

**Momentary-contact limit switches
 K244 series**

■ **Description**

FUJI K244 type limit switches have an excellent performance. K244 limit switches employ a highly dependable and long lasting double break silver alloy contact system. These can be expected to perform more than 10 million mechanical operations and a rate of 3,000 operations per hour. The large variety of operating types such as standard stroke, snap-action type, make-before-break type and extended stroke type, etc. allow you to select a suitable limit switch that fully meets your requirements. K244 limit switches are widely used for industrial machinery such as machine tools, printing machines, conveyors, automatic machines and door interlocking and similar applications. The aluminum die-cast housing can also be supplied in an oil and water proof version.

■ **Technical data**

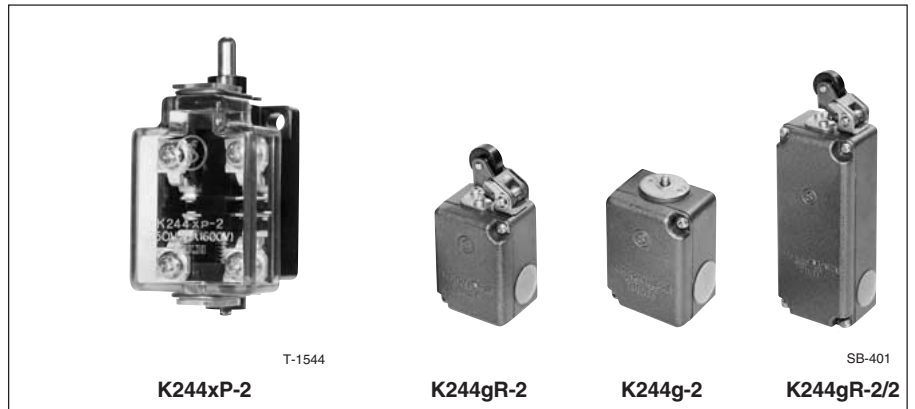
- Insulation resistance:
 Over 100MΩ at 500V DC
- Dielectric strength:
 2500V AC rms 1 minute
- Max. operating cycle:
 3000 cycles per hour
- Life expectancy
 Mechanical: 10 million operations
 Electrical:
 ● K244-2, 2U and 2V
 3.3 million operations at 24 to 550V AC 3A
 ● K244-2S
 1.3 million operations at 24 to 550V AC 3A

■ **Ordering information**

Specify the following:
 1. Type number or ordering code

Example

Limit switch PL
 With enclosure 5
 Standard contact N
 Cast-metal clad enclosure G
 With top roller lever plunger R
 Contact, normal action 1NO+1NC 22
 Ordering code PL5NGR22

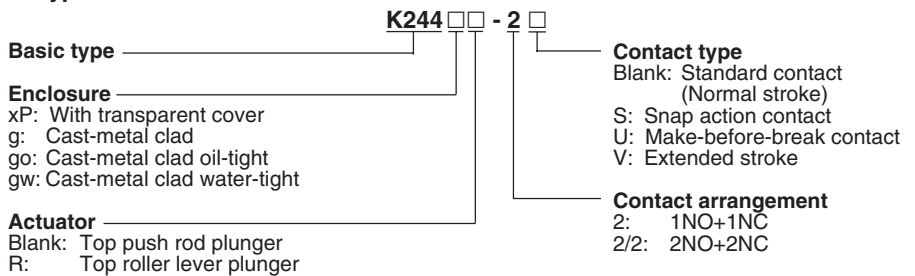


■ **Ratings**

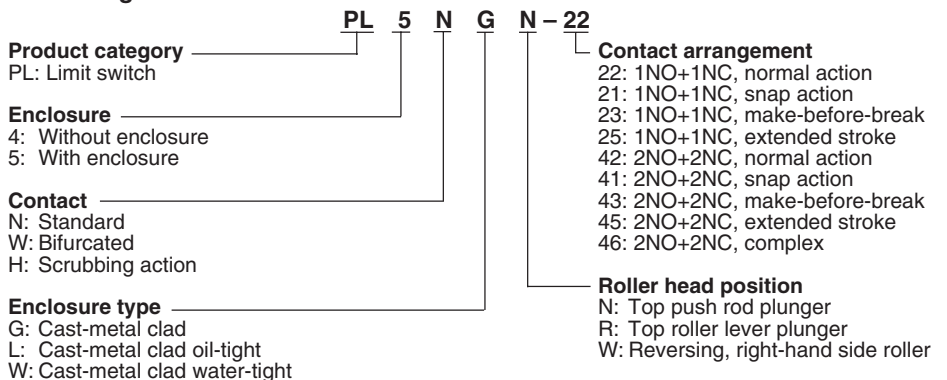
Type	Thermal current (A)	Making current (A)	Breaking current *1		DC Voltage (V)	Current (A)	
			AC Voltage (V)	Current (A)		Resistive	Inductive
K244-2 K244-2U K244-2V	10	50	24	10	24	10	10
			110	10	110	2.2	1.3
			220	10	220	0.9	0.4
			440	10	440	0.4	0.2
K244-2S	10	50	550	10	550	0.32*2	0.15*2
			24	10	24	7	7
			110	10	110	1.5	0.9
			220	10	220	0.63	0.28
			440	10	440	0.28	0.14
			550	10	550	0.22*2	0.1*2

Notes: *1 When NO and NC contacts are wired in the same potential.
 *2 Value of the breaking current when opposite contacts are not applied with potential.

■ **Type number nomenclature**



■ **Ordering code**



Limit Switches

K244

Actuating slider face angles and approach speeds

Although K244 limit switches have an excellent performance they should not be operated at an extremely high speed or extremely low speeds, since these conditions will cause contact trouble and reduce the mechanical life expectancy of the devices. The slider face angles and approach speeds should be kept within the following recommendations.

Push rod plunger type

This type of switch obtains the movement from the vertical travel of the rod.

Speed : Max. 1m/sec
Min. 0.015m/sec

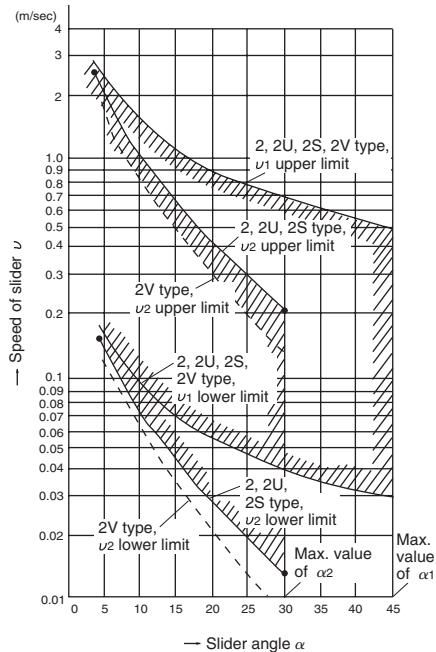
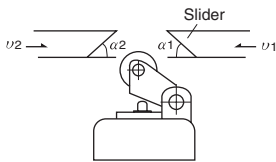
Snap-action types can be used at speeds less than the minimum value.

Roller lever type

The actuating slider face angles and speeds should be within the following range.

The maximum angle of the slider face:
 $\alpha_1=45^\circ$ $\alpha_2=30^\circ$

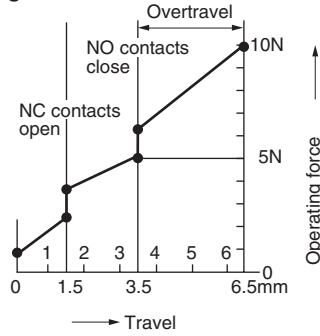
Snap-action type switches can be used at speeds less than the minimum value.



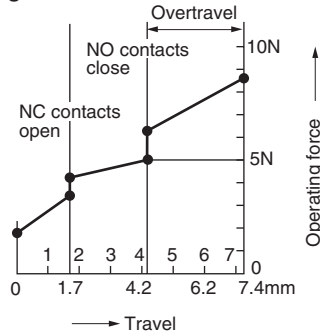
Travel operating force curve (Typical example)

The curve indicates forces to operate the contact.

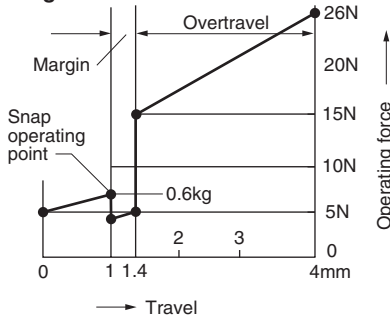
Standard type K244g-2



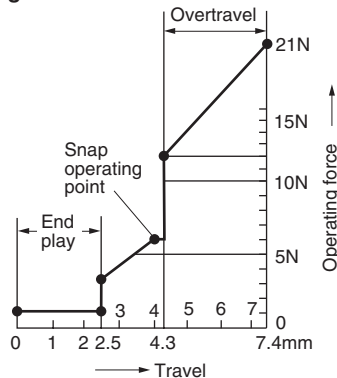
K244gR-2



Snap action contact type K244g-2S



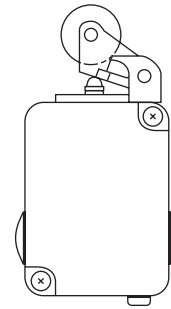
K244gR-2S



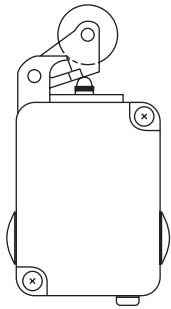
Changing direction of operating roller head

Roller head positions can be shifted by 90° in each direction. The head is attached at the standard position when shipped from factory.

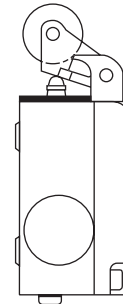
Standard



l type



f type




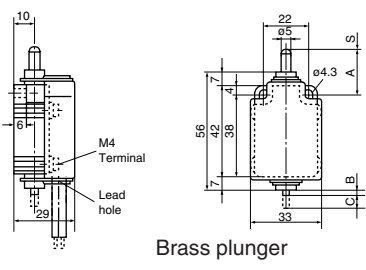

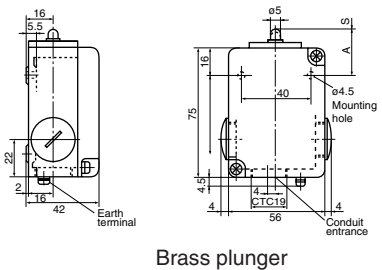

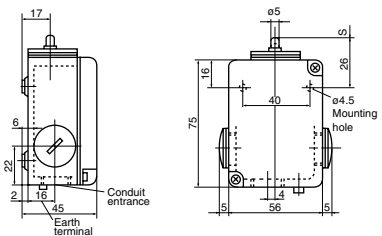
Cable connection

Threaded conduit entrances are provided at 3 locations—left, right and lower side of the limit switch housing. Knockout the plug to carry out wiring. Do not remove plugs from holes not requiring wiring.



Limit Switches K244 Standard type

■ K244 series/Standard

Description	Contact arrangement	Terminal No.	Travel ■ Contact closed □ Contact open	Type	Ordering code	Dimensions, mm																				
Top push rod plunger with transparent plastic cover  SF2025	1NO+1NC		S (mm)			 Brass plunger																				
	Normal stroke			K244xp-2	PL4NN-22																					
	Snap-action			K244xp-2S	PL4NN-21																					
	Make-before-break			K244xp-2U	PL4NN-23																					
Extended stroke			K244xp-2V	PL4NN-25																						
						<table border="1"> <tr> <td></td> <td>-2</td> <td>-2S</td> <td>-2U</td> <td>-2V</td> </tr> <tr> <td>A</td> <td>21</td> <td>19</td> <td>21</td> <td>21</td> </tr> <tr> <td>B</td> <td>1.5</td> <td>1.5</td> <td>1.5</td> <td>1.0</td> </tr> <tr> <td>C</td> <td>6.5</td> <td>1.4</td> <td>6</td> <td>8.5</td> </tr> </table>		-2	-2S	-2U	-2V	A	21	19	21	21	B	1.5	1.5	1.5	1.0	C	6.5	1.4	6	8.5
	-2	-2S	-2U	-2V																						
A	21	19	21	21																						
B	1.5	1.5	1.5	1.0																						
C	6.5	1.4	6	8.5																						
						Mass: 60g																				
Top push rod plunger cast-metal clad  T-1535	1NO+1NC		S (mm)			 Brass plunger																				
	Normal stroke			K244g-2	PL5NGN-22																					
	Snap-action			K244g-2S	PL5NGN-21																					
	Make-before-break			K244g-2U	PL5NGN-23																					
Extended stroke			K244g-2V	PL5NGN-25																						
						<table border="1"> <tr> <td></td> <td>-2</td> <td>-2S</td> <td>-2U</td> <td>-2V</td> </tr> <tr> <td>A</td> <td>26</td> <td>24</td> <td>26</td> <td>26</td> </tr> </table>		-2	-2S	-2U	-2V	A	26	24	26	26										
	-2	-2S	-2U	-2V																						
A	26	24	26	26																						
						Mass: 200g																				
Top push rod plunger oiltight and watertight cast-metal clad  T-1535	1NO+1NC		S (mm)			 Brass plunger																				
	Snap-action			Oiltight K244go-2S	PL5NLN-21																					
				Watertight K244gw-2S	PL5NWN-21																					
						Mass: 210g																				

■ Contact action (Typical)


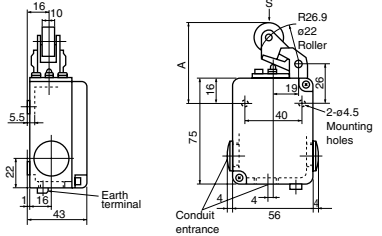

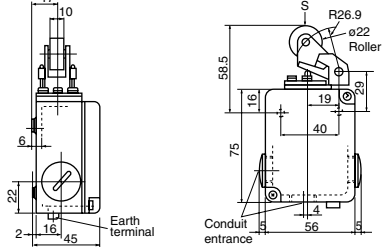

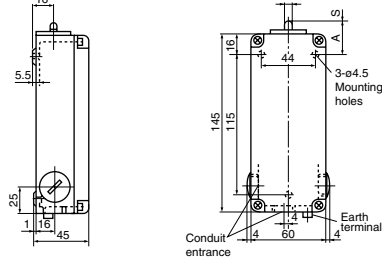

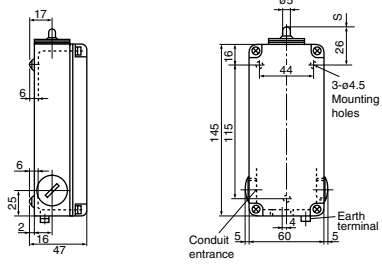
Contact	Standard type (Normal stroke)	Snap action contact	Make-before-break contact	Extended stroke
Contact diagram				
Contact travel				
	■ : Contact closed □ : Contact open			

Limit Switches


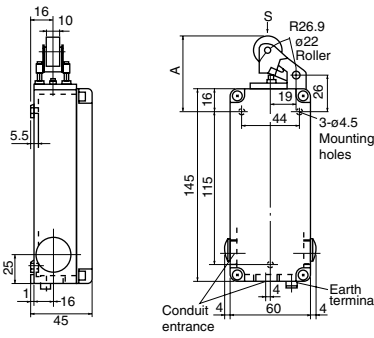

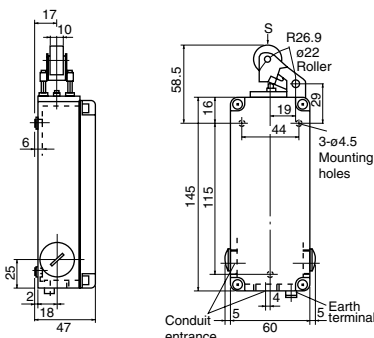
K244

Standard type

■ K244 series/Standard

Description	Contact arrangement	Terminal No.	Travel S (mm) ■ Contact closed □ Contact open	Type	Ordering code	Dimensions, mm												
 <p>T-1537</p>	Normal stroke			K244gR-2	PL5NGR-22	 <p>Phenal-formaldehyde roller</p> <table border="1"> <tr> <td></td> <td>-2</td> <td>-2S</td> <td>-2U</td> <td>-2V</td> </tr> <tr> <td>A</td> <td>55</td> <td>55</td> <td>55</td> <td>57</td> </tr> </table> <p>Mass: 240g</p>		-2	-2S	-2U	-2V	A	55	55	55	57		
		-2	-2S	-2U	-2V													
	A	55	55	55	57													
	Snap-action			K244gR-2S	PL5NGR-21													
Make-before-break			K244gR-2U	PL5NGR-23														
Extended stroke			K244gR-2V	PL5NGR-25														
 <p>T-1531</p>	Snap-action			Oiltight K244goR-2S	PL5NLR-21	 <p>Phenal-formaldehyde roller</p> <p>Mass: 250g</p>												
				Watertight K244gwR-2S	PL5NWR-21													
 <p>T-1567</p>	Normal stroke			K244g-2/2	PL5NGN-42	 <p>Brass plunger</p> <table border="1"> <tr> <td></td> <td>2/2</td> <td>2S/2S</td> <td>2U/2U</td> <td>2V/2V</td> <td>2/2U</td> </tr> <tr> <td>A</td> <td>26</td> <td>24</td> <td>26</td> <td>26</td> <td>26</td> </tr> </table> <p>Mass: 410g</p>		2/2	2S/2S	2U/2U	2V/2V	2/2U	A	26	24	26	26	26
		2/2	2S/2S	2U/2U	2V/2V		2/2U											
	A	26	24	26	26		26											
	Snap-action			K244g-2S/2S	PL5NGN-41													
	Make-before-break			K244g-2U/2U	PL5NGN-43													
Extended stroke			K244g-2V/2V	PL5NGN-45														
Complex (Normal stroke + Make-before-break)			K244g-2/2U	PL5NGN-46														
 <p>T-1567</p>	Snap-action			Oiltight K244go-2S/2S	PL5NLN-41	 <p>Brass plunger</p> <p>Mass: 420g</p>												
				Watertight K244gw-2S/2S	PL5NWN-41													

■ K244 series/Standard

Description	Contact arrangement	Terminal No.	Travel ■ Contact closed □ Contact open	Type	Ordering code	Dimensions, mm												
Top roller lever plunger cast-metal clad																		
 <p>T-1567</p>	Normal stroke			K244gR-2/2	PL5NGR-42	 <p>Phenal-formaldehyde roller</p> <table border="1"> <thead> <tr> <th></th> <th>2/2</th> <th>2S/2S</th> <th>2U/2U</th> <th>2V/2V</th> <th>2/2U</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>55</td> <td>55</td> <td>55</td> <td>57</td> <td>55</td> </tr> </tbody> </table> <p>Mass: 440g</p>		2/2	2S/2S	2U/2U	2V/2V	2/2U	A	55	55	55	57	55
		2/2	2S/2S	2U/2U	2V/2V		2/2U											
	A	55	55	55	57		55											
	Snap-action			K244gR-2S/2S	PL5NGR-41													
	Make-before-break			K244gR-2U/2U	PL5NGR-43													
Extended stroke			K244gR-2V/2V	PL5NGR-45														
Complex (Normal stroke + Make-before-break)			K244gR-2/2U	PL5NGR-46														
Top roller lever plunger oiltight and watertight cast-metal clad																		
 <p>T-1567</p>	Snap-action			Oiltight K244goR-2S/2S	PL5NLR-41	 <p>Phenal-formaldehyde roller</p> <p>Mass: 450g</p>												
				Watertight K244gwR-2S/2S	PL5NWR-41													