ED - MD - MDP

Description

The Disc contact type ED

is a momentary keyswitch with short travel and good tactile feedback. Direct mounting on a printed circuit board is possible.
In that case, the keyswitch must be actuated by a soft lever of 3 mm minimum diameter. The ED keyswitch is available in various types of modules and is the main component of all the switches and keyboards presented in this chapter.

Selfcleaning system :

The contact is achieved on at least 3 points of the lower diaphragm, these 3 points of contacts are always different at each new switch action. During the switching movement, the upper disc slides on the lower diaphragm, ensuring the contact's self cleaning.

MDP-Disc push button keyswitch

Momentary push button of small dimensions equipped with button, can be mounted on printed circuit board.
Keyboards of any type can be built with this particular switch without the help of other components.
MD and MDP keyswitches are available in two contact materials :

- gold plated bronze,
- silver plated bronze.

Perfect sealing

By moulding and ultrasonic welding the disc keyswitch is completely sealed :

- against freon or alcohol brushing used for printed circuit cleaning,
- for 56 days humidity resistance.

High reliability

More than 10 million operations without failure. ED Disc keyswitch is available in two versions :

- gold plated bronze,
- silver plated bronze.

MD-Disc push button keyswitch

Small momentary push button plus a button can be mounted on printed circuit board.
A wide range of keyboards can be built by using the MD.

Mechanical data

Type	ED	MD	MDP
Operating force (N) ± 25 %	2,4	2,6	2,4
Nominal operating travel (mm)	0,3	0,6	0,3
Maximum admissible travel (mm)	0,5	1,5	0,5

Electrical data

Type	ED		MD		MDP	
Contact quality	Ag	Au	Ag	Au	Ag	Au
Max. (V)	100	100	100	100	100	100
Max. carrying current (mA)	250	250	250	250	250	250
Max. switching current (mA)	100	50	100	50	100	50
Max. switching power (W)	6	3	6	3	6	3
Contact resistance (mΩ) <	10	15	10	15	10	15
Dielectric strengh at (50 Hz)(Vrms)	300	300	300	300	300	300
Insulation resistance under 100 V (MΩ) >	10^5	10^5	10^5	10^5	10^5	10^5
Bounce (μs) <	100	100	100	100	100	100
Life expectancy at max. switching power (operations)	10^6	5.10^6	10^6	5.10^6	2.10^5	2.10^5

Climatic data

Max. operating temperature (°C)	− 25, + 70
Storage temperature (°C)	− 40, + 85
Climatic category (days)	10 for Ag contact version 56 for Au contact version
Soldering by static bath	255°C for 5 seconds

Note : MD40 disc keyswitch conforms to climatic category 40/085/56.

Ordering code

1	2	3	4
MD	G	S G	0

← Example

1 — Type ED / MD / MD 40 / MDP

2 — Contact material : Silver = S / Gold = G

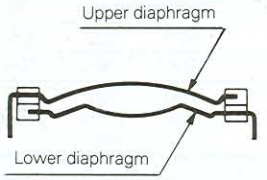
3 — Options : sealed connections = SG for MD and MDP only ; without connections = SC for ED only

4 — Sealing : Flux sealed = 0 / Totally sealed = 1

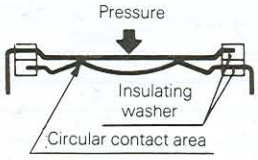
Dimensions (in mm)

Switch action principal

The Disc contact is essentially made of two separate conductive diaphragms separated by an insulated material. The upper diaphragm is shaped so that under pressure it collapses suddenly and establishes contact with the lower diaphragm.

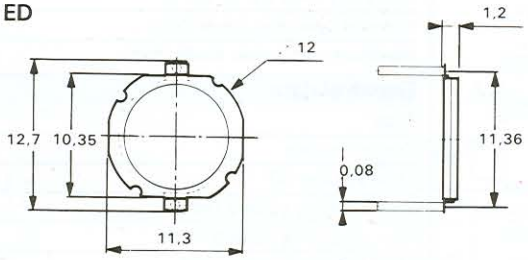


SWITCH IN RESTING POSITION

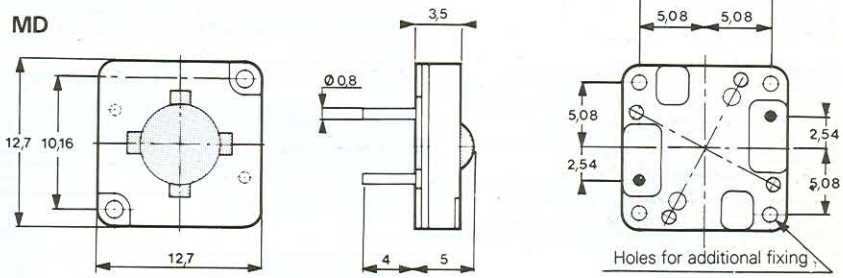


SWITCH IN ACTIVE POSITION

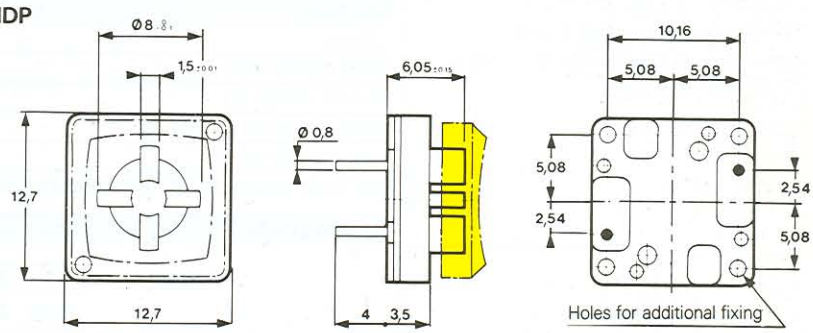
ED



MD



MDP



Ordering code

BTN MDP 40

Button = BTN

Type = MDP

Colour	
Red	= 40
Blue	= 60
Dark grey	= 10
Pale grey	= 20

Printing possible by hot stamping or engraving.

Button MDP