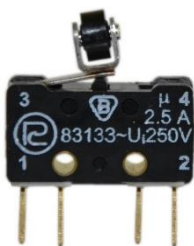


MINIATURE LIMIT SWITCHES 83 133

DATA SHEET

no: KK- ŁK_83133



Miniature limit switches are controlled with an appropriate drive element. The position and speed of movement corresponding to mobile contacts, and the time needed to switch them over, depend on the position and speed of travel corresponding to the drive element that acts on the pusher with an appropriate force. This way, appropriate contacts of the switch are either closed or opened. The arrangement of mobile contacts is not stable, which means that they automatically return to their home position, once the force acting on the pusher disappears.

Miniature limit switches with manual drive are intended to be used in automated drive systems and control, monitoring, and measuring circuits that operate under alternating and direct currents.

Miniature limit switches with manual drive feature the following primary qualities:

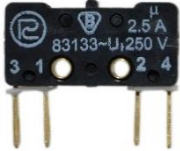


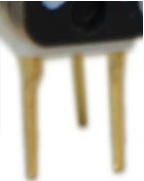

- Compact size
- Small force required to control
- High repeatability of parameters
- High electrical and mechanical endurance
- A variety of available drives.

TECHNICAL DATA:

Parameter	Value
Rated insulation voltage U_i	250V
Rated switching voltage U_e/I_e AC15 [V/A] DC13 [V/A]	230/2,5A (50-60 Hz) 220/0,3
Rated continuous current I_u	6A
Rated limited withstand current when working with a Bi-Wts fuse that operates under the rated current of 10A	1000
Mechanical life: - For single- and double-break switches without an additional drive - For single- and double-break switches with an additional drive	1x10 ⁷ 0,5x10 ⁷
Electrical endurance: AC15 DC13	85x10 ³ 30x10 ³
Rated frequency of switching [switches/h]	3600
Speed of the drive element [m/s]	17x10 ⁻⁶ - 1
Cross-section of terminals [mm²]	0,75...1,5
Ambient temperature	-25...+40
Protection class of the body/of terminals	IP40/IP00
Operation of contacts	snap action

The product conforms to the following standard PN-EN 60947-5-1.

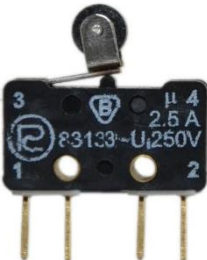

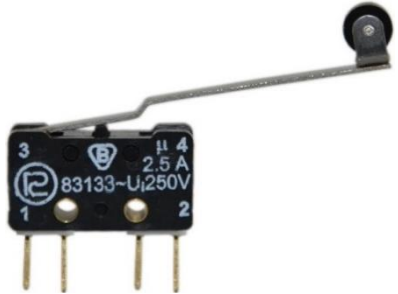
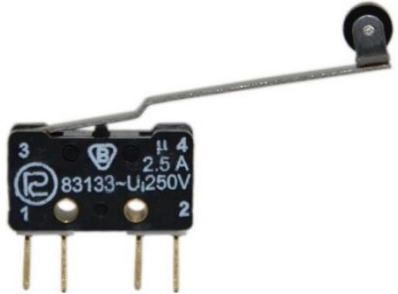
TYPES OF MINIATURE LIMIT SWITCHES 83 133

	Designation	Description	Weight [g]
  L1 – gold-plated	83 133	Basic miniature switch with a double-break change-over contact of the same polarity, with four terminals running in parallel to the longitudinal axis of the drive element, and with sleeves in assembly holes - with the L1 soldered terminals, with gold-plated terminals	2,1
 L1 – silver-plated	83 133s	Basic miniature switch..., with silver-plated terminals	2,1
 L0 – gold-plated	83 133 (LO)	Basic miniature switch with a double-break change-over contact of the same polarity, with four terminals running in parallel to the longitudinal axis of the drive element, and with sleeves in assembly holes – with terminals for the LO printed circuits, with gold-plated terminals	2,1
 L0 – silver-plated	83 133(LO)s	Basic miniature switch..., with silver-plated terminals	2,1



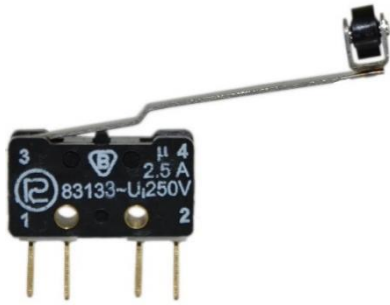
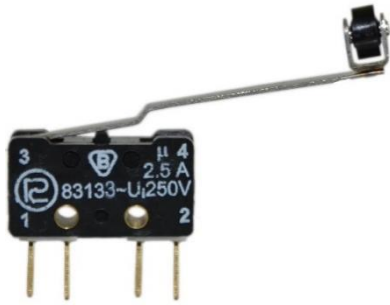
TYPES OF MINIATURE LIMIT SWITCHES 83 133 54 AR

	Designation	Description	Weight [g]
 <p>AR-7,7</p>	83 133 54 AR-7,7 83 133 54 AR-14,75 83 133 54 AR-35,75	Switches type 83 133, controlled with a flat lever, with the L1 soldered terminals, with gold-plated terminals	2,3 2,35 2,55
 <p>AR-14,75</p>	83 133s 54 AR-7,7 83 133s 54 AR-14,75 83 133s 54 AR-35,75	Switches type 83 133s..., with silver-plated terminals	2,3 2,35 2,55
	83 133(LO) 54 AR-14,75 83 133(LO) 54 AR-35,75	Switches type 83 133, controlled with a flat lever, with the LO terminals for printed circuits, with gold-plated terminals	2,55 2,5
 <p>AR-35,75</p>	83 133s(LO) 54 AR-7,7 83 133s(LO) 54 AR-14,75 83 133s(LO) 54 AR-35,75	Switches type 83 133s..., with silver-plated terminals	2,3 2,35 2,55

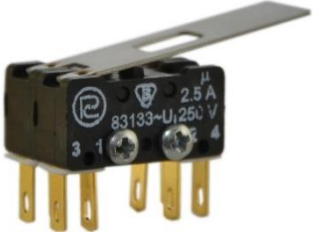
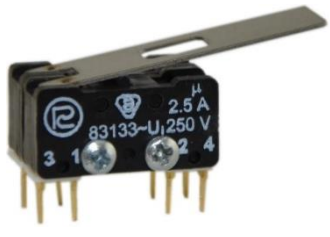
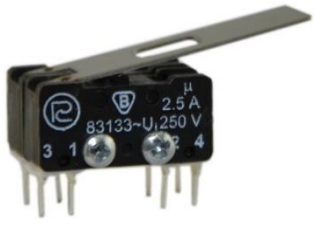
TYPES OF MINIATURE LIMIT SWITCHES 83 133 54 ER

	Designation	Description	Weight [g]
 <p>ER-7,5</p>	83 133 54 ER-7,5 83 133 54 ER-14,1 83 133 54 ER-34,4	Switch type 83 133, controlled with a flat lever and a roll located in the axis of the lever; with the L1 soldered terminals, with gold-plated terminals	2,5 2,6 2,9
 <p>ER-14,1</p>	83 133s 54 ER-7,5 83 133s 54 ER-14,1 83 133s 54 ER-34,4	Switches type 83 133s..., with silver-plated terminals	2,5 2,6 2,9
 <p>ER-34,4</p>	83 133(LO) 54 ER-14,1 83 133(LO) 54 ER-34,4	Switch type 83 133, controlled with a flat lever and a roll located in the axis of the lever; with the LO terminals for printed circuits, with gold-plated terminals	2,6 2,9
 <p>ER-34,4</p>	83 133s(LO) 54 ER-14,1 83 133s(LO) 54 ER-34,4	Switches type 83 133s..., with silver-plated terminals	2,6 2,9



TYPES OF MINIATURE LIMIT SWITCHES 83 133 54 ER

	Designation	Description	Weight [g]
 <p>KR-9,3</p>	83 133 54 KR-9,3 83 133 54 KR-15,4 83 133 54 KR-35,0	Switch type 83 133, controlled with a flat lever and a roll running across the axis of the lever; with the L1 soldered terminals, with gold-plated terminals	2,5 2,6 2,9
 <p>KR-15,4</p>	83 133s 54 KR-9,3 83 133s 54 KR-15,4 83 133s 54 KR-35,0	Switches type 83 133s..., with silver-plated terminals	2,5 2,6 2,9
 <p>KR-35,0</p>	83 133(LO) 54 KR-15,4	Switch type 83 133, controlled with a flat lever and a roll running across the axis of the lever; with the LO terminals for printed circuits, with gold-plated terminals	2,6
 <p>KR-35,0</p>	83 133s(LO) 54 KR-9,3 83 133s(LO) 54 KR-15,4 83 133s(LO) 54 KR-35,0	Switches type 83 133s..., with silver-plated terminals	2,5 2,6 2,9

TYPES OF MINIATURE LIMIT SWITCHES 83 133 54 A2

	Designation	Description	Weight [g]
	83 133 54 A2	A set of two switches type 83133, controlled with a flat lever, with gold-plated terminals	6,2
	83 133(LO) 54 A2	A set of two switches type 83 133 (LO), controlled with a flat lever, with gold-plated terminals	6,2
	83 133s(LO) 54 A2	A set of two switches type 83 133s (LO)..., with silver-plated terminals (length of the lever: 30mm)	6,2

TYPES OF MINIATURE LIMIT SWITCHES 83 133 54 A3

	Designation	Description	Weight [g]
	83 133 54 A3	A set of three switches type 83 133, controlled with a flat lever, with gold-plated terminals	8,7
	83 133s 54 A3	A set of three switches type 83 133s..., with silver-plated terminals	8,7

Note:

All switches of the 83 132 and 83 133 series are available in a special design with single NO or NC contacts. In this case, add the symbol corresponding to a NO contact ("z") or a NC contact ("r"), when specifying the type of switch. For example: 83 133 z 54A3, i.e. three switches with the 83 133 z NC contact controlled with a flat lever.

FORCES AND TRAVELS OF MINIATURE SWITCHES

Łączniki 83 133, 83 133s

Position of operation	Force and travel required to switch over		Travel after switching over	Differential travel	Force required to switch back	Permissible driving force
	FC max [N]	CA max [mm]				
PA [mm]			CRA min [mm]	CD [mm]	FR min [N]	FFC max [N]
7.7 ^{±0.2}	1.6	0,7	0.3	0.35 ^{±0.1}	0.4	10

Miniature switches 83 133, 83 133s with additional drives

Type of switch	Active length of lever	Travel to switch over	Position of operation	Force needed to activate
	R [mm]	CA max [mm]	PA [mm]	FC max [N]
54A	7,7 ^{±0,2}	1,1	8,2 ^{±0,8}	1,55
	14,75 ^{±0,3}	2,15	9,5 ^{±0,8}	0,8
	35,75 ^{±0,5}	5,15	10 ^{±1,5}	0,34
54E	7,5 ^{±0,2}	1,1	14,7 ^{±0,8}	1,6
	14,1 ^{±0,3}	2,05	15,6 ^{±0,8}	0,8
	34,4 ^{±0,5}	5,4	15,6 ^{±1,4}	0,34
54K	9,3 ^{±0,3}	1,35	14,7 ^{±0,8}	1,6
	15,4 ^{±0,3}	2,3	15,6 ^{±0,8}	0,75
	35 ^{±0,5}	5,05	16,1 ^{±1,4}	0,33
54A2	30 ^{±0,5}	4,3	10,65 ^{±2,8}	0,8
54A3	30 ^{±0,5}	4,3	10,65 ^{±2,8}	1,2

DIMENSIONS
