

**OPERATING FORCE - FTN SERIES**

TYPE	CONTACT BLOCK		OPERATING TRAVEL		OPERATING FORCE	TOTAL TRAVEL
			PT	PT2nd	OF	
	X11	1NC/1NO Slow Action	2.8 mm	3.8 mm	7.3 N	6.0 mm
	W02	2NC Slow Action	2.8 mm	-	7.3 N	
	W20	2NO Slow Action	2.4 mm	-	8.2 N	
	W12	2NC/1NO Slow Action	2.6 mm	3.2 mm	7.3 N	
	W03	3NC Slow Action	2.6 mm	-	7.3 N	
	Z11	1NC/1NO Snap Action	3.0 mm	-	6.7 N	
	Z02	2NC Snap Action	2.7 mm	-	6.7 N	
	X11	1NC/1NO Slow Action	2.2 mm	3.2 mm	7.4 N	9.0 mm
	W02	2NC Slow Action	2.2 mm	-	7.4 N	
	W20	2NO Slow Action	2.0 mm	-	8.3 N	
	W12	2NC/1NO Slow Action	2.2 mm	3.0 mm	7.4 N	
	W03	3NC Slow Action	2.2 mm	-	7.4 N	
	Z11	1NC/1NO Snap Action	2.5 mm	-	6.8 N	
	Z02	2NC Snap Action	2.5 mm	-	6.8 N	
	X11	1NC/1NO Slow Action	30°	45°	1.8 N	80°
	W02	2NC Slow Action	30°	-	1.8 N	
	W20	2NO Slow Action	32°	-	1.8 N	
	W12	2NC/1NO Slow Action	32°	40°	1.8 N	
	W03	3NC Slow Action	32°	-	1.8 N	
	Z11	1NC/1NO Snap Action	34°	-	1.9 N	
	Z02	2NC Snap Action	34°	-	1.9 N	
	X11	1NC/1NO Slow Action	30°	45°	6.5 N	80°
	W02	2NC Slow Action	30°	-	6.5 N	
	W20	2NO Slow Action	32°	-	6.5 N	
	W12	2NC/1NO Slow Action	32°	40°	6.5 N	
	W03	3NC Slow Action	32°	-	6.5 N	
	Z11	1NC/1NO Snap Action	34°	-	5.3 N	
	Z02	2NC Snap Action	34°	-	5.3 N	
	X11	1NC/1NO Slow Action	30°	45°	6.5 N	80°
	W02	2NC Slow Action	30°	-	6.5 N	
	W20	2NO Slow Action	32°	-	6.5 N	
	W12	2NC/1NO Slow Action	32°	40°	6.5 N	
	W03	3NC Slow Action	32°	-	6.5 N	
	Z11	1NC/1NO Snap Action	34°	-	5.3 N	
	Z02	2NC Snap Action	34°	-	5.3 N	
	X11	1NC/1NO Slow Action	30°	45°	6.5 N	80°
	W02	2NC Slow Action	30°	-	6.5 N	
	W20	2NO Slow Action	32°	-	6.5 N	
	W12	2NC/1NO Slow Action	32°	40°	6.5 N	
	W03	3NC Slow Action	32°	-	6.5 N	
	Z11	1NC/1NO Snap Action	34°	-	5.3 N	
	Z02	2NC Snap Action	34°	-	5.3 N	

**OPERATING FORCE - FTN SERIES**

TYPE	CONTACT BLOCK		OPERATING TRAVEL		OPERATING FORCE	TOTAL TRAVEL
			PT	PT2nd	OF	
	X11	1NC/1NO Slow Action	30°	45°	6.5 N	80°
	W02	2NC Slow Action	30°	-	6.5 N	
	W20	2NO Slow Action	32°	-	6.5 N	
	W12	2NC/1NO Slow Action	32°	40°	6.5 N	
	W03	3NC Slow Action	32°	-	6.5 N	
	Z11	1NC/1NO Snap Action	34°	-	5.3 N	
	Z02	2NC Snap Action	34°	-	5.3 N	
	X11	1NC/1NO Slow Action	30°	45°	6.5 N	80°
	W02	2NC Slow Action	30°	-	6.5 N	
	W20	2NO Slow Action	32°	-	6.5 N	
	W12	2NC/1NO Slow Action	32°	40°	6.5 N	
	W03	3NC Slow Action	32°	-	6.5 N	
	Z11	1NC/1NO Snap Action	34°	-	5.3 N	
	Z02	2NC Snap Action	34°	-	5.3 N	
	X11	1NC/1NO Slow Action	30°	45°	6.5 N	80°
	W02	2NC Slow Action	30°	-	6.5 N	
	W20	2NO Slow Action	32°	-	6.5 N	
	W12	2NC/1NO Slow Action	32°	40°	6.5 N	
	W03	3NC Slow Action	32°	-	6.5 N	
	Z11	1NC/1NO Snap Action	34°	-	5.3 N	
	Z02	2NC Snap Action	34°	-	5.3 N	
	X11	1NC/1NO Slow Action	30°	45°	6.5 N	80°
	W02	2NC Slow Action	30°	-	6.5 N	
	W20	2NO Slow Action	32°	-	6.5 N	
	W12	2NC/1NO Slow Action	32°	40°	6.5 N	
	W03	3NC Slow Action	32°	-	6.5 N	
	Z11	1NC/1NO Snap Action	34°	-	5.3 N	
	Z02	2NC Snap Action	34°	-	5.3 N	
	X11	1NC/1NO Slow Action	30°	45°	6.5 N	80°
	W02	2NC Slow Action	30°	-	6.5 N	
	W20	2NO Slow Action	32°	-	6.5 N	
	W12	2NC/1NO Slow Action	32°	40°	6.5 N	
	W03	3NC Slow Action	32°	-	6.5 N	
	Z11	1NC/1NO Snap Action	34°	-	5.3 N	
	Z02	2NC Snap Action	34°	-	5.3 N	
	X11	1NC/1NO Slow Action	30°	45°	6.5 N	80°
	W02	2NC Slow Action	30°	-	6.5 N	
	W20	2NO Slow Action	32°	-	6.5 N	
	W12	2NC/1NO Slow Action	32°	40°	6.5 N	
	W03	3NC Slow Action	32°	-	6.5 N	
	Z11	1NC/1NO Snap Action	34°	-	5.3 N	
	Z02	2NC Snap Action	34°	-	5.3 N	

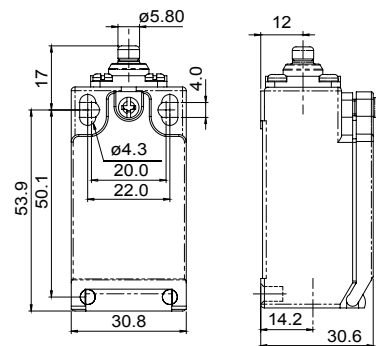
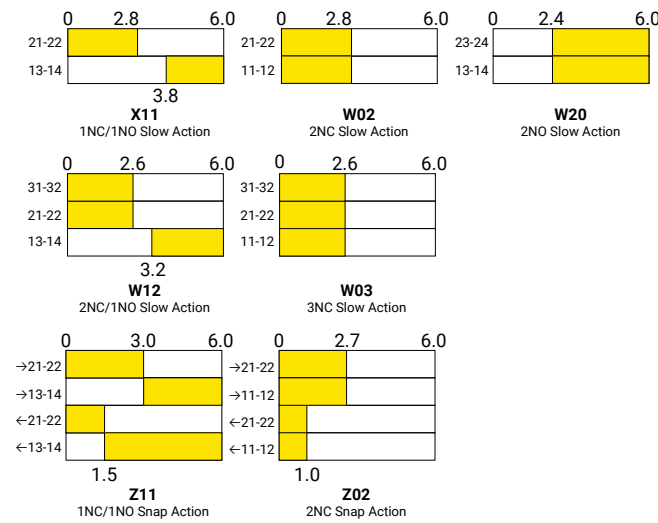


**FTN131: Short plastic end plunger with protective boot**

FTN	1	31	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit
	1 - Without Reset Function	31 - Short plastic end plunger with protective boot	<b>X11</b> - 1NC/1NO Slow Action <b>W02</b> - 2NC Slow Action <b>W20</b> - 2NO Slow Action <b>W12</b> - 2NC/1NO Slow Action <b>W03</b> - 3NC Slow Action <b>Z11</b> - 1NC/1NO Snap Action <b>Z02</b> - 2NC Snap Action	Standard: <b>BLANK</b> - M16 On request: <b>M</b> - M20 <b>N</b> - 1/2NPT <b>G1</b> - PG11 <b>G3</b> - PG13.5 <b>C</b> - Connector

Slow Action and Snap Action: **Type "Zb"**

**OPERATION DIAGRAMS**

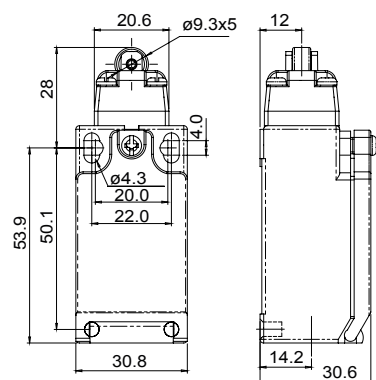
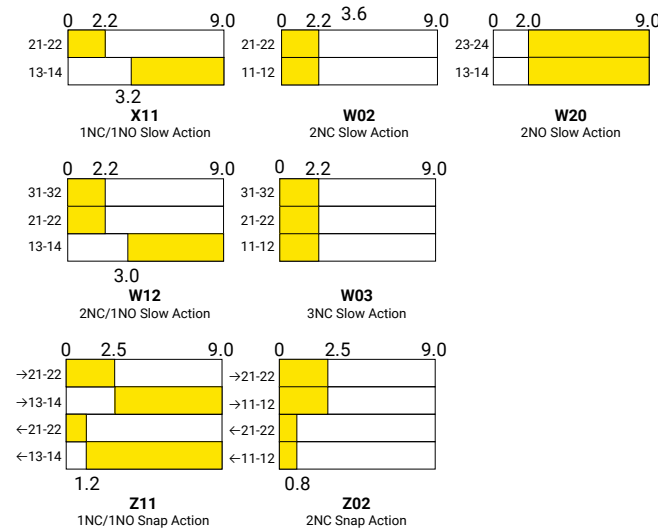


**FTN134: Roller lever plunger**

FTN	1	34	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit
	1 - Without Reset Function	34 - Roller lever plunger	<b>X11</b> - 1NC/1NO Slow Action <b>W02</b> - 2NC Slow Action <b>W20</b> - 2NO Slow Action <b>W12</b> - 2NC/1NO Slow Action <b>W03</b> - 3NC Slow Action <b>Z11</b> - 1NC/1NO Snap Action <b>Z02</b> - 2NC Snap Action	Standard: <b>BLANK</b> - M16 On request: <b>M</b> - M20 <b>N</b> - 1/2NPT <b>G1</b> - PG11 <b>G3</b> - PG13.5 <b>C</b> - Connector

Slow Action and Snap Action: **Type "Zb"**

**OPERATION DIAGRAMS**

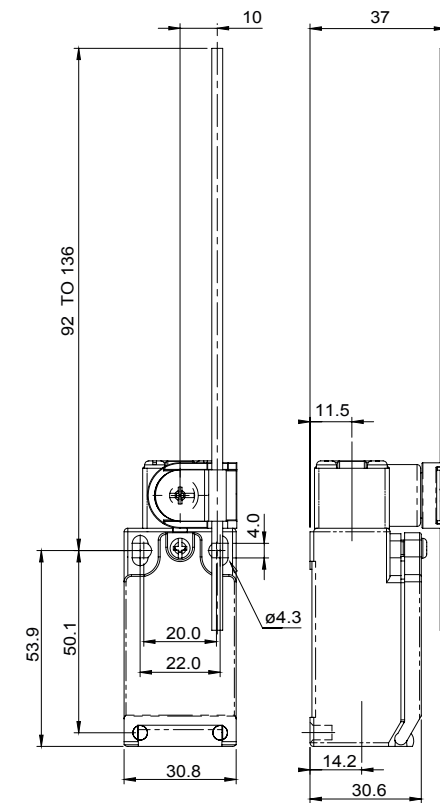
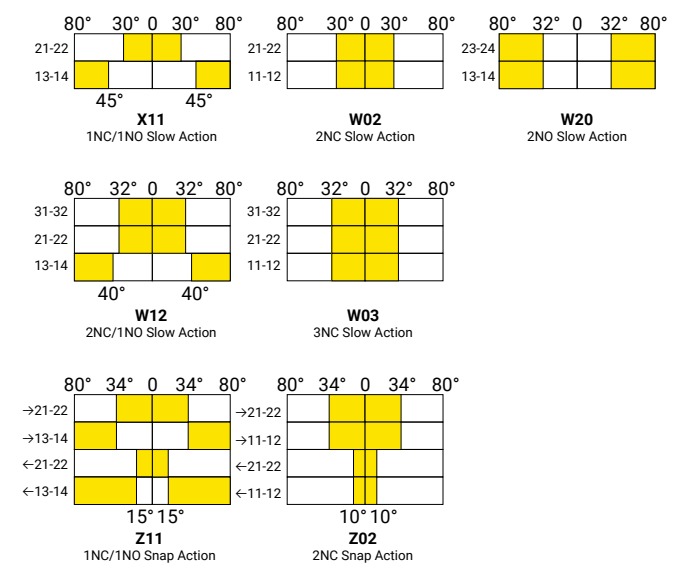


**FTN137: Rod lever type**

FTN	1	37	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit
	1 - Without Reset Function	37 - Rod lever type	<b>X11</b> - 1NC/1NO Slow Action <b>W02</b> - 2NC Slow Action <b>W20</b> - 2NO Slow Action <b>W12</b> - 2NC/1NO Slow Action <b>W03</b> - 3NC Slow Action <b>Z11</b> - 1NC/1NO Snap Action <b>Z02</b> - 2NC Snap Action	Standard: <b>BLANK</b> - M16 On request: <b>M</b> - M20 <b>N</b> - 1/2NPT <b>G1</b> - PG11 <b>G3</b> - PG13.5 <b>C</b> - Connector

Slow Action and Snap Action: **Type "Zb"**

**OPERATION DIAGRAMS**

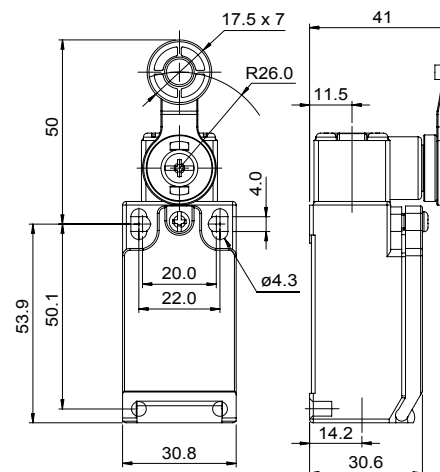
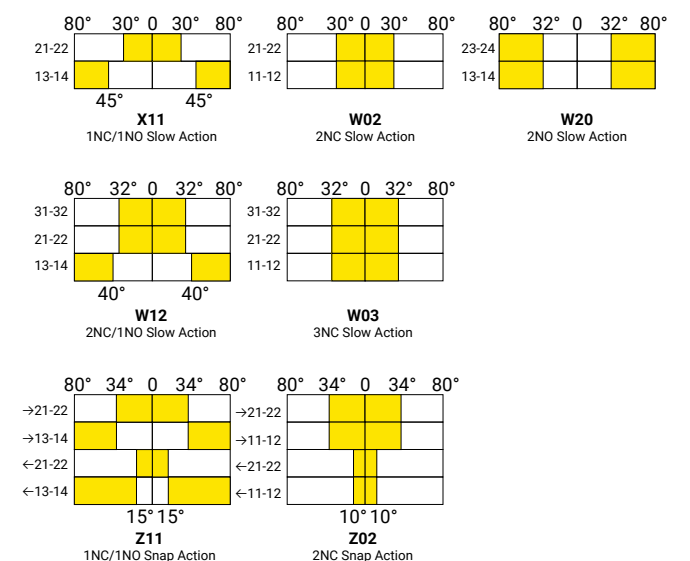


**FTN138: ø18 PA roller lever**

FTN	1	38	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit
	1 - Without Reset Function	38 - ø18 PA roller lever	<b>X11</b> - 1NC/1NO Slow Action <b>W02</b> - 2NC Slow Action <b>W20</b> - 2NO Slow Action <b>W12</b> - 2NC/1NO Slow Action <b>W03</b> - 3NC Slow Action <b>Z11</b> - 1NC/1NO Snap Action <b>Z02</b> - 2NC Snap Action	Standard: <b>BLANK</b> - M16 On request: <b>M</b> - M20 <b>N</b> - 1/2NPT <b>G1</b> - PG11 <b>G3</b> - PG13.5 <b>C</b> - Connector

Slow Action and Snap Action: **Type "Zb"**

**OPERATION DIAGRAMS**





**FTN139: Variable length roller lever ø18**

FTN	1	39	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit

1 - Without Reset Function

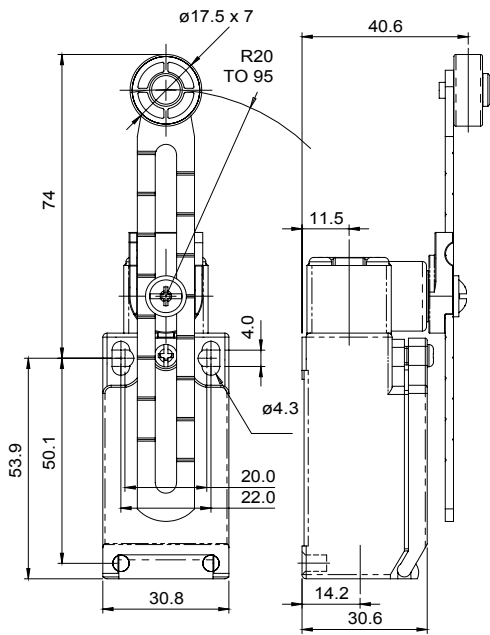
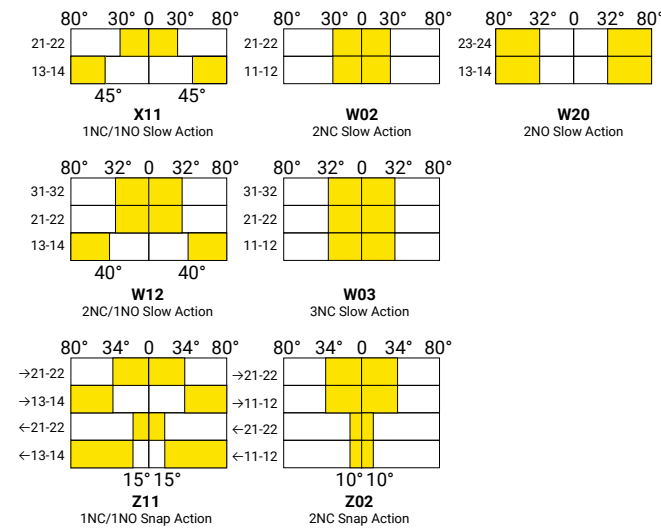
39 - Variable length roller lever ø18

X11 - 1NC/1NO Slow Action  
W02 - 2NC Slow Action  
W20 - 2NO Slow Action  
W12 - 2NC/1NO Slow Action  
W03 - 3NC Slow Action  
Z11 - 1NC/1NO Snap Action  
Z02 - 2NC Snap Action

Standard: **BLANK** - M16  
On request:  
**M** - M20  
**N** - 1/2NPT  
**G1** - PG11  
**G3** - PG13.5  
**C** - Connector

Slow Action and Snap Action: **Type "Zb"**

**OPERATION DIAGRAMS**



**FTN140L: Variable length rubber roller lever ø50 (Long Arm)**

FTN	1	40L	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit

1 - Without Reset Function

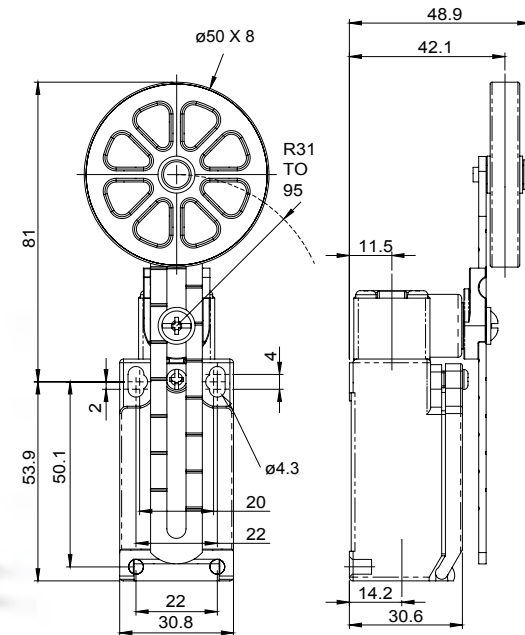
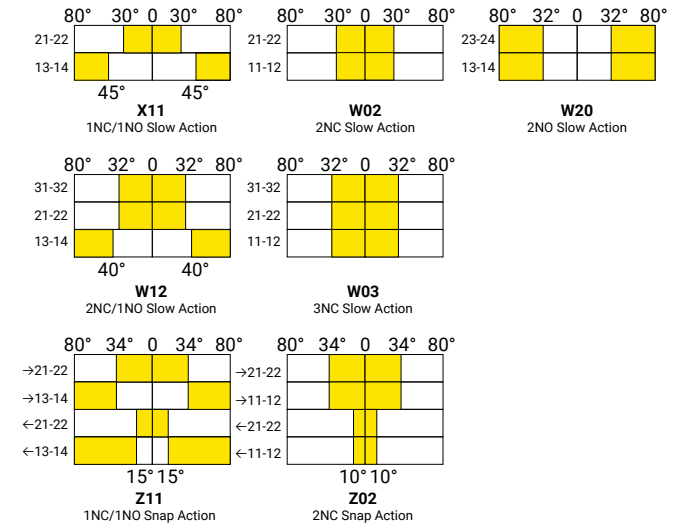
40L - Variable length rubber roller lever ø50 (Long Arm)

X11 - 1NC/1NO Slow Action  
W02 - 2NC Slow Action  
W20 - 2NO Slow Action  
W12 - 2NC/1NO Slow Action  
W03 - 3NC Slow Action  
Z11 - 1NC/1NO Snap Action  
Z02 - 2NC Snap Action

Standard: **BLANK** - M16  
On request:  
**M** - M20  
**N** - 1/2NPT  
**G1** - PG11  
**G3** - PG13.5  
**C** - Connector

Slow Action and Snap Action: **Type "Zb"**

**OPERATION DIAGRAMS**



**FTN140: Variable length rubber roller lever ø50**

FTN	1	40	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit

1 - Without Reset Function

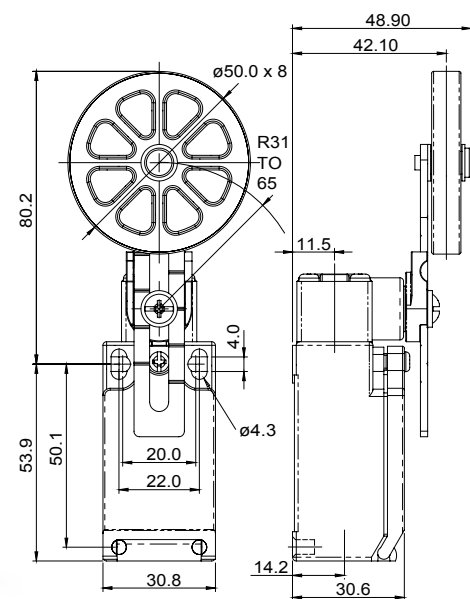
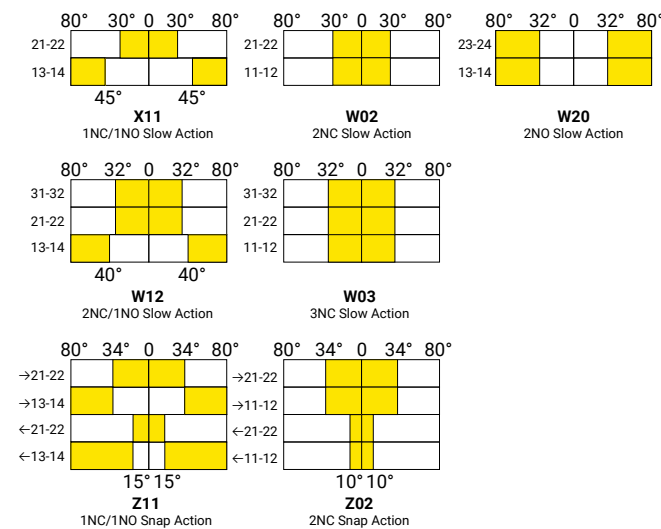
40 - Variable length rubber roller ø50

X11 - 1NC/1NO Slow Action  
W02 - 2NC Slow Action  
W20 - 2NO Slow Action  
W12 - 2NC/1NO Slow Action  
W03 - 3NC Slow Action  
Z11 - 1NC/1NO Snap Action  
Z02 - 2NC Snap Action

Standard: **BLANK** - M16  
On request:  
**M** - M20  
**N** - 1/2NPT  
**G1** - PG11  
**G3** - PG13.5  
**C** - Connector

Slow Action and Snap Action: **Type "Zb"**

**OPERATION DIAGRAMS**



**FTN140R: Variable length and rubber roller lever ø50**

FTN	1	40R	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit

1 - Without Reset Function

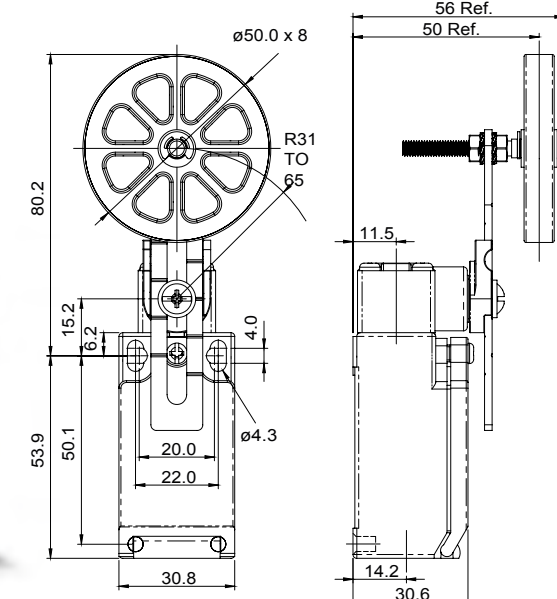
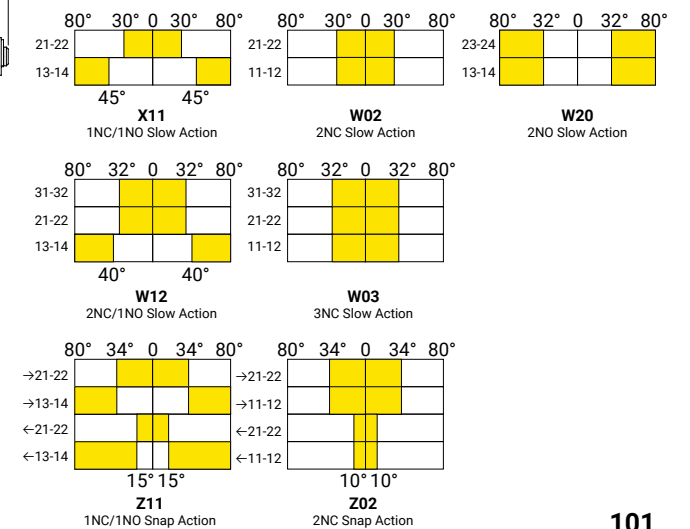
40R - Variable length and rubber roller lever ø50

X11 - 1NC/1NO Slow Action  
W02 - 2NC Slow Action  
W20 - 2NO Slow Action  
W12 - 2NC/1NO Slow Action  
W03 - 3NC Slow Action  
Z11 - 1NC/1NO Snap Action  
Z02 - 2NC Snap Action

Standard: **BLANK** - M16  
On request:  
**M** - M20  
**N** - 1/2NPT  
**G1** - PG11  
**G3** - PG13.5  
**C** - Connector

Slow Action and Snap Action: **Type "Zb"**

**OPERATION DIAGRAMS**





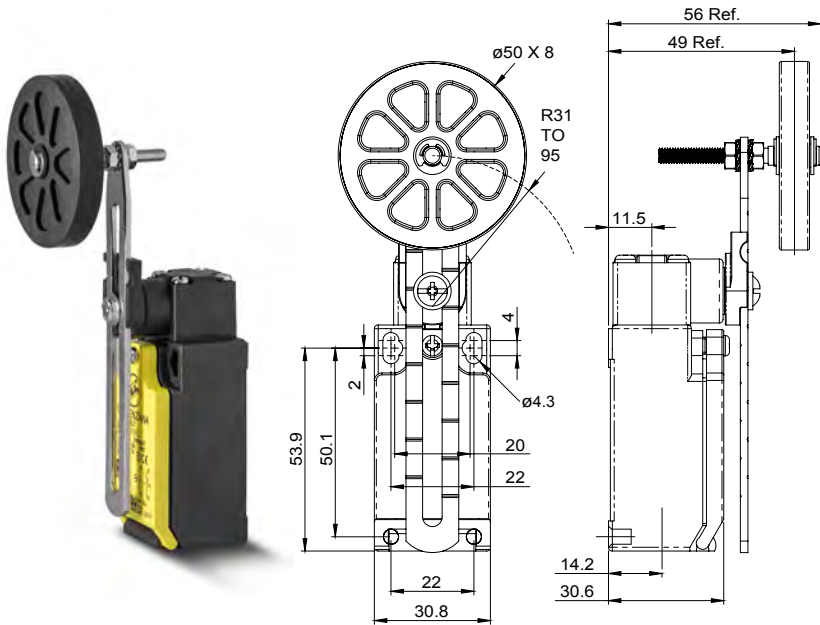
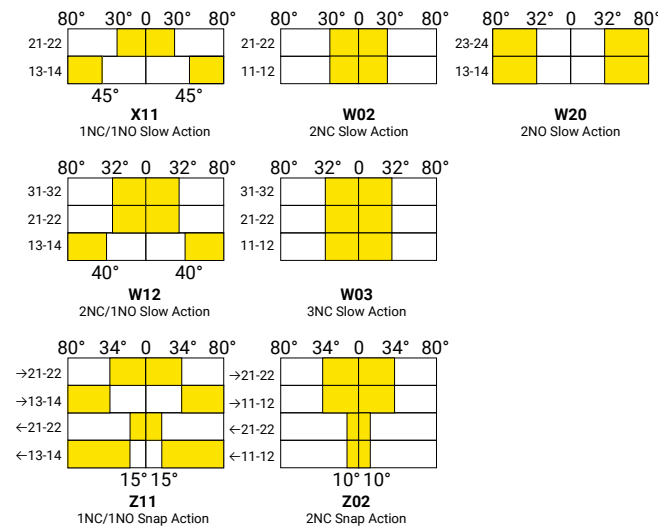
**FTN140RL: Variable length and rubber roller lever ø50 (Long Arm)**

FTN	1	40RL	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit

1 - Without Reset Function  
**40RL** - Variable length and rubber roller lever ø50 (Long Arm)  
**X11** -1NC/1NO Slow Action  
**W02** - 2NC Slow Action  
**W20** - 2NO Slow Action  
**W12** - 2NC/1NO Slow Action  
**W03** - 3NC Slow Action  
**Z11** - 1NC/1NO Snap Action  
**Z02** - 2NC Snap Action  
Standard: **BLANK** - M16  
On request:  
**M** - M20  
**N** - 1/2NPT  
**G1** - PG11  
**G3** - PG13.5  
**C** - Connector

Slow Action and Snap Action: **Type "Zb"**

**OPERATION DIAGRAMS**



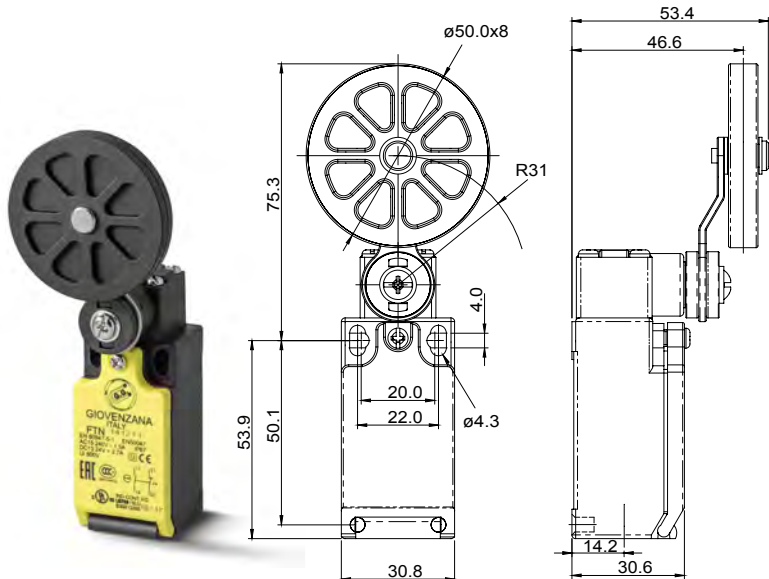
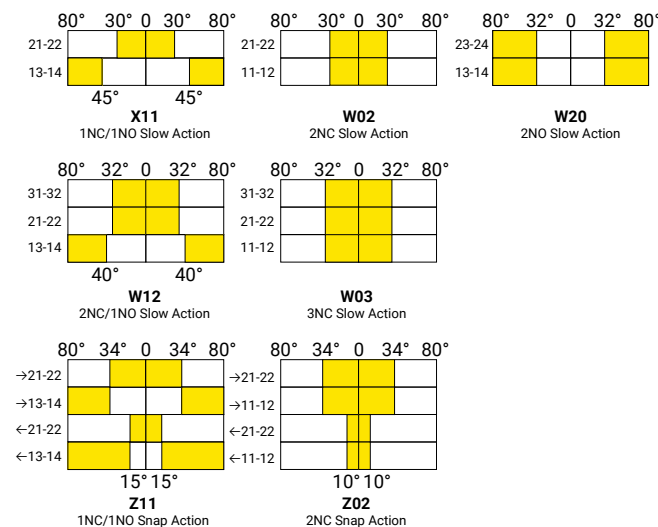
**FTN141: ø50 Rubber roller lever**

FTN	1	41	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit

1 - Without Reset Function  
**41** - ø50 Rubber roller lever  
**X11** -1NC/1NO Slow Action  
**W02** - 2NC Slow Action  
**W20** - 2NO Slow Action  
**W12** - 2NC/1NO Slow Action  
**W03** - 3NC Slow Action  
**Z11** - 1NC/1NO Snap Action  
**Z02** - 2NC Snap Action  
Standard: **BLANK** - M16  
On request:  
**M** - M20  
**N** - 1/2NPT  
**G1** - PG11  
**G3** - PG13.5  
**C** - Connector

Slow Action and Snap Action: **Type "Zb"**

**OPERATION DIAGRAMS**



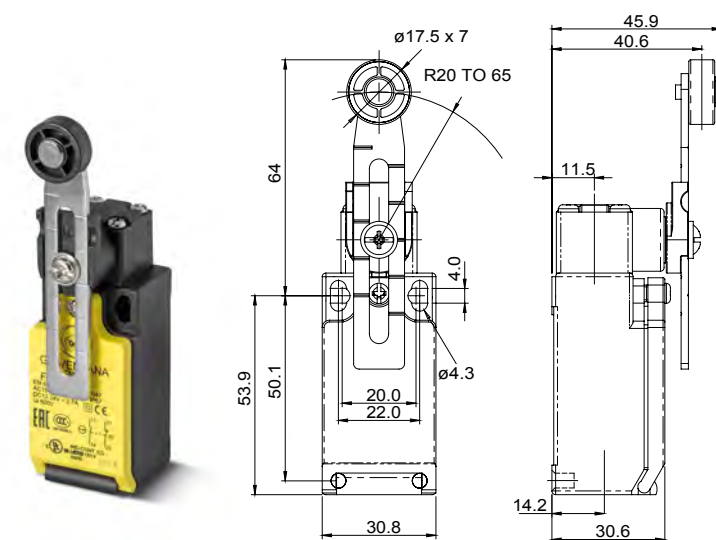
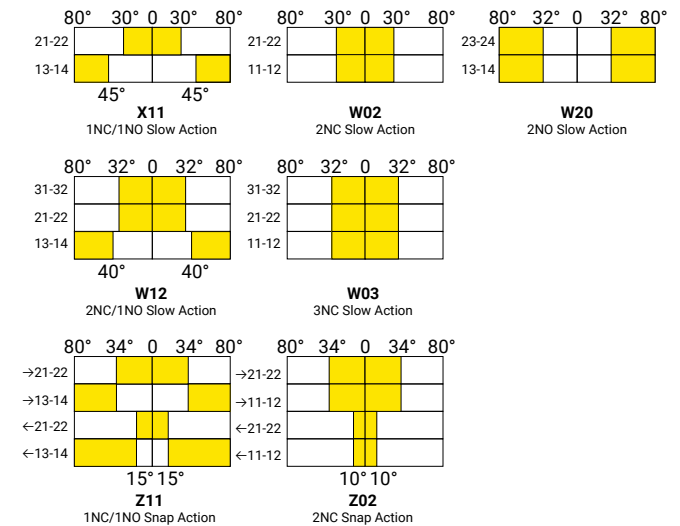
**FTN144: Variable length roller lever ø18**

FTN	1	44	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit

1 - Without Reset Function  
**44** - Variable length roller lever ø18  
**X11** -1NC/1NO Slow Action  
**W02** - 2NC Slow Action  
**W20** - 2NO Slow Action  
**W12** - 2NC/1NO Slow Action  
**W03** - 3NC Slow Action  
**Z11** - 1NC/1NO Snap Action  
**Z02** - 2NC Snap Action  
Standard: **BLANK** - M16  
On request:  
**M** - M20  
**N** - 1/2NPT  
**G1** - PG11  
**G3** - PG13.5  
**C** - Connector

Slow Action and Snap Action: **Type "Zb"**

**OPERATION DIAGRAMS**



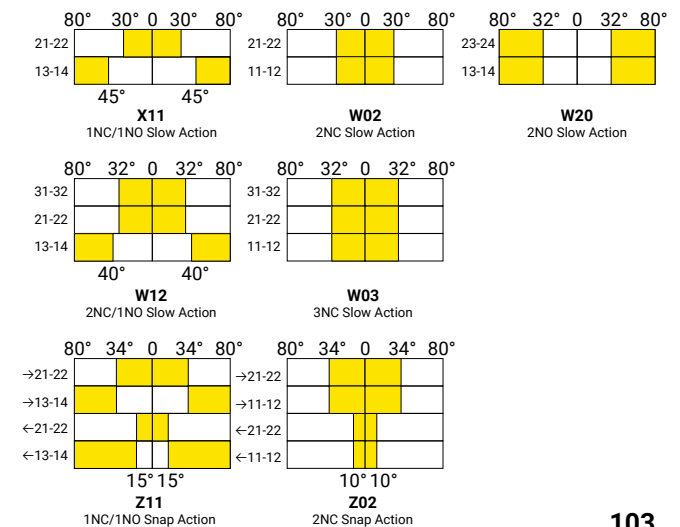
**FTN144S: Variable sawtooth length roller lever ø18**

FTN	1	44S	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit

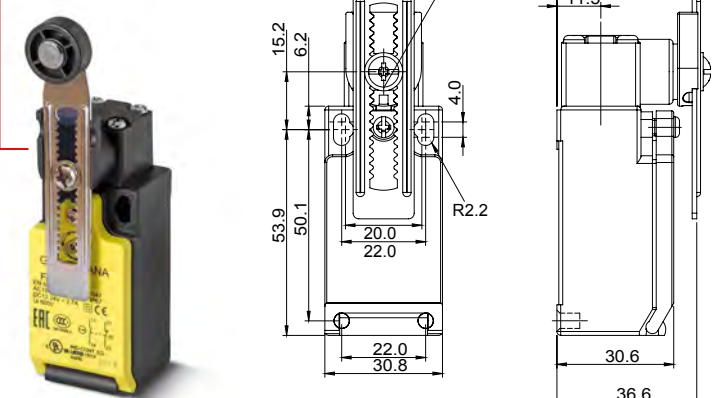
1 - Without Reset Function  
**44S** - Variable sawtooth length roller lever ø18  
**X11** -1NC/1NO Slow Action  
**W02** - 2NC Slow Action  
**W20** - 2NO Slow Action  
**W12** - 2NC/1NO Slow Action  
**W03** - 3NC Slow Action  
**Z11** - 1NC/1NO Snap Action  
**Z02** - 2NC Snap Action  
Standard: **BLANK** - M16  
On request:  
**M** - M20  
**N** - 1/2NPT  
**G1** - PG11  
**G3** - PG13.5  
**C** - Connector

Slow Action and Snap Action: **Type "Zb"**

**OPERATION DIAGRAMS**



**BEST SAFETY SYSTEM**





**FTN1R SERIES - GENERAL CHARACTERISTICS**

<b>FTN1R Series one threaded conduit entry</b>	Standard: M16; On request: M20, 1/2NPT, PG11, PG13.5, Connector			
<b>Protection degree</b>	IP67 according to EN60529 with cable gland having equal or higher protection degree			
<b>Positive opening operation</b>	NC contact ⊕			
<b>Utilization category</b>	<b>Contact type</b>	<b>Categories/Ratings</b>		
	<b>X11 - W02 - W20</b>	A600 Q600	AC15 400V 4A	DC13 24V 6A
	<b>Z11 - Z02</b>	B600 Q600		
	<b>W12 - W03</b>	A300 Q300		
<b>Minimum admissible current</b>	5V, 5mA, DC			
<b>Insulation resistance</b>	100MΩ min (DC 500V)			
<b>Contact resistance</b>	25mΩ max (Initial)			
<b>Max Switching speed</b>	250 mm/s			
<b>Max Switching frequency</b>	6.000 operations per hour			
<b>Enclosure material</b>	UL approved glass-filled polybutylene terephthalate			
<b>Operating temperature</b>	Min -25°C (-18°F) / Max 80°C (+176°F)			
<b>Mechanical life expectancy</b>	1x10 <sup>6</sup> cycles min			
<b>Electrically life expectancy</b>	150.000 cycles min			
<b>Vibration resistance</b>	IEC 68-2-6, 10-55Hz ± 1Hz, Excursion: 0.35mm, 1 octave/min			
<b>Fixing</b>	2xM4			

**FTN1R SERIES - ELECTRICAL CHARACTERISTICS**

<b>Rated thermal current (I<sub>th</sub>)</b>	10A
<b>Rated insulation voltage (U<sub>i</sub>)</b>	500V AC
<b>Rated impulse withstand voltage (U<sub>imp</sub>)</b>	2500V AC
<b>Pollution degree</b>	3
<b>Protection against electric shock</b>	Class II (Double insulation)

**FTN1R SERIES - STANDARDS & APPROVALS**

<b>Standards</b>	EN60947-5-1, UL508, EN50047
<b>Approvals</b>	cULus, EAC and CCC marked for all applicable directives



**Operating force - FTN1R SERIES**

TYPE	CONTACT BLOCK		OPERATING TRAVEL		OPERATING FORCE	TOTAL TRAVEL
			PT	PT2nd	OF	
FTN1R31	X11	1NC/1NO Slow Action	2.4 mm	3.4mm	7.5 N	6.0 mm
	W02	2NC Slow Action	2.4 mm	-	7.5 N	
	W20	2NO Slow Action	2.4 mm	-	9.5 N	
	W12	2NC/1NO Slow Action	2.3 mm	3.0mm	7.5 N	
	W03	3NC Slow Action	2.3 mm	-	7.5 N	
	Z11	1NC/1NO Snap Action	2.7 mm	-	6.8 N	
	Z02	2NC Snap Action	2.7 mm	-	6.8 N	



TYPE	CONTACT BLOCK		OPERATING TRAVEL		OPERATING FORCE	TOTAL TRAVEL
			PT	PT2nd	OF	
FTN1R34	X11	1NC/1NO Slow Action	2.4 mm	3.3 mm	7.5 N	6.0 mm
	W02	2NC Slow Action	2.4 mm	-	7.5 N	
	W20	2NO Slow Action	2.4 mm	-	9.5 N	
	W12	2NC/1NO Slow Action	2.3 mm	3.0 mm	7.5 N	
	W03	3NC Slow Action	2.3 mm	-	7.5 N	
	Z11	1NC/1NO Snap Action	2.6 mm	-	6.8 N	
	Z02	2NC Snap Action	2.6 mm	-	6.8 N	
FTN1R37	X11	1NC/1NO Slow Action	35°	50°	1.8 N	80°
	W02	2NC Slow Action	35°	-	1.8 N	
	W20	2NO Slow Action	35°	-	1.8 N	
	W12	2NC/1NO Slow Action	32°	40°	1.8 N	
	W03	3NC Slow Action	32°	-	1.8 N	
	Z11	1NC/1NO Snap Action	40°	-	1.9 N	
	Z02	2NC Snap Action	40°	-	1.9 N	
FTN1R38	X11	1NC/1NO Slow Action	35°	50°	6.5 N	80°
	W02	2NC Slow Action	35°	-	6.5 N	
	W20	2NO Slow Action	32°	-	6.5 N	
	W12	2NC/1NO Slow Action	32°	40°	6.5 N	
	W03	3NC Slow Action	32°	-	6.5 N	
	Z11	1NC/1NO Snap Action	40°	-	5.3 N	
	Z02	2NC Snap Action	40°	-	5.3 N	
FTN1R39	X11	1NC/1NO Slow Action	35°	50°	6.5 N	80°
	W02	2NC Slow Action	35°	-	6.5 N	
	W20	2NO Slow Action	35°	-	6.5 N	
	W12	2NC/1NO Slow Action	32°	40°	6.5 N	
	W03	3NC Slow Action	32°	-	6.5 N	
	Z11	1NC/1NO Snap Action	40°	-	5.3 N	
	Z02	2NC Snap Action	40°	-	5.3 N	
FTN1R40	X11	1NC/1NO Slow Action	35°	50°	6.5 N	80°
	W02	2NC Slow Action	35°	-	6.5 N	
	W20	2NO Slow Action	35°	-	6.5 N	
	W12	2NC/1NO Slow Action	32°	40°	6.5 N	
	W03	3NC Slow Action	32°	-	6.5 N	
	Z11	1NC/1NO Snap Action	40°	-	5.3 N	
	Z02	2NC Snap Action	40°	-	5.3 N	
FTN1R40R	X11	1NC/1NO Slow Action	35°	50°	6.5 N	80°
	W02	2NC Slow Action	35°	-	6.5 N	
	W20	2NO Slow Action	35°	-	6.5 N	
	W12	2NC/1NO Slow Action	32°	40°	6.5 N	
	W03	3NC Slow Action	32°	-	6.5 N	
	Z11	1NC/1NO Snap Action	40°	-	5.3 N	
	Z02	2NC Snap Action	40°	-	5.3 N	
FTN1R41	X11	1NC/1NO Slow Action	35°	50°	6.5 N	80°
	W02	2NC Slow Action	35°	-	6.5 N	
	W20	2NO Slow Action	35°	-	6.5 N	
	W12	2NC/1NO Slow Action	32°	40°	6.5 N	
	W03	3NC Slow Action	32°	-	6.5 N	
	Z11	1NC/1NO Snap Action	40°	-	5.3 N	
	Z02	2NC Snap Action	40°	-	5.3 N	
FTN1R44	X11	1NC/1NO Slow Action	35°	50°	6.5 N	80°
	W02	2NC Slow Action	35°	-	6.5 N	
	W20	2NO Slow Action	35°	-	6.5 N	
	W12	2NC/1NO Slow Action	32°	40°	6.5 N	
	W03	3NC Slow Action	32°	-	6.5 N	
	Z11	1NC/1NO Snap Action	40°	-	5.3 N	
	Z02	2NC Snap Action	40°	-	5.3 N	



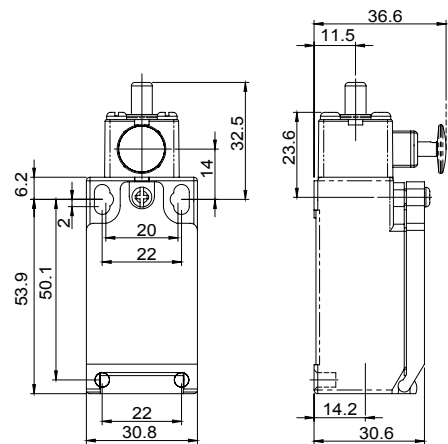
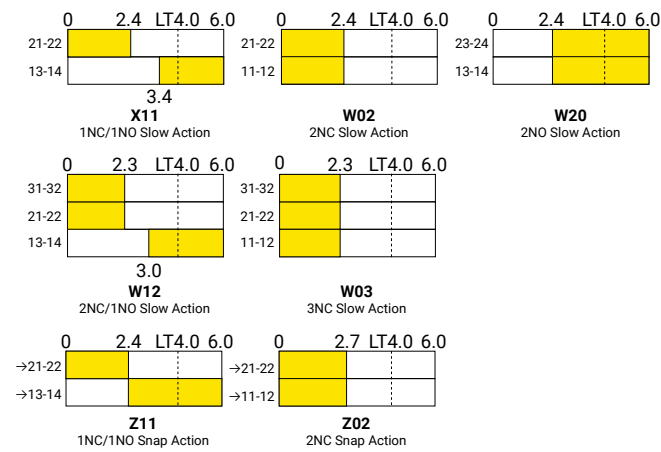


**FTN1R31: Push plunger type**

FTN	1R	31	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit
	1 - With Reset Function	31 - Push plunger type	<b>X11</b> - 1NC/1NO Slow Action <b>W02</b> - 2NC Slow Action <b>W20</b> - 2NO Slow Action <b>W12</b> - 2NC/1NO Slow Action <b>W03</b> - 3NC Slow Action <b>Z11</b> - 1NC/1NO Snap Action <b>Z02</b> - 2NC Snap Action	Standard: <b>BLANK</b> - M16 On request: <b>M</b> - M20 <b>N</b> - 1/2NPT <b>G1</b> - PG11 <b>G3</b> - PG13.5 <b>C</b> - Connector

Slow Action and Snap Action: **Type "Zb"**

**OPERATION DIAGRAMS**

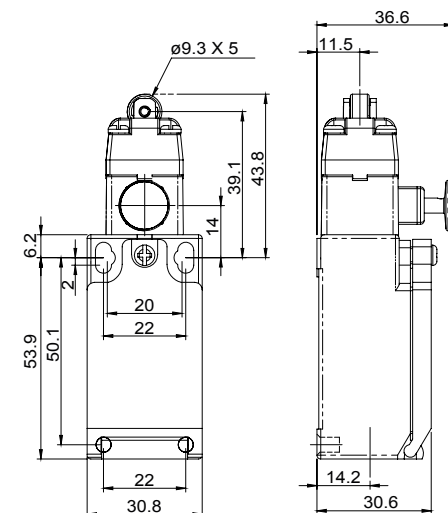
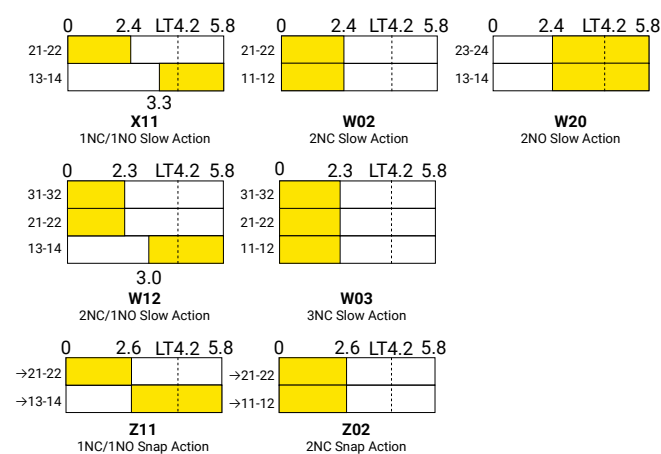


**FTN1R34: Roller plunger type**

FTN	1R	34	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit
	1 - With Reset Function	34 - Roller plunger type	<b>X11</b> - 1NC/1NO Slow Action <b>W02</b> - 2NC Slow Action <b>W20</b> - 2NO Slow Action <b>W12</b> - 2NC/1NO Slow Action <b>W03</b> - 3NC Slow Action <b>Z11</b> - 1NC/1NO Snap Action <b>Z02</b> - 2NC Snap Action	Standard: <b>BLANK</b> - M16 On request: <b>M</b> - M20 <b>N</b> - 1/2NPT <b>G1</b> - PG11 <b>G3</b> - PG13.5 <b>C</b> - Connector

Slow Action and Snap Action: **Type "Zb"**

**OPERATION DIAGRAMS**

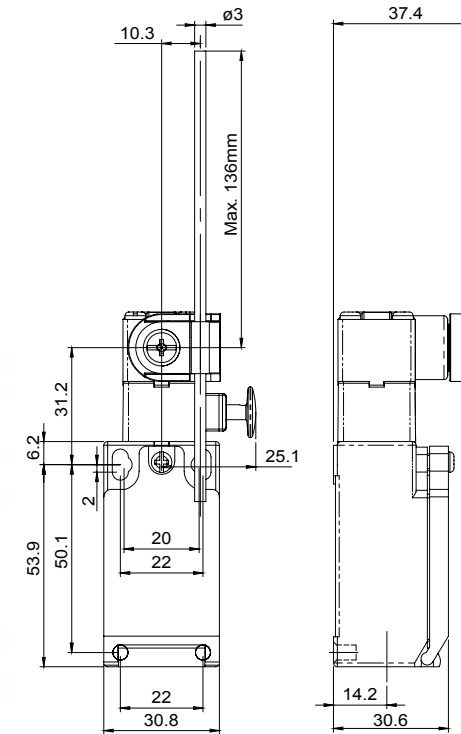
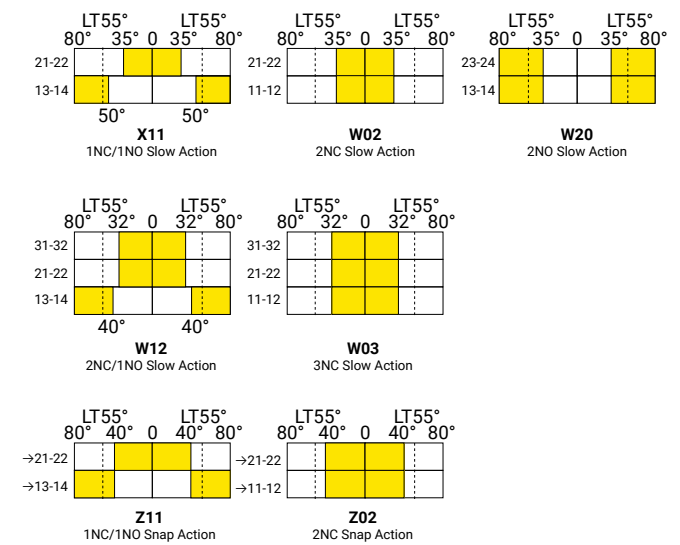


**FTN1R37: Rod lever type**

FTN	1R	37	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit
	1 - With Reset Function	37 - Rod lever type	<b>X11</b> - 1NC/1NO Slow Action <b>W02</b> - 2NC Slow Action <b>W20</b> - 2NO Slow Action <b>W12</b> - 2NC/1NO Slow Action <b>W03</b> - 3NC Slow Action <b>Z11</b> - 1NC/1NO Snap Action <b>Z02</b> - 2NC Snap Action	Standard: <b>BLANK</b> - M16 On request: <b>M</b> - M20 <b>N</b> - 1/2NPT <b>G1</b> - PG11 <b>G3</b> - PG13.5 <b>C</b> - Connector

Slow Action and Snap Action: **Type "Zb"**

**OPERATION DIAGRAMS**

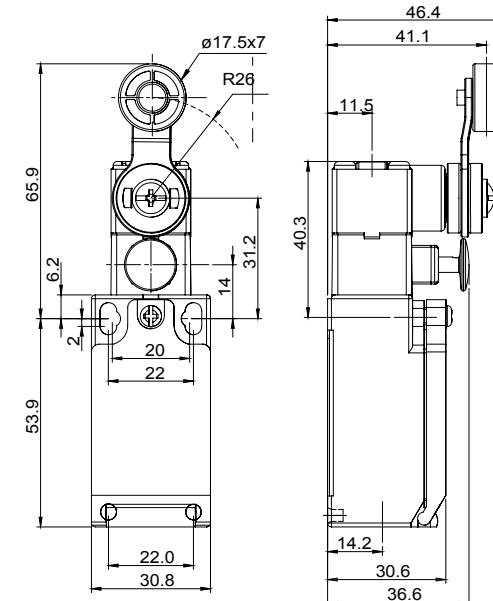
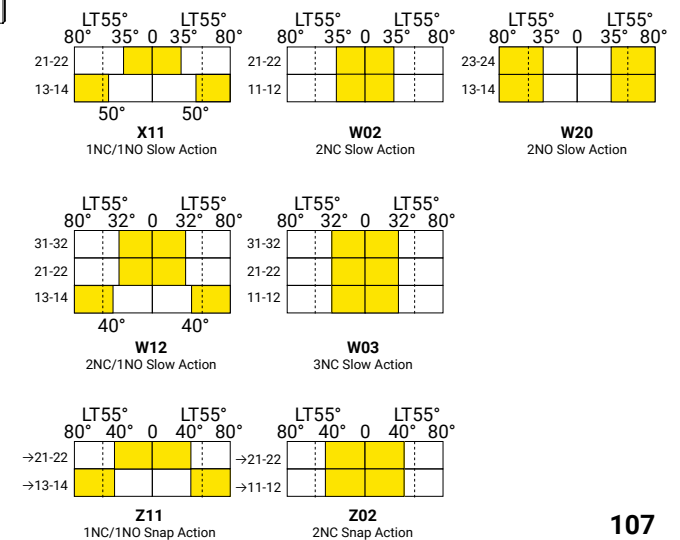


**FTN1R38: Roller arm type**

FTN	1R	38	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit
	1 - With Reset Function	38 - Roller arm type	<b>X11</b> - 1NC/1NO Slow Action <b>W02</b> - 2NC Slow Action <b>W20</b> - 2NO Slow Action <b>W12</b> - 2NC/1NO Slow Action <b>W03</b> - 3NC Slow Action <b>Z11</b> - 1NC/1NO Snap Action <b>Z02</b> - 2NC Snap Action	Standard: <b>BLANK</b> - M16 On request: <b>M</b> - M20 <b>N</b> - 1/2NPT <b>G1</b> - PG11 <b>G3</b> - PG13.5 <b>C</b> - Connector

Slow Action and Snap Action: **Type "Zb"**

**OPERATION DIAGRAMS**







**FTN1R39: Adjustable roller arm type (Long Arm)**

FTN	1R	39	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit

1 - With Reset Function

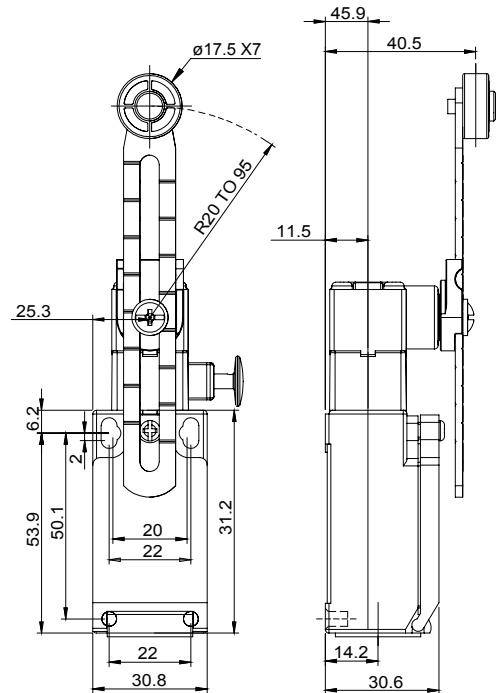
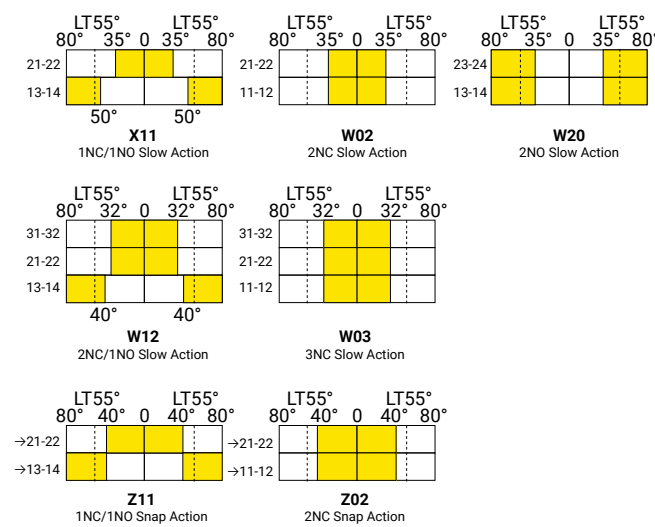
39 - Adjustable roller arm type (Long Arm)

X11 - 1NC/1NO Slow Action  
W02 - 2NC Slow Action  
W20 - 2NO Slow Action  
W12 - 2NC/1NO Slow Action  
W03 - 3NC Slow Action  
Z11 - 1NC/1NO Snap Action  
Z02 - 2NC Snap Action

Standard: **BLANK** - M16  
On request:  
**M** - M20  
**N** - 1/2NPT  
**G1** - PG11  
**G3** - PG13.5  
**C** - Connector

Slow Action and Snap Action: **Type "Zb"**

**OPERATION DIAGRAMS**



**FTN1R40R: Two ways adjustable roller arm type**

FTN	1R	40R	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit

1 - With Reset Function

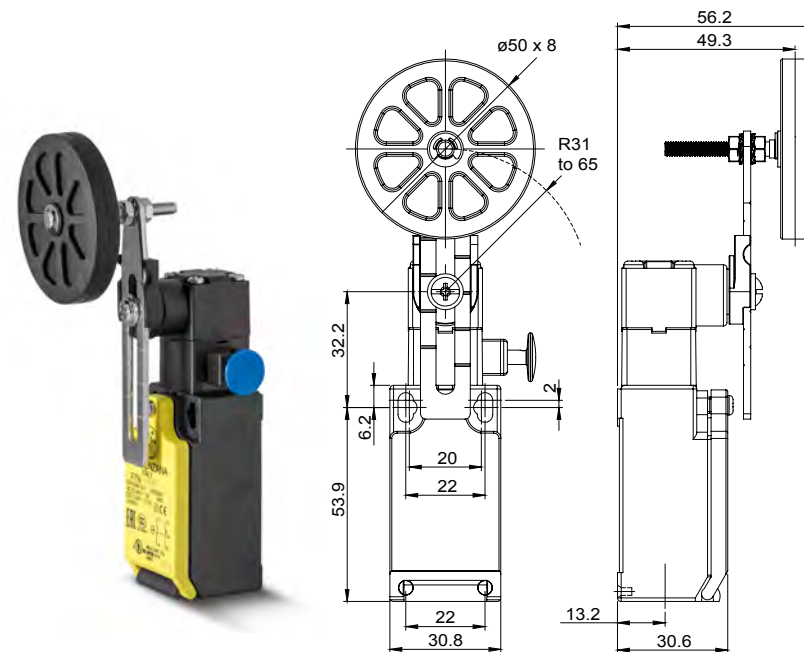
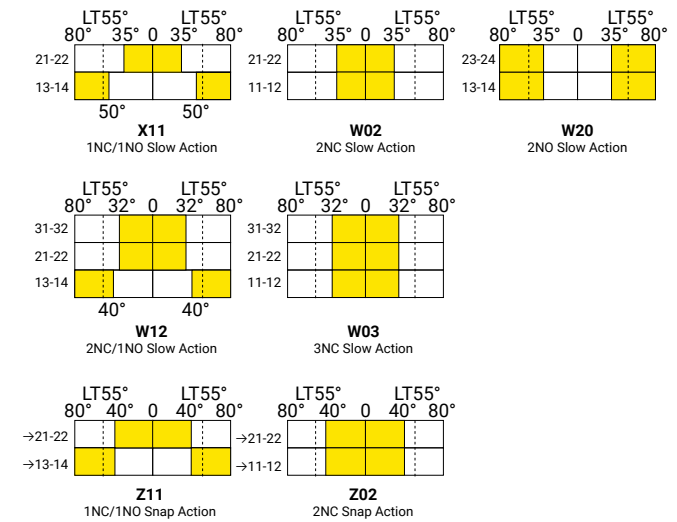
40R - Two ways adjustable roller arm type

X11 - 1NC/1NO Slow Action  
W02 - 2NC Slow Action  
W20 - 2NO Slow Action  
W12 - 2NC/1NO Slow Action  
W03 - 3NC Slow Action  
Z11 - 1NC/1NO Snap Action  
Z02 - 2NC Snap Action

Standard: **BLANK** - M16  
On request:  
**M** - M20  
**N** - 1/2NPT  
**G1** - PG11  
**G3** - PG13.5  
**C** - Connector

Slow Action and Snap Action: **Type "Zb"**

**OPERATION DIAGRAMS**



**FTN1R40: Adjustable roller arm type (Big Arm)**

FTN	1R	40	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit

1 - With Reset Function

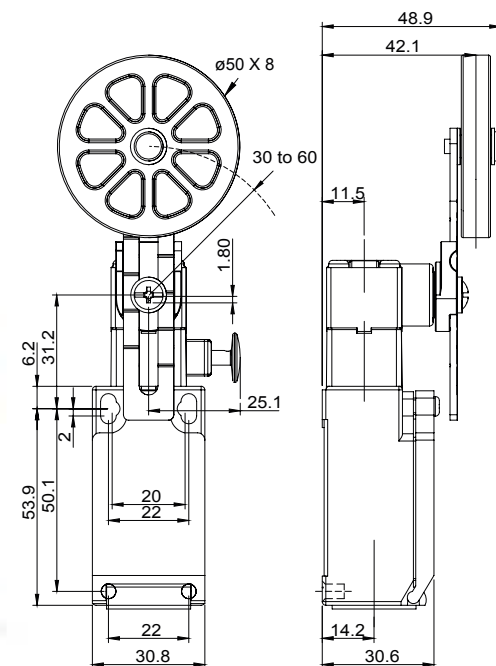
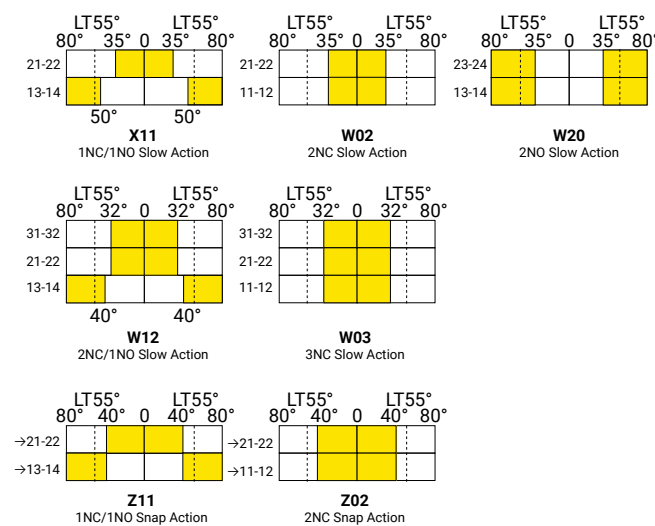
40 - Adjustable roller arm type (Big Arm)

X11 - 1NC/1NO Slow Action  
W02 - 2NC Slow Action  
W20 - 2NO Slow Action  
W12 - 2NC/1NO Slow Action  
W03 - 3NC Slow Action  
Z11 - 1NC/1NO Snap Action  
Z02 - 2NC Snap Action

Standard: **BLANK** - M16  
On request:  
**M** - M20  
**N** - 1/2NPT  
**G1** - PG11  
**G3** - PG13.5  
**C** - Connector

Slow Action and Snap Action: **Type "Zb"**

**OPERATION DIAGRAMS**



**FTN1R41: Big roller arm type**

FTN	1R	41	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit

1 - With Reset Function

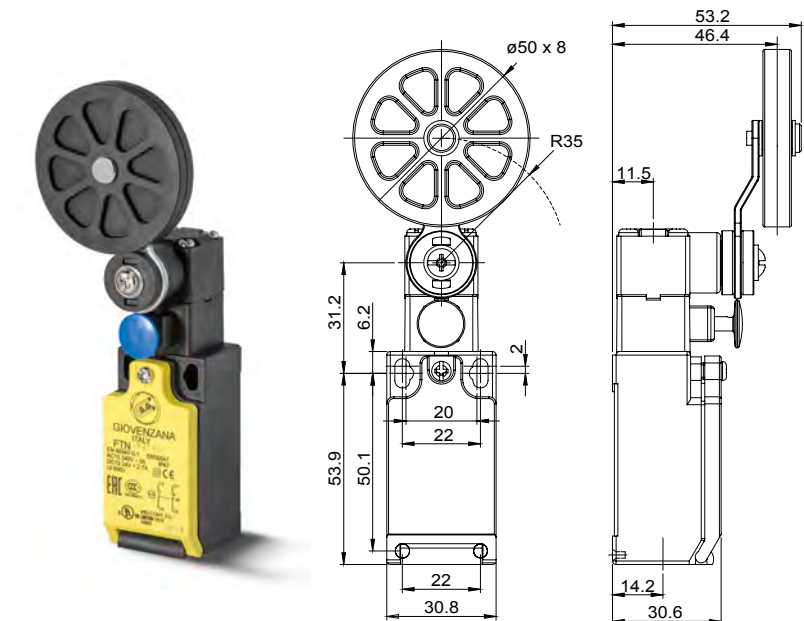
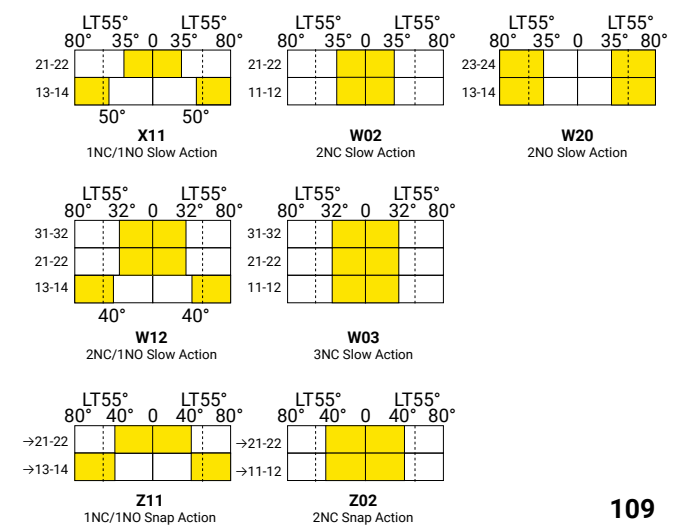
41 - Big roller arm type

X11 - 1NC/1NO Slow Action  
W02 - 2NC Slow Action  
W20 - 2NO Slow Action  
W12 - 2NC/1NO Slow Action  
W03 - 3NC Slow Action  
Z11 - 1NC/1NO Snap Action  
Z02 - 2NC Snap Action

Standard: **BLANK** - M16  
On request:  
**M** - M20  
**N** - 1/2NPT  
**G1** - PG11  
**G3** - PG13.5  
**C** - Connector

Slow Action and Snap Action: **Type "Zb"**

**OPERATION DIAGRAMS**



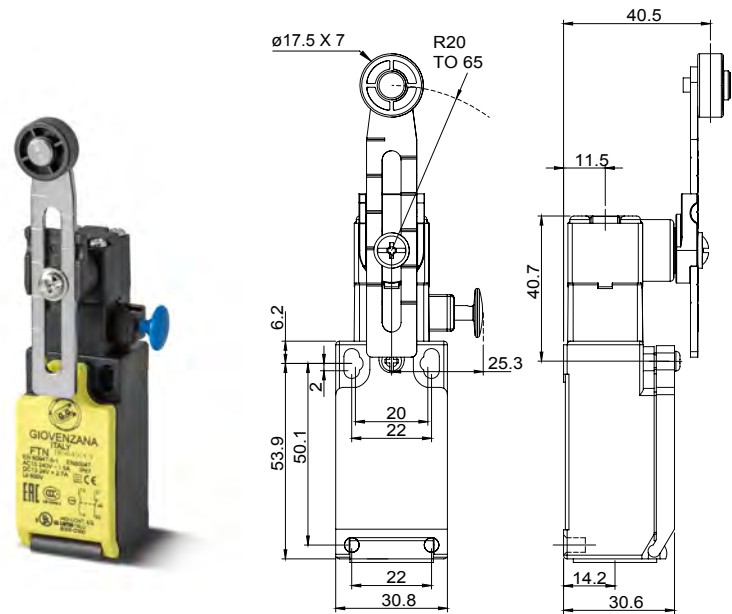
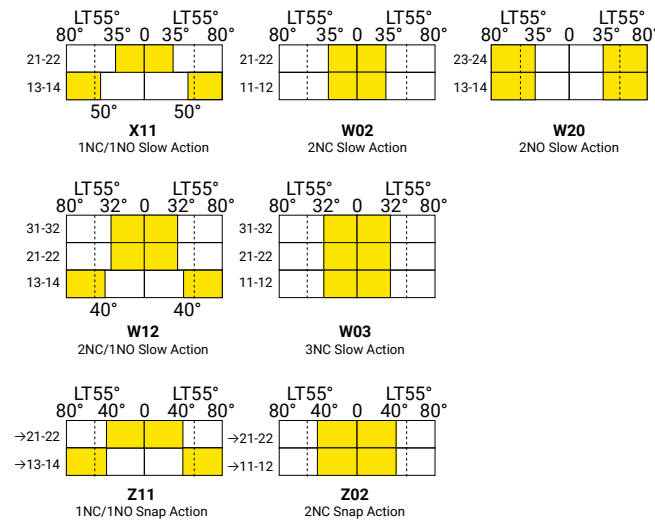


**FTN1R44: Adjustable roller arm type (Standard Arm)**

FTN	1R	44	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit
	1 - With Reset Function	44 - Adjustable roller arm type (Standard Arm)	<b>X11</b> - 1NC/1NO Slow Action <b>W02</b> - 2NC Slow Action <b>W20</b> - 2NO Slow Action <b>W12</b> - 2NC/1NO Slow Action <b>W03</b> - 3NC Slow Action <b>Z11</b> - 1NC/1NO Snap Action <b>Z02</b> - 2NC Snap Action	Standard: <b>BLANK</b> - M16 On request: <b>M</b> - M20 <b>N</b> - 1/2NPT <b>G1</b> - PG11 <b>G3</b> - PG13.5 <b>C</b> - Connector

Slow Action and Snap Action: **Type "Zb"**

**OPERATION DIAGRAMS**



**ASTRA SERIES - GENERAL CHARACTERISTICS**

<b>Air temperature</b> near the device	During operation: -25 ... +70 For storage: -30 ... +80
<b>Mounting positions</b>	All positions are authorised
<b>Protection against electrical shocks</b> according to IEC 61140	Class II
<b>Degree of protection</b> according to IEC 60529 and EN 60529	IP65

**ASTRA SERIES - ELECTRICAL CHARACTERISTICS**

<b>Rated insulation voltage (Ui)</b> - according to IEC 60947-1 and EN 60947-1 - according to UL 508 and CSA C22-2 n°14	500V (degree of pollution 3) A600, Q600	
<b>Rated impulse withstand voltage (Uimp)</b> according to IEC 60947-1 and EN 60947-1	6kV	
<b>Conventional free air thermal current (Ith)</b> according to IEC 60947-1 θ<40°C	10A	
<b>Short-circuit protection</b> Ue<500V AC - gG (gl)	10A	
<b>Rated operational current</b> Ie / AC-15 (according to IEC 60947-5-1)	24V-50/60Hz 120V-50/60Hz 400V-50/60Hz	10A 6A 4A
Ie / DC-13 (according to IEC 60947-5-1)	24V DC 125V DC 250V DC	6A 0.55A 0.4A
<b>Switching frequency</b>	3600 cycles/h	
<b>Load factor</b>	0.5	
<b>Resistance between contacts</b>	25mΩ	
<b>Connecting terminals</b>	M3.5 (+, -) pozidriv 2 screws with cable clamp	
<b>Terminal for protective conductor</b>	-	
<b>Connecting capacity</b>	0.75 ... 2.5 (1 or 2 x mm <sup>2</sup> )	
<b>Terminal marking</b>	According to IEC 60947-5-1	
<b>Mechanical durability</b>	15 millions of operations T38 > 5 millions of operations T16	

**ASTRA SERIES - STANDARDS & APPROVALS**

<b>Standards</b>	IEC 60947-5-1, EN 60947-5-1
<b>Approvals</b>	cULus, CSA, IMQ marked for all applicable directives

