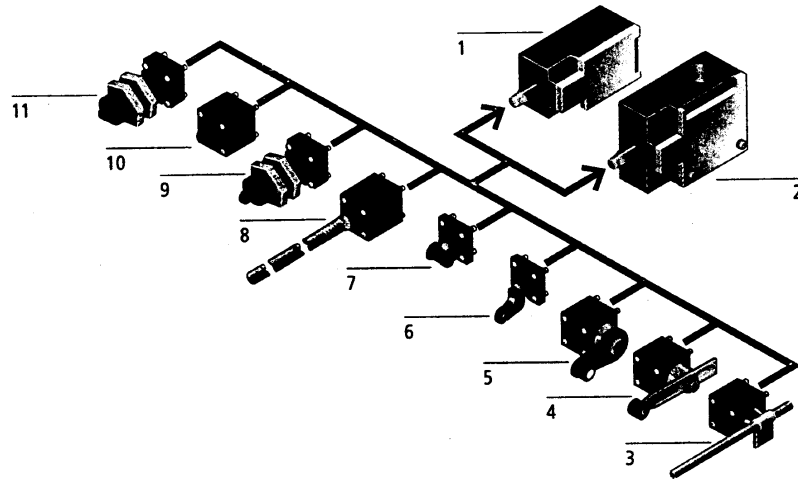


AT0, ATR, AT4 Position Switches  
System Overview

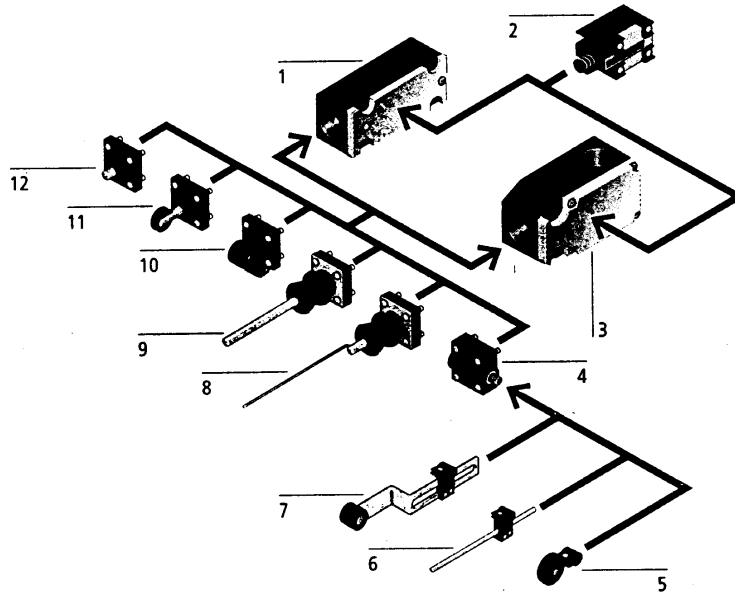
AT0 LIMIT SWITCH + OP HEADS.

Pressure Switches, Float Switches

AT0



AT4



A  
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## AT0, ATR, AT4 Position Switches System Overview

### AT0/ATR

#### Basic units

<b>Basic unit</b>	1
Narrow version	
To EN 50 047	
With snap-on cover	
Number of contacts: 1M/1B, 2M, 2B	
As snap-action or standard-action switch	
→ Page 03/004	

<b>Basic unit</b>	2
Wide version	
With 2 × M20	
Number of contacts: 1M/1B, 2M, 2B	
As snap-action or standard-action switch	
→ Page 03/004	

### AT4

#### Housings/switch mechanisms

<b>AT4 enclosure</b>	1
Narrow version	
To EN 50 041	
→ Page 03/016	

<b>Switch mechanisms</b>	2
Standard-action and snap-action contact	
Overlapping method of contact-making	
Number of contacts: 1M/1B	
→ Page 03/016	

<b>AT4 enclosure</b>	3
Wide version	
With 3 × M20	
→ Page 03/016	

#### Operating heads

Can be rotated in 90° stages

<b>Actuating rod</b>	3
On conveyor belts for light-weight goods	
<b>Adjustable roller lever</b>	4
For length adjustment as required	
<b>Rotary lever</b>	5
For transverse actuation, for pendulum movements	

<b>Angled roller lever</b>	6
For actuation along the device axis	

<b>Roller lever</b>	7
For one-sided operation with high actuation speed	

→ Page 03/009

#### Operating heads

Can be rotated in 90° stages

<b>Spring-rod actuator</b>	8
For flexible actuation from any side	
<b>Plunger (centre fixing)</b>	9
For transverse and axial actuation when fitted in a through-hole	

<b>Roller plunger</b>	10
For transverse actuation with low actuating force	

<b>Roller plunger (centre fixing)</b>	11
For transverse actuation when fitted in a through-hole	

→ Page 03/009

#### Operating heads

Can be rotated in 90° stages

<b>Rotary drive head</b>	4
For use in combination with more than 30 different actuators	
<b>Actuating roller lever</b>	5
With various lever lengths, roller diameters and widths	

<b>Actuating rod</b>	6
With plastic rod or adjustable aluminium rod	

<b>Adjustable roller lever</b>	7
For length adjustment as required	

→ Page 03/017

#### Operating heads

Can be rotated in 90° stages

<b>Spring-rod head</b>	8
For flexible actuation from any side, with steel spring-rod	

<b>Spring-rod head</b>	9
For flexible actuation from any side, with plastic rod	


<b>Actuating roller head</b>	10
For one-sided operation with high actuation speed	

<b>Roller plunger head</b>	11
For transverse actuation with low wear	


<b>Plunger head</b>	12
With steel cap for operation with hot operating elements	

→ Page 03/016

### AT0, ATR, AT4 product attributes

- Modular system
- Degree of protection IP65
-  Totally Insulated

- Personnel protection
- Positive operation
- Suitable for use with electronic devices to IEC/EN 61 131-2

-  Safety function by positive opening of contacts to IEC/EN 60 947-5-1
- Devices for world markets

**ATO Position Switches  
Complete Units**

Pressure Switches - Float Switches

Contacts  
M = Make  
B = Break  
⊕ = Safety function by positive opening of contacts to IEC/EN 60 947-5-1

Contact sequence Contact  
■ Closed  
□ Open  
Zw = Positive opening clearance

Plunger  
**EN 50 047**  
Form B  
Basic unit  
Type  
Article no.

Price  
See Price List

Plunger  
Centre fixing

Type  
Article no.  
Price  
See Price List

**Complete units, IP65**

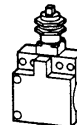
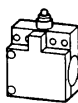


**Narrow version**



1 M 1 B ⊕		 Zw = 4.2 mm	<b>ATO-11-1-I</b> 095406		<b>ATO-11-1-I/ZS</b> 036069
1 M 1 B ⊕		 Zw = 4.7 mm	<b>ATO-11-2-I</b> 097779		<b>ATO-11-2-I/ZS</b> 076410
2 M - -		 Zw = 1.3 mm	<b>ATO-20-1-I</b> 002860		<b>ATO-20-1-I/ZS</b> 062173
- 2 B ⊕		 Zw = 4.7 mm	<b>ATO-02-1-I</b> 005233		<b>ATO-02-1-I/ZS</b> 002849
- 2 B ⊕		 Zw (11-12) = 3.3 mm Zw (21-22) = 5.3 mm	<b>ATO-02-1-I-SOND916</b> 098448		-
1 M 1 B ⊕		<b>Snap-action contact</b>  Zw = 4.5 mm	<b>ATO-11-S-I</b> 000487		<b>ATO-11-S-I/ZS</b> 019459
1 M 1 B ⊕		<b>Snap-action contact</b>  Zw = 3.5 mm	<b>ATO-11-S1-I</b> 226060		-

**Wide version**





1 M 1 B ⊕		 Zw = 4.2 mm	<b>ATO-11-1-IA</b> 007606		<b>ATO-11-1-IA/ZS</b> 055053
1 M 1 B ⊕		 Zw = 4.7 mm	<b>ATO-11-2-IA</b> 009979		<b>ATO-11-2-IA/ZS</b> 095394
2 M - -		 Zw = 1.3 mm	<b>ATO-20-1-IA</b> 014725		<b>ATO-20-1-IA/ZS</b> 081157
- 2 B ⊕		 Zw = 4.7 mm	<b>ATO-02-1-IA</b> 017098		<b>ATO-02-1-IA/ZS</b> 021833
1 M 1 B ⊕		<b>Snap-action contact</b>  Zw = 4.5 mm	<b>ATO-11-S-IA</b> 012352		<b>ATO-11-S-IA/ZS</b> 040816
1 M 1 B ⊕		<b>Snap-action contact</b>  Zw = 3.5 mm	<b>ATO-11-S1-IA</b> 226061		-

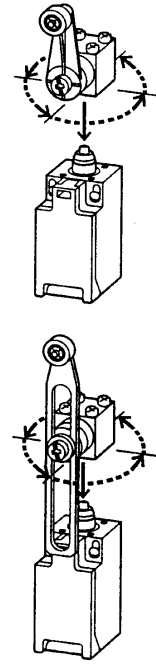
**ATO Position Switches  
Complete Units**

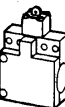
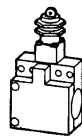
Position Switches, Proximity Switches, Pressure Switches, Float Switches

Roller plunger EN 50 047 Form C		Roller plunger Centre fixing		Notes
Type Article no.	Price See Price List	Type Article no.	Price See Price List	Std. pack

				
AT0-11-1-I/RS 024204		AT0-11-1-I/ZRS 033696		10 off
AT0-11-2-I/RS 064545		AT0-11-2-I/ZRS 074037		2 off
AT0-20-1-I/RS 050308		AT0-20-1-I/ZRS 059800		
AT0-02-1-I/RS 090649		AT0-02-1-I/ZRS 000476		
-		-		
AT0-11-S-I/RS 007594		AT0-11-S-I/ZRS 017086		10 off
-		-		1 off

The operating heads can be rotated in 90° stages to match the specified direction of operation.  
For degree of protection IP65, use M20 cable glands with up to 9.0 mm length of connecting thread (V-M20).



				
AT0-11-1-IA/RS 045561		AT0-11-1-IA/ZRS 052680		1 off
AT0-11-2-IA/RS 085902		AT0-11-2-IA/ZRS 093021		
AT0-20-1-IA/RS 071665		AT0-20-1-IA/ZRS 078784		
AT0-02-1-IA/RS 012341		AT0-02-1-IA/ZRS 019460		
AT0-11-S-IA/RS 031324		AT0-11-S-IA/ZRS 038443		

For external applications or temperatures down to -40 °C use RBS-ATO sealing membrane.

No SUVA approval for the following types:

- AT0-20-1-I
- AT0-20-1-I/ZS
- AT0-20-1-I/RS
- AT0-20-1-I/ZRS
- AT0-20-1-IA
- AT0-20-1-IA/ZS
- AT0-20-1-IA/RS
- AT0-20-1-IA/ZRS

Accessories	Page
V-M20 cable gland	03/018
Sealing membrane	03/018

### ATO Position Switches Complete Units

Contacts		Contact sequence		Spring-rod actuator <sup>1)</sup>		Roller lever	
M = Make	B = Break	Contact		Type	Price	EN 50 047	Form E
⊕ = Safety function by positive opening of contacts to IEC/EN 60 947-5-1		<input checked="" type="checkbox"/> Closed <input type="checkbox"/> Open Zw = Positive opening clearance		Article no.	See Price List	Type	Price
						Article no.	See Price List

**Complete units, IP65**



Totally Insulated

**Narrow version**

1 M 1 B ⊕			-		13-14 21-22 0 4.7 8.0 10.1 mm Zw = 6.8 mm	<b>ATO-11-1-IA/AR</b> 017085
1 M 1 B ⊕			-		17-18 25-26 0 3.3 5.6 10.1 mm Zw = 7.8 mm	<b>ATO-11-2-IA/AR</b> 057426
2 M - -			-		13-14 23-24 0 2.2 10.1 mm	<b>ATO-20-1-IA/AR</b> 043189
- 2 B ⊕			-		11-12 21-22 0 5.5 10.1 mm Zw = 7.7 mm	<b>ATO-02-1-IA/AR</b> 083530
1 M 1 B ⊕		Snap-action contact  13-14 21-22 13-14 21-22 0° 9° 23° 25°	<b>ATO-11-S-IA/F</b> 000475		13-14 21-22 13-14 21-22 0 2.6 4.8 10.1 mm Zw = 7.4 mm	<b>ATO-11-S-IA/AR</b> 097767

**Wide version**

1 M 1 B ⊕			-		13-14 21-22 0 4.7 8.0 10.1 mm Zw = 6.8 mm	<b>ATO-11-1-IA/AR</b> 038442
1 M 1 B ⊕			-		17-18 25-26 0 3.3 5.6 10.1 mm Zw = 7.8 mm	<b>ATO-11-2-IA/AR</b> 078783
2 M - -			-		13-14 23-24 0 2.2 10.1 mm	<b>ATO-20-1-IA/AR</b> 064546
- 2 B ⊕			-		11-12 21-22 0 5.5 10.1 mm Zw = 7.7 mm	<b>ATO-02-1-IA/AR</b> 005222
1 M 1 B ⊕		Snap-action contact  13-14 21-22 13-14 21-22 0° 9° 23° 25°	<b>ATO-11-S-IA/F</b> 024205		13-14 21-22 13-14 21-22 0 2.6 4.8 10.1 mm Zw = 7.4 mm	<b>ATO-11-S-IA/AR</b> 021832


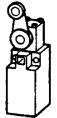
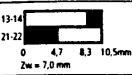
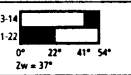
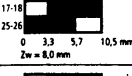
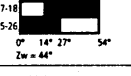
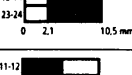
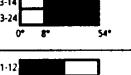
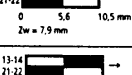
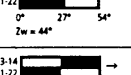
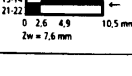
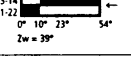

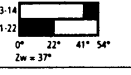
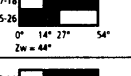
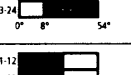
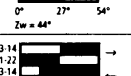
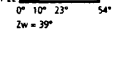
**Notes**

<sup>1)</sup> Do not use spring-rod actuator as a safety position switch; admissible only with snap-action contact.

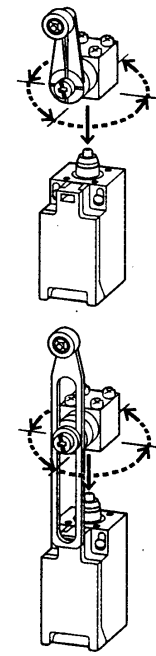
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21

Position Switches, Proximity Switches, Float Switches

**ATO Position Switches  
Complete Units**

Angled roller lever			Rotary lever		
Type	Price		Type	Price	Notes
Article no.	See Price List		Article no.	See Price List	Std. pack
					
 13-14 21-22 0 4.7 8.3 10.5mm Zw = 7.0 mm	<b>ATO-11-1-I/WR</b> 031323		 13-14 21-22 0° 22° 41° 54° Zw = 37°	<b>ATO-11-1-I/R</b> 021831	10 off
 17-18 25-26 0 3.3 5.7 10.5mm Zw = 8.0 mm	<b>ATO-11-2-I/WR</b> 071664		 17-18 25-26 0° 14° 27° 54° Zw = 44°	<b>ATO-11-2-I/R</b> 062172	2 off
 13-14 23-24 0 2.1 10.5mm	<b>ATO-20-1-I/WR</b> 057427		 13-14 23-24 0° 8° 54°	<b>ATO-20-1-I/R</b> 047935	
 11-12 21-22 0 5.6 10.5mm Zw = 7.9 mm	<b>ATO-02-1-I/WR</b> 097768		 11-12 21-22 0° 27° 54° Zw = 44°	<b>ATO-02-1-I/R</b> 088276	
 13-14 21-22 13-14 21-22 0 2.6 4.9 10.5mm Zw = 7.6 mm	<b>ATO-11-S-I/WR</b> 014713		 13-14 21-22 13-14 21-22 0° 10° 23° 54° Zw = 39°	<b>ATO-11-S-I/R</b> 005221	1 off
					
			 13-14 21-22 0° 22° 41° 54° Zw = 37°	<b>ATO-11-1-IA/R</b> 043188	2 off
			 17-18 25-26 0° 14° 27° 54° Zw = 44°	<b>ATO-11-2-IA/R</b> 083529	
			 13-14 23-24 0° 8° 54°	<b>ATO-20-1-IA/R</b> 069292	
			 11-12 21-22 0° 27° 54° Zw = 44°	<b>ATO-02-1-IA/R</b> 009968	
			 13-14 21-22 13-14 21-22 0° 10° 23° 54° Zw = 39°	<b>ATO-11-S-IA/R</b> 028951	

The operating heads can be rotated in 90° stages to match the specified direction of operation.  
For degree of protection IP65, use M20 cable glands with up to 9.0 mm length of connecting thread (V-M20)

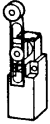

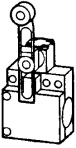
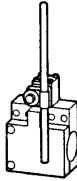


No SUVA approval for the following types:

- ATO-11-S-I/F
- ATO-20-1-I/AR
- ATO-20-1-I/WR
- ATO-20-1-I/R
- ATO-11-S-IA/F
- ATO-20-1-IA/AR
- ATO-20-1-IA/R

Accessories Page  
V-M20 cable gland 03/018

# ATO Position Switches Complete Units

		Adjustable roller lever		Actuating rod <sup>1)</sup>		
Contacts	Contact sequence	Type	Price	Type	Price	Std. pack
M = Make B = Break ⊕ = Safety function by positive opening of contacts to IEC/EN 60 947-5-1	<input checked="" type="checkbox"/> Closed <input type="checkbox"/> Open Zw = Positive opening clearance	Article no.	See Price List	Article no.	See Price List	
<b>Complete units, IP65</b>						
<b>Narrow version</b>						
 						
1 M 1 B ⊕		 13-14 21-22 0° 22° 41° 54° Zw = 37°	<b>ATO-11-1-I/V</b> 028950		<b>ATO-11-1-I/H</b> 019458	10 off
1 M 1 B ⊕		 17-18 25-26 0° 14° 27° 54° Zw = 44°	<b>ATO-11-2-I/V</b> 069291		<b>ATO-11-2-I/H</b> 059799	2 off
2 M - -		 13-14 23-24 0° 8° 54°	<b>ATO-20-1-I/V</b> 055054		<b>ATO-20-1-I/H</b> 045562	
- 2 B ⊕		 11-12 21-22 0° 27° 54° Zw = 44°	<b>ATO-02-1-I/V</b> 095395		<b>ATO-02-1-I/H</b> 085903	
1 M 1 B ⊕		Snap-action contact  13-14 21-22 0° 10° 23° 54° Zw = 39°	<b>ATO-11-5-I/V</b> 012340		<b>ATO-11-5-I/H</b> 002848	10 off
<b>Wide version</b>						
 						
1 M 1 B ⊕		 13-14 21-22 0° 22° 41° 54° Zw = 37°	<b>ATO-11-1-IA/V</b> 050307		<b>ATO-11-1-IA/H</b> 040815	2 off
1 M 1 B ⊕		 17-18 25-26 0° 14° 27° 54° Zw = 44°	<b>ATO-11-2-IA/V</b> 090648		<b>ATO-11-2-IA/H</b> 081156	
2 M - -		 13-14 23-24 0° 8° 54°	<b>ATO-20-1-IA/V</b> 076411		<b>ATO-20-1-IA/H</b> 066919	
- 2 B ⊕		 11-12 21-22 0° 27° 54° Zw = 44°	<b>ATO-02-1-IA/V</b> 017087		<b>ATO-02-1-IA/H</b> 007595	
1 M 1 B ⊕		Snap-action contact  13-14 21-22 0° 10° 23° 54° Zw = 39°	<b>ATO-11-5-IA/V</b> 036070		<b>ATO-11-5-IA/H</b> 026578	




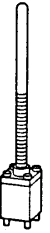





Notes

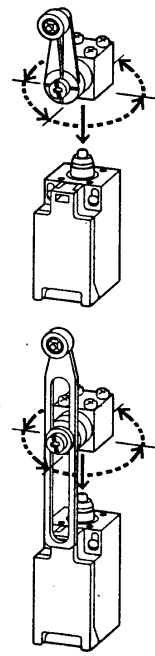
<sup>1)</sup> Not to be used as a safety position switch



**ATO Position Switches**  
**Operating Heads**

Position Switches, Proximity Switches  
Pressure Switches, Float Switches

	Style	Direction of actuation	Type Article no.	Price See Price List	Std. pack	Notes
<b>Operating heads</b>						
	Form C to EN 50 047	transverse	<b>RS-ATO</b> 053145		5 off	The operating heads can be rotated in 90° stages to match the specified direction of operation. For degree of protection IP65, use M20 cable glands with up to 9.0 mm length of connecting thread (V-M20)
	(centre fixing)	transverse	<b>ZRS-ATO</b> 031083			
	(centre fixing)	axial, transverse	<b>ZS-ATO</b> 033456			
	-	transverse	<b>F-ATO</b> 050772			
	Form E to EN 50 047	transverse	<b>AR-ATO</b> 046026		10 off	
	-	transverse	<b>WR-ATO</b> 048399		5 off	
	Form A to EN 50 047	transverse	<b>R-ATO</b> 038907			
	-	transverse	<b>V-ATO</b> 041280			Not for use as safety position switches: • F-ATO • H-ATO  F-ATO can be used, but only in conjunction with snap-action contact
	-	transverse	<b>H-ATO</b> 043653			



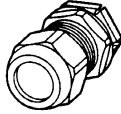





Accessories	Page
V-M20 cable gland	03/018



## AT... Position Switches

### Accessories

 Position Switches, Proximity Switches  
 Pressure Switches, Float Switches

	Type	Price	Std. pack	
	Article no.	See Price List		
<b>Metric cable gland, M20, to EN 50 262</b>				
<ul style="list-style-type: none"> <li>• With lock nut and built-in strain relief</li> <li>• IP68 up to 5 bar, halogen-free</li> <li>• External diameter of cable 6 – 13 mm</li> </ul>				
	V-M20 206910		20 off	
<b>Adapter to convert PG 13,5 to M20, IP65</b>				
For PG13,5 cable glands Moulded				
	VPG13,5/M20 225268		10 off	
<b>Screw connection to fit M20 into 1/2"</b>				
For American pipe thread Metal				
	V1/2"/M20-NA 225269		1 off	The screw connection must be earthed, not total insulation
<b>Screw connection to fit M20 into 1/2"</b>				
For American pipe thread Moulded				
	V1/2"/M20 225270		10 off	
<b>M20 diaphragm bolt, IP65</b>				
With built-in push-through diaphragm External diameter of cable up to 13 mm IP65 with cable inserted				
	EMS20 225271		25 off	
<b>M20 screw closure, IP65</b>				
(self-sealing grommet) For tightening / loosening by using a standard wrench for sealing grommet plugs				
	SV-M20 225267		25 off	