

7. Foot switches

Description

Area of application

Safety foot switches are mounted on machines and plants in cases where manual operation is not possible. They are used to initiate and shutdown work and production cycles.

Depending on the ambient conditions and mechanical load, there are different foot switch variants. The robust foot switches in a metal design are used generally in machine tools and plants, e.g. on presses, punches, bending and sheet metal machinery etc.

The plastic foot switches of the NKF series are used as signal generators for switching on and off process and production sequences. They are used in all industrial environments such as in the textile industry, logistics and material handling and also in the packaging industry.

Design and way of functioning

All foot switches in the range TF 232 are available both with protective cover (ordering suffix H) and without. The devices equipped with either slow action or snap action switch inserts are available as both single-pedal and double-pedal variants. Up to 4 contacts are available per pedal.

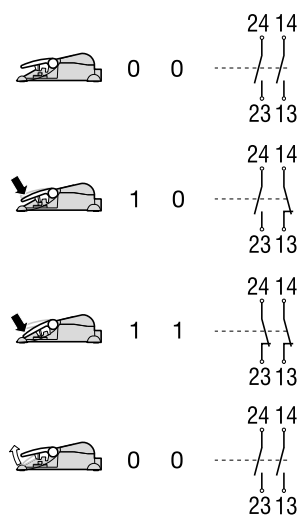
The additional contact staggering and bi-stable operating principles expand the wide range of possible uses.

The plastic foot switches in the range NKF offer solutions for up to three pedals with either NO contacts or change-over contacts. The pre-assembled variants are equipped as standard with a 2 meter pre-wired cable.



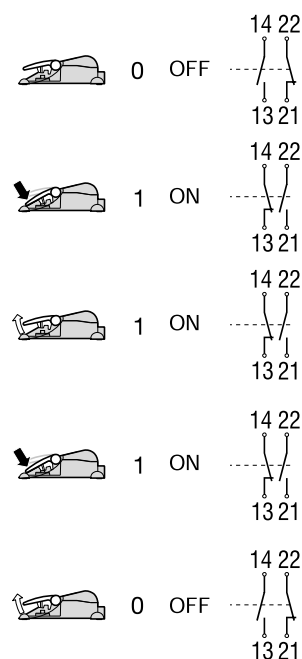
Staggered operating principle (ordering suffix -HD)

The staggering is realised by means of a pressure point, which is installed under the pedal. When the foot pedal is actuated as far as the pressure point, 1 NO contact is closed. If the pedal is actuated beyond the pressure point, the second NO contact is closed. The first pair of contacts remain enabled.



Bi-stable operating principle (ordering suffix -F)

Upon the first foot lever action, the switch insert is switched on (= ON). Upon the second foot lever action, the latching of the switching elements is neutralised, i.e. the switch insert is switched off by the spring in the switch insert (= OFF) (push/push function).



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Overview of the series

			
	■ F 232	■ 2F 232	■ NK F
Key Features			
	<ul style="list-style-type: none"> • With 1 foot pedal • 2 or 4 contacts • Enclosure in Aluminium die-cast 	<ul style="list-style-type: none"> • With 2 foot pedals • 4, 6 or 8 contacts • Enclosure in Aluminium die-cast 	<ul style="list-style-type: none"> • 1, 2- or 3 foot pedals • max. 2 contacts per pedal • Plastic enclosure
Other versions			
Staggered contacts	■	■	–
Bi-stable function	■	–	–
Technical features			
Electrical characteristics			
Max. switching capacity U/I	230 VAC / 4 A; 24 VDC / 1 A	230 VAC / 4 A; 24 VDC / 1 A	240 VAC / 2.5 A; 24 VDC / 1 A
Mechanical data			
Execution of the electrical connection	Screw terminals	Screw terminals	connecting cable
Cable entry	1 x M20	2 x M25	–
Cable section ¹⁾	0.75 ... 2.5 mm²	0.75 ... 2.5 mm²	0.5 mm²
Dimensions (H x W x D)	170 x 189 x 274 mm	295 x 189 x 274 mm	depending on the version
Ambient conditions			
Ambient temperature	–25 °C ... +60 °C	–25 °C ... +60 °C	–25 °C ... +60 °C
Protection class	IP65	IP65	IP67
Safety classification			
Standards	IEC/EN 60947-5-1	IEC/EN 60947-5-1	IEC/EN 60947-5-1
B _{10D} NC contact	100,000	100,000	100,000
Certificates			

¹⁾ Including conductor ferrules



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Ordering details



Series		Protective cover	Pedals	Switching principle	Contacts / pedal	Special features	Type designation	Material number				
T/Z.. 232	TF 232		with 1 foot pedal	Slow action	1 NO/1 NC		TF 232-11	101181519				
					1 NO/1 NC	Bi-stable function	TF 232-11F	101182012				
					2 NO/2 NC		TF 232-22	101181525				
	TFH 232	■			1 NO/1 NC		TFH 232-11	101181529				
					1 NO/1 NC	Bi-stable function	TFH 232-11F	101182016				
					2 NO/2 NC		TFH 232-22	101181532				
					2NO	Staggered contacts	TFH 232-20HD	101182013				
	ZF 232			Snap action	1 NO/1 NC		ZF 232-11	101181537				
					2 NO/2 NC		ZF 232-22	101181539				
					ZFH 232	■			1 NO/1 NC		ZFH 232-11	101181541
									2 NO/2 NC		ZFH 232-22	101181543
	T2F 232		with 2 foot pedals	Slow action	1 NO/1 NC		T2F 232-11/11	101181578				
	T2FH 232	■			1 NO/1 NC		T2FH 232-11/11	101181584				
					2 NO/2 NC		T2FH 232-22/22	101181587				
Z2F 232		Snap action		1 NO/1 NC		Z2F 232-11/11	101181590					
Z2FH 232	■			1 NO/1 NC		Z2FH 232-11/11	101181594					
				2 NO/2 NC		Z2FH 232-22/22	101181596					
NKF	NKF		with 1 foot pedal	Snap action	1 change-over contact		NKF1-1PWZ-B-2M	103003074				
					1NO		NKF1-10Z-B-2M	103003077				
	NKF2		with 2 foot pedals		1 change-over contact		NKF2-1PW/1PWZ-B-2M	103003075				
					1NO		NKF2-10/10Z-B-2M	103003078				

Other versions upon request