

# ALGRA Membrane keyboards

PAGE 1

## Introduction

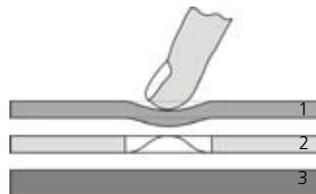
Without doubt, ALGRA is a pioneer in the manufacture of membrane keyboards. For over 20 years we have been constantly researching new ways and means to satisfy the wide range

of customer demands, which is reflected in our price and quality. Which type of membrane keyboard would be the perfect solution in your particular case? Is it the version with or without

tactile feedback, with a simple foil construction or with an integrated PCB? Take advantage of ALGRA's experience from early on: the sooner you contact us, the more you will benefit.

## Description of membrane keyboards

Until now the most common flat keyboard is still the membrane keyboard. It is economical, has an extremely simple construction and is reliable in less hostile environments. Various models including with and without tactile feedback, with foil construction or with an integrated printed circuit board.

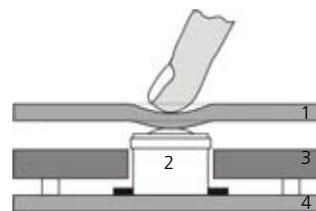


- 1 overlay
- 2 switch package
- 3 base plate or print

The contacts are contained in an air-filled hollow space and short when pressed. The illustration clearly shows how the upper foil is particularly subjected to a high mechanical load. It is not only exposed to stretching the edges of the punched hole underneath in the separating foil act like a punch when subject to extreme loading.

## Description of short travel keyboards

The operating principle of such a keyboard is similar to that of a membrane keyboard fitted with a «click», whereby the latter is contained in a housing, which in turn is usually soldered to the printed circuit board.



- 1 overlay
- 2 short travel key
- 3 base plate
- 4 print

These keyboards allow longer switch travel, however this causes considerably more load on the cover foil. Operating pressure is 2 - 5 N, which is more suitable for switching and less suitable for the speed of input of data.

## Advantages

- various overlay materials available
- low cost products
- large batches possible
- dust and spray water proof

## Typical applications

Hygienic working conditions are the basis of all laboratory research. Cleanliness applies not just to rooms and instruments, but to all equipment and apparatus. Control panels with touch keys are a distinct advantage in laboratories. They are light, flat, compact, dust and splash water proof and especially easy to clean. Then there is the extreme reliability of a membrane keyboard, its complete freedom with regard to colour and design and its excellent cost/benefit ratio (even in small quantities).

Convincing performance: ALGRA keyboards for operating convenience, reliability and cleanliness.



The value of topographic records and measurements of inaccessible points in tunnels, on cooling towers, in quarries, on cliffs etc., depends on the quality of the surveying instruments. Today, these functions are performed by complex integrated surveying systems controlled via interfaces. The data input devices which have to be resistant to extremes of temperature and to moisture are equipped with easily legible displays for characters and symbols. Every input is acknowledged by an acoustic signal and the display is equipped with background illumination in the dark.

Intelligence in measuring distance: ALGRA keyboards provide the robustness essential when working in the field.

This powerful and reputable dispatching system is a typical example of the high quality of ALGRA keyboards. It permits the operator to respond quickly in every situation and to reset the system for the most diverse applications.

Complete supervision of the paper feed and continuously adjustable speed ensure trouble-free and efficient operation. The versatility of the control panel enables full use to be made of the modular structure of the user's system.

Display-data input-communication: ALGRA keyboards are ideal where production processes are continually changing.

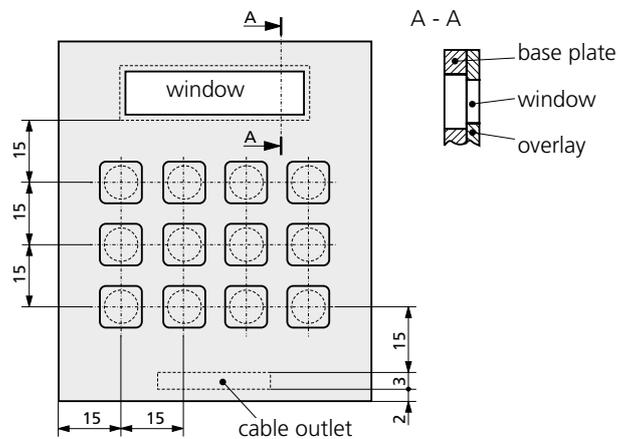


## Technical data

(All data refers to typical values and is particularly dependent upon the construction.)

Electrical values:	Switching voltage:	1 up to 50 V DC
	Switching current:	5 $\mu$ A up to 100 mA
	Switching power:	< 1 W
	Loop resistance:	< 200 Ohm
	Leakage resistance:	> 100 MOhm
	Bounce time:	0.5 up to 10 ms
Mechanical values:	Operatin force:	1 up to 6 N
	Operating travel:	0.15 up to 1 mm
	Storage temperature:	-40 °C up to +70 °C
	Operating temperature:	-25 °C up to +70 °C
	No. of press cycles:	> 1 million

Construction:



Ideal distance key – key: 19 mm

In the case of the cable being drawn out from the side of the keyboard, the minimum clearance between key and keyboard edge is 15 mm.



PAGE 4



**ALGRA Ltd.**

Rigistrasse 1  
CH-5634 Merenschwand

Tel.: +41 56 675 45 45  
Fax: +41 56 675 45 75  
mail@algra.ch  
www.algra.ch

