
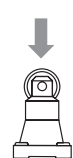









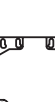








## 4. Position switches

### Z/T 2../3.. - Preferred types and ordering details

Position switches					Actuator heads					
					Plunger				Offset roller lever	
					S	R	4NO	4R	1R	K / 1K
Design	Metal	Thermoplastic	Switching system	Contacts						
DIN EN 50047	 235		Snap action	1 NO/1 NC	ZS 235-11Z	ZR 235-11Z	Z4S 235-11Z	Z4R 235-11Z	Z1R 235-11Z	ZK 235-11Z
				2NC	ZS 235-02Z	ZR 235-02Z	Z4S 235-02Z	Z4R 235-02Z	Z1R 235-02Z	ZK 235-02Z
			Slow action	1 NO/1 NC	TS 235-11Z	TR 235-11Z	T4S 235-11Z	T4R 235-11Z	T1R 235-11Z	TK 235-11Z
				2NC	TS 235-02Z	TR 235-02Z	T4S 235-02Z	T4R 235-02Z	T1R 235-02Z	TK 235-02Z
	 236		Snap action	1 NO/1 NC	ZS 236-11Z	ZR 236-11Z	Z4S 236-11Z	Z4R 236-11Z	Z1R 236-11Z	ZK 236-11Z
				2NC	ZS 236-02Z	ZR 236-02Z	Z4S 236-02Z	Z4R 236-02Z	Z1R 236-02Z	ZK 236-02Z
			Slow action	1 NO/1 NC	TS 236-11Z	TR 236-11Z	T4S 236-11Z	T4R 236-11Z	T1R 236-11Z	TK 236-11Z
				2NC	TS 236-02Z	TR 236-02Z	T4S 236-02Z	T4R 236-02Z	T1R 236-02Z	TK 236-02Z
	 256		Snap action	1 NO/1 NC	ZS 256-11Z	ZR 256-11Z	Z4S 256-11Z	Z4R 256-11Z	Z1R 256-11Z	ZK 256-11Z
				2NC	ZS 256-02Z	ZR 256-02Z	Z4S 256-02Z	Z4R 256-02Z	Z1R 256-02Z	ZK 256-02Z
			Slow action	1 NO/1 NC	TS 256-11Z	TR 256-11Z	T4S 256-11Z	T4R 256-11Z	T1R 256-11Z	TK 256-11Z
				2NC	TS 256-02Z	TR 256-02Z	T4S 256-02Z	T4R 256-02Z	T1R 256-02Z	TK 256-02Z
DIN EN 50041	 335		Snap action	1 NO/1 NC	ZS 335-11Z	ZR 335-11Z	-	-	-	Z1K 335-11Z
				2NC	ZS 335-02Z	ZR 335-02Z	-	-	-	Z1K 335-02Z
			Slow action	1 NO/1 NC	TS 335-11Z	TR 335-11Z	-	-	-	T1K 335-11Z
				2NC	TS 335-02Z	TR 335-02Z	-	-	-	T1K 335-02Z
				2NO	TS 335-20Z	TR 335-20Z	-	-	-	T1K 335-20Z
				1NC L/1NC R	-	-	-	-	-	-
	1 NO/2 NC	TS 335-12Z	TR 335-12Z	-	-	-	T1K 335-12Z			
		3NC	TS 335-03Z	TR 335-03Z	-	-	-	T1K 335-03Z		
	 336		Snap action	1 NO/1 NC	ZS 336-11Z	ZR 336-11Z	-	-	-	Z1K 336-11Z
				2NC	ZS 336-02Z	ZR 336-02Z	-	-	-	Z1K 336-02Z
			Slow action	1 NO/1 NC	TS 336-11Z	TR 336-11Z	-	-	-	T1K 336-11Z
				2NC	TS 336-02Z	TR 336-02Z	-	-	-	T1K 336-02Z
				2NO	TS 336-20Z	TR 336-20Z	-	-	-	T1K 336-20Z
				1NC L/1NC R	-	-	-	-	-	-
	 355		Snap action	1 NO/1 NC	ZS 355-11Z	ZR 355-11Z	-	-	-	Z1K 355-11Z
				2NC	ZS 355-02Z	ZR 355-02Z	-	-	-	Z1K 355-02Z
			Slow action	1 NO/1 NC	TS 355-11Z	TR 355-11Z	-	-	-	T1K 355-11Z
				2NC	TS 355-02Z	TR 355-02Z	-	-	-	T1K 355-02Z
2NO				TS 355-20Z	TR 355-20Z	-	-	-	T1K 355-20Z	
1NC L/1NC R				-	-	-	-	-	-	
1 NO/2 NC	TS 355-12Z	TR 355-12Z	-	-	-	T1K 355-12Z				
	3NC	TS 355-03Z	TR 355-03Z	-	-	-	T1K 355-03Z			

<sup>1)</sup> Not all actuator heads are suitable for safety applications!

## 4. Position switches

### Z/T 235, 236 and 256 - Actuator heads



**Plunger S**

**Roller plunger R**

#### Actuator heads

Actuator description	Actuator type B to EN 50047 Thermoplastic plunger (236, 256) Metal plunger (235)	Actuator type C to EN 50047 Plastic roller
Actuating force / torque	min. 9 N	min. 9 N
Positive break force	19 N	19 N
Actuating speed	min. 10 mm/min, max. 1 m/s	min. 20 mm/min, max. 1 m/s
Snap action		
Slow action	min. 60 mm/min, max. 1 m/s	min. 120 mm/min, max. 1 m/s
Positioning the lever	-	-

#### Switch travel diagrams

Actuator description	Plunger S	Roller plunger R
Snap action 1 NO / 1 NC	<p><b>ZS 2...-11Z</b></p>	<p><b>ZR 2...-11Z</b></p>
2 NC	<p><b>ZS 2...-02Z</b></p>	<p><b>ZR 2...-02Z</b></p>
Slow action 1 NO / 1 NC	<p><b>TS 2...-11Z</b></p>	<p><b>TR 2...-11Z</b></p>
2 NC	<p><b>TS 2...-02Z</b></p>	<p><b>TR 2...-02Z</b></p>
2 NO	<p><b>TS 2...-20Z</b></p>	<p><b>TR 2...-20Z</b></p>



**Plunger 4S**

**Plunger 4R**

Metal plunger

Plastic roller

min. 9 N  
19 N

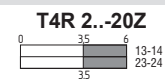
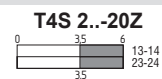
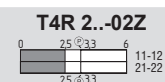
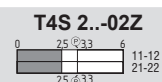
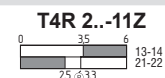
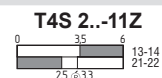
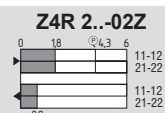
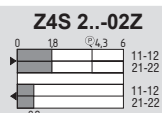
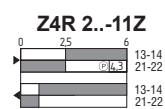
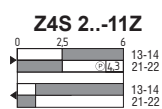
min. 9 N  
19 N

min. 10 mm/min,  
max. 1 m/s  
min. 60 mm/min,  
max. 1 m/s

min. 20 mm/min,  
max. 1 m/s  
min. 120 mm/min,  
max. 1 m/s

-

-



- Contact closed
- Contact open
- Positive break travel / angle

## 4. Position switches

### Z/T 235, 236 and 256 - Actuator heads



Offset roller lever 1R

Offset roller lever K

#### Actuator heads

Actuator description	Thermoplastic offset roller lever with Thermoplastic plunger (236, 256) Metal plunger (235)	Actuator type E to EN 50047 Thermoplastic offset roller lever with Thermoplastic plunger (236, 256) Metal plunger (235)
Actuating force / torque	min. 9 N	min. 9 N
Positive break force	19 N	19 N
Actuating speed	min. 27 mm/min, max. 1 m/s	min. 24 mm/min, max. 1 m/s
Snap action		
Slow action	min. 160 mm/min, max. 1 m/s	min. 240 mm/min, max. 1 m/s
Positioning the lever	-	-

#### Switch travel diagrams

Snap action	1 NO / 1 NC	<b>Z1R 2...-11Z</b> 	<b>ZK 2...-11Z</b> 
	2 NC	<b>Z1R 2...-02Z</b> 	<b>ZK 2...-02Z</b> 
Slow action	1 NO / 1 NC	<b>T1R 2...-11Z</b> 	<b>TK 2...-11Z</b> 
	2 NC	<b>T1R 2...-02Z</b> 	<b>TK 2...-02Z</b> 
	2 NO	<b>T1R 2...-20Z</b> 	<b>TK 2...-20Z</b> 

To get detailed information about the products and switch travel diagrams, visit [www.schmersal.net](http://www.schmersal.net).



**Angle roller lever 3K**

**Angle roller lever 4K**

Thermoplastic offset roller lever with  
Thermoplastic plunger (236, 256)  
Metal plunger (235)

Thermoplastic offset roller lever with  
Thermoplastic plunger (236, 256)  
Metal plunger (235)

min. 9 N  
19 N

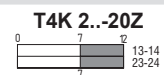
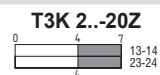
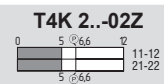
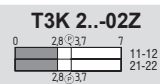
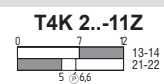
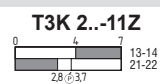
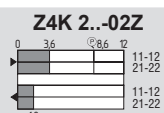
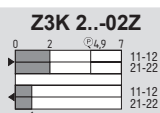
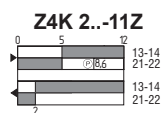
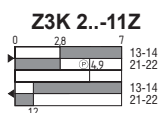
min. 6 N  
16 N

min. 27 mm/min,  
max. 1 m/s  
min. 160 mm/min,  
max. 1 m/s

min. 44 mm/min,  
max. 1 m/s  
min. 264 mm/min,  
max. 1 m/s

-

-



- Contact closed
- Contact open
- Positive break travel / angle

## 4. Position switches

### Z/T 235, 236 and 256 - Actuator heads



Angle roller lever K4

Roller lever 1H

#### Actuator heads

Actuator description	Thermoplastic offset roller lever with Thermoplastic plunger (236, 256) Metal plunger (235)	Actuator type A to EN 50047 Thermoplastic offset roller lever
Actuating force / torque	min. 6 N	min. 15 Ncm
Positive break force	16 N	18.5 Ncm
Actuating speed	min. 56 mm/min, max. 1 m/s	min. 92 mm/min, max. 1 m/s
Snap action		
Slow action	min. 336 mm/min, max. 1 m/s	min. 492 mm/min, max. 1 m/s
Positioning the lever	–	adjustable in 10° steps

#### Switch travel diagrams

Snap action	1 NO / 1 NC	<b>ZK4 2..-11Z</b> 	<b>ZV1H 2..-11Z</b> 
	2 NC	<b>ZK4 2..-02Z</b> 	<b>ZV1H 2..-02Z</b> 
Slow action	1 NO / 1 NC	<b>TK4 2..-11Z</b> 	<b>TV1H 2..-11Z</b> 
	2 NC	<b>TK4 2..-02Z</b> 	<b>TV1H 2..-02Z</b> 
	2 NO	<b>TK4 2..-20Z</b> 	<b>TV1H 2..-20Z</b> 

<sup>1)</sup> Not all actuator heads are suitable for safety applications!

To get detailed information about the products and switch travel diagrams, visit [www.schmersal.net](http://www.schmersal.net).



Roller lever 7H <sup>1)</sup>



Roller lever 7H-2138

Length-adjustable  
Metal lever with plastic roller  
Only suitable for positioning tasks!

min. 15 Ncm

-

min. 240 mm/min,  
max. 1 m/s

min. 1440 mm/min,  
max. 1 m/s

adjustable in 10° steps

Length-adjustable  
Metal lever with plastic roller  
adjustable in 6.5 mm steps

min. 15 Ncm

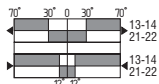
18.5 Ncm

min. 240 mm/min,  
max. 1 m/s

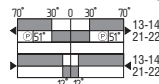
min. 1440 mm/min,  
max. 1 m/s

adjustable in 10° steps

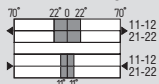
ZV7H 2..-11Z



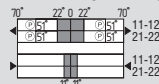
ZV7H 2..-11Z-2138



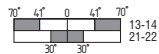
ZV7H 2..-02Z



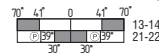
ZV7H 2..-02Z-2138



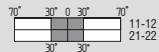
TV7H 2..-11Z



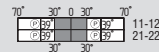
TV7H 2..-11Z-2138



TV7H 2..-02Z



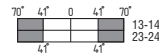
TV7H 2..-02Z-2138



TV7H 2..-20Z



TV7H 2..-20Z-2138



■ Contact closed

□ Contact open

Ⓟ Positive break travel / angle

## 4. Position switches

### Z/T 235, 236 and 256 - Actuator heads



Rod lever 10H <sup>1)</sup>

Roller lever 12H

#### Actuator heads

Actuator description	Plastic rod, 200 mm Only suitable for positioning tasks!	Metal lever with plastic roller
Actuating force / torque	min. 15 Ncm	min. 15 Ncm
Positive break force	-	18.5 Ncm
Actuating speed	min. 687 mm/min, max. 1 m/s	min. 687 mm/min, max. 1 m/s
Slow action	min. 4122 mm/min, max. 1 m/s	min. 4122 mm/min, max. 1 m/s
Positioning the lever	adjustable in 10° steps	adjustable in 10° steps

#### Switch travel diagrams

Snap action	1 NO / 1 NC	<b>ZV10H 2...-11Z</b> 	<b>ZV12H 2...-11Z</b> 
	2 NC	<b>ZV10H 2...-02Z</b> 	<b>ZV12H 2...-02Z</b> 
Slow action	1 NO / 1 NC	<b>TV10H 2...-11Z</b> 	<b>TV12H 2...-11Z</b> 
	2 NC	<b>TV10H 2...-02Z</b> 	<b>TV12H 2...-02Z</b> 
	2 NO	<b>TV10H 2...-20Z</b> 	<b>TV12H 2...-20Z</b> 

<sup>1)</sup> Not all actuator heads are suitable for safety applications!

To get detailed information about the products and switch travel diagrams, visit [www.schmersal.net](http://www.schmersal.net).





**Roller lever 14H**

**Spring rod lever AF <sup>1)</sup>**

Metal lever with plastic roller

Metal lever, 142 mm  
Only suitable for positioning tasks!

min. 15 Ncm  
18.5 Ncm

min. 6 Ncm

min. 687 mm/min,  
max. 1 m/s

min. 10 mm/min,  
max. 1 m/s

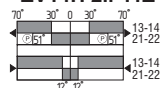
min. 4122 mm/min,  
max. 1 m/s

-

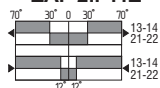
adjustable in 10° steps

can be deflected in any direction

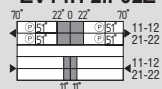
**ZV14H 2...-11Z**



**ZAF 2...-11Z**

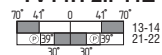


**ZV14H 2...-02Z**



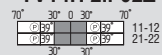
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**TV14H 2...-11Z**



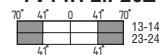
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**TV14H 2...-02Z**



-

**TV14H 2...-20Z**



-

■ Contact closed

□ Contact open

Ⓟ Positive break travel / angle