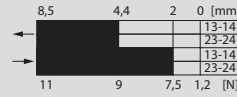
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MN78-S11 DGHK



**6087000039**  
MN78-S20 DGHK



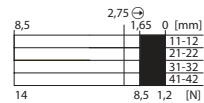
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MN78-S02 DGHK



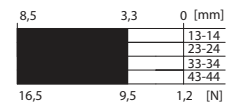
	4 NC	4 NO	3 NC / 1 NO	1 NC / 3 NO	1 NC / 1 NO overlapping
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Slow-action system

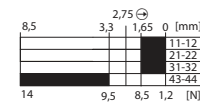
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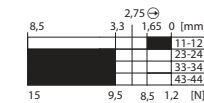
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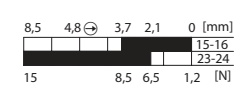
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MN78-31 DGHK



**6087000048**  
MN78-13 DGHK



**6087000043**  
MN78-V11 DGHK



# Position Switches & Limit Switches

## MN78 Series - Metal Body

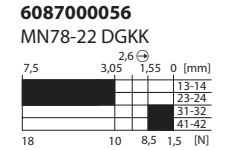
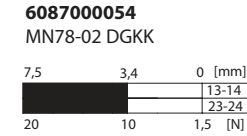
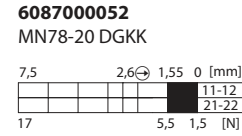
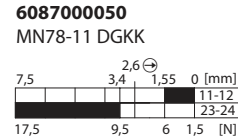
### MN78-... DGKK

Replacement actuator: 3918202430

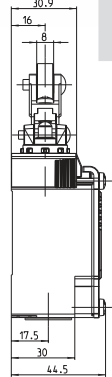
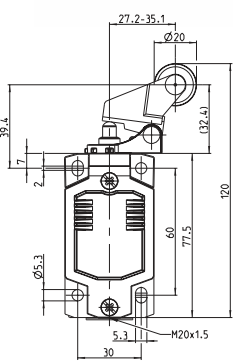
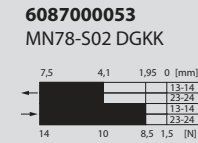
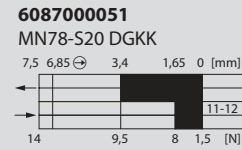
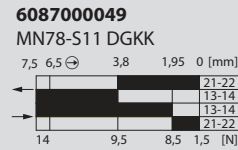


	1 NC / 1 NO	2 NC	2 NO	2 NC / 2 NO
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Slow-action system

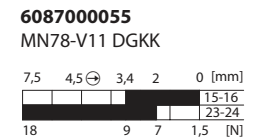
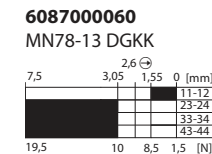
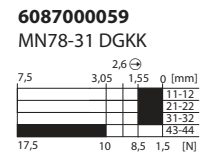
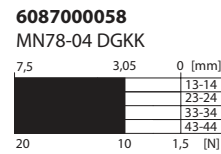
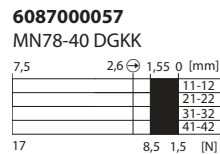


Snap-action system



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





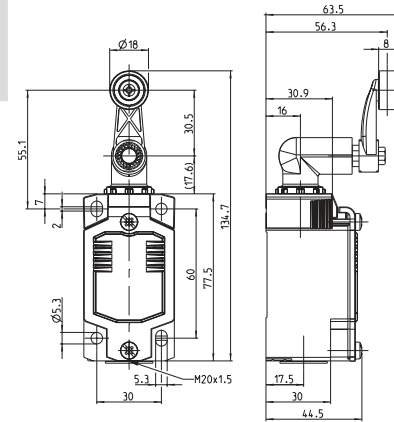
# Position Switches & Limit Switches

## MN78 Series - Metal Body



Replacement actuator: 3918352393

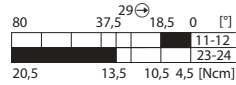
MN78-... AHK



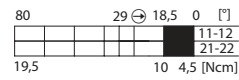
	1 NC / 1 NO	2 NC	2 NO	2 NC / 2 NO
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Slow-action system

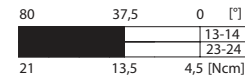
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MN78-11 AHK



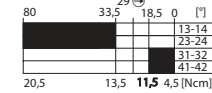
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MN78-20 AHK



**6087000066**  
MN78-02 AHK

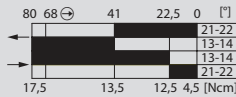


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MN78-22 AHK

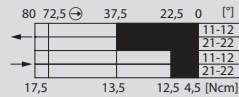


Snap-action system

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MN78-S11 AHK



**6087000063**  
MN78-S20 AHK



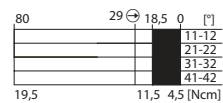
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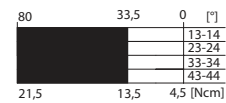
	4 NC	4 NO	3 NC / 1 NO	1 NC / 3 NO	1 NC / 1 NO overlapping
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Slow-action system

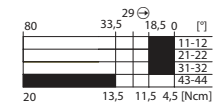
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MN78-40 AHK



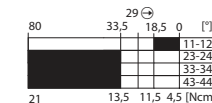
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MN78-04 AHK



**6087000071**  
MN78-31 AHK



**6087000072**  
MN78-13 AHK



**6087000067**  
MN78-V11 AHK



# Position Switches & Limit Switches

## MN78 Series - Metal Body



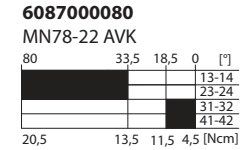
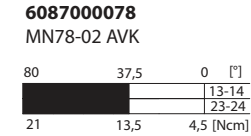
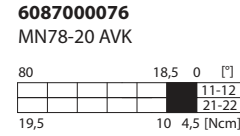
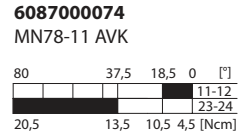
### MN78-... AVK

Replacement actuator: 3918362424

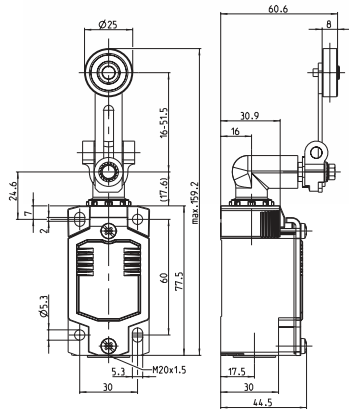
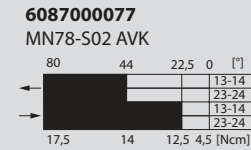
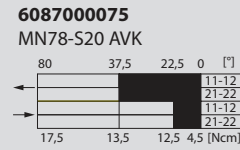
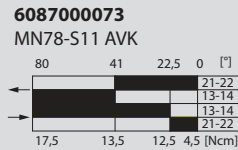


	1 NC / 1 NO	2 NC	2 NO	2 NC / 2 NO
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#### Slow-action system

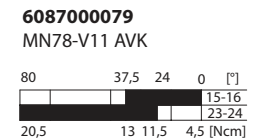
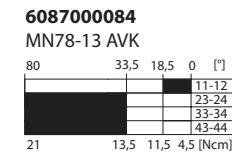
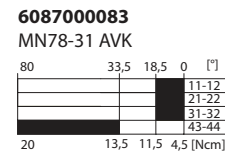
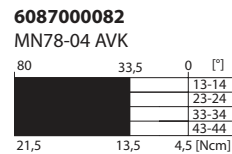
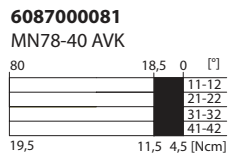


#### Snap-action system



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



# Position Switches & Limit Switches

## MN78 Series - Metal Body



Replacement actuator: 3918372421

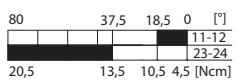
MN78-... AHDM



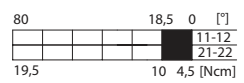
	1 NC / 1 NO	2 NC	2 NO	2 NC / 2 NO
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Slow-action system

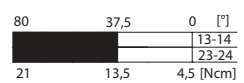
**6087000086**  
MN78-11 AHDM



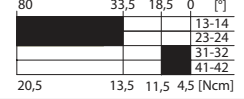
**6087000088**  
MN78-20 AHDM



**6087000090**  
MN78-02 AHDM

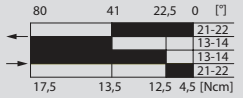


**6087000092**  
MN78-22 AHDM

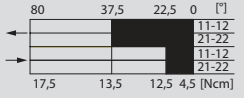


Snap-action system

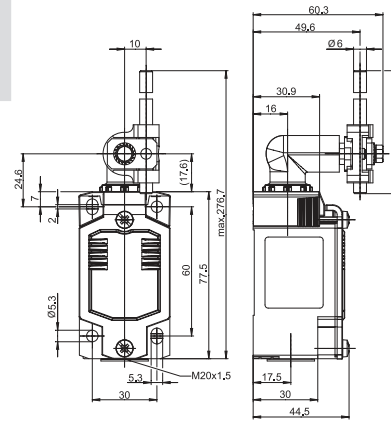
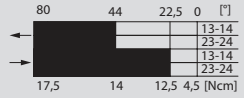
**6087000085**  
MN78-S11 AHDM



**6087000087**  
MN78-S20 AHDM



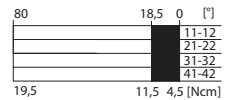
**6087000089**  
MN78-S02 AHDM



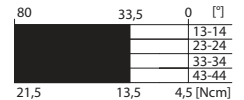
	4 NC	4 NO	3 NC / 1 NO	1 NC / 3 NO	1 NC / 1 NO overlapping
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Slow-action system

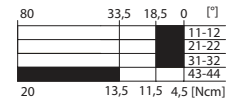
**6087000093**  
MN78-40 AHDM



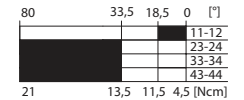
**6087000094**  
MN78-04 AHDM



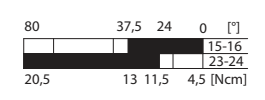
**6087000095**  
MN78-31 AHDM



**6087000096**  
MN78-13 AHDM



**6087000091**  
MN78-V11 AHDM



# Position Switches & Limit Switches

## MN78 Seperate Switch Body & Actuators



**SM**  
3918022415  
(Metal plunger)



**RK**  
3918172416  
(Plastic roller)



**RM**  
3918172417  
(Metal roller)



**RP\***  
3911042418  
(Pull switch attachment)



**AHK**  
3918352393  
(Plastic roller)



**AHM**  
3918352419  
(Metal roller)



**AHDK**  
3918372420  
(Plastic)



**AHDM**  
3918372421  
(Metal)



**AHGU RO**  
3918352422  
(Rubber roller)



**AVGU RO**  
3918362423  
(Rubber roller)



**AVK**  
3918362424  
(Plastic roller)



**AVM**  
3918362425  
(Metal roller)



**AVZK**  
3918362426  
(Plastic roller)



**AVZM**  
3918362427  
(Metal roller)



**DGHK**  
3918202428  
(Plastic roller)



**DGHM**  
3918202429  
(Metal roller)



**DGKK**  
3918202430  
(Plastic roller)



**DGKM**  
3918202431  
(Metal roller)



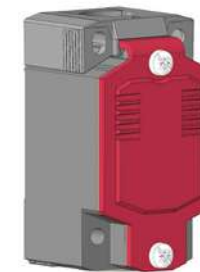
**HK**  
3918202432  
(Plastic roller)



**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	M20	<b>6087000103</b> MN78-11 M20	<b>6087000105</b> MN78-20 M20	<b>6087000107</b> MN78-02 M20	<b>6087000109</b> MN78-22 M20
	M12	<b>6087000115</b> MN78-11 04	<b>6087000117</b> MN78-20 04	<b>6087000119</b> MN78-02 04	<b>6087000121</b> MN78-22 05
Snap-action system	M20	<b>6087000102</b> MN78-S11 M20	<b>6087000104</b> MN78-S20 M20	<b>6087000106</b> MN78-S02 M20	
	M12	<b>6087000114</b> MN78-S11 04	<b>6087000116</b> MN78-S20 04	<b>6087000118</b> MN78-S02 04	



		4 NC	4 NO	3 NC / 1 NO	1 NC / 3 NO	1 NC / 1 NO overlapping
Slow-action system	M20	<b>6087000110</b> MN78-40 M20	<b>6087000111</b> MN78-04 M20	<b>6087000112</b> MN78-31 M20	<b>6087000113</b> MN78-13 M2	<b>6087000108</b> MN78-V11 M20
	M12	<b>6087000122</b> MN78-40 05	<b>6087000123</b> MN78-04 05	<b>6087000124</b> MN78-31 05	<b>6087000125</b> MN78-13 05	<b>6087000120</b> MN78-V11 04