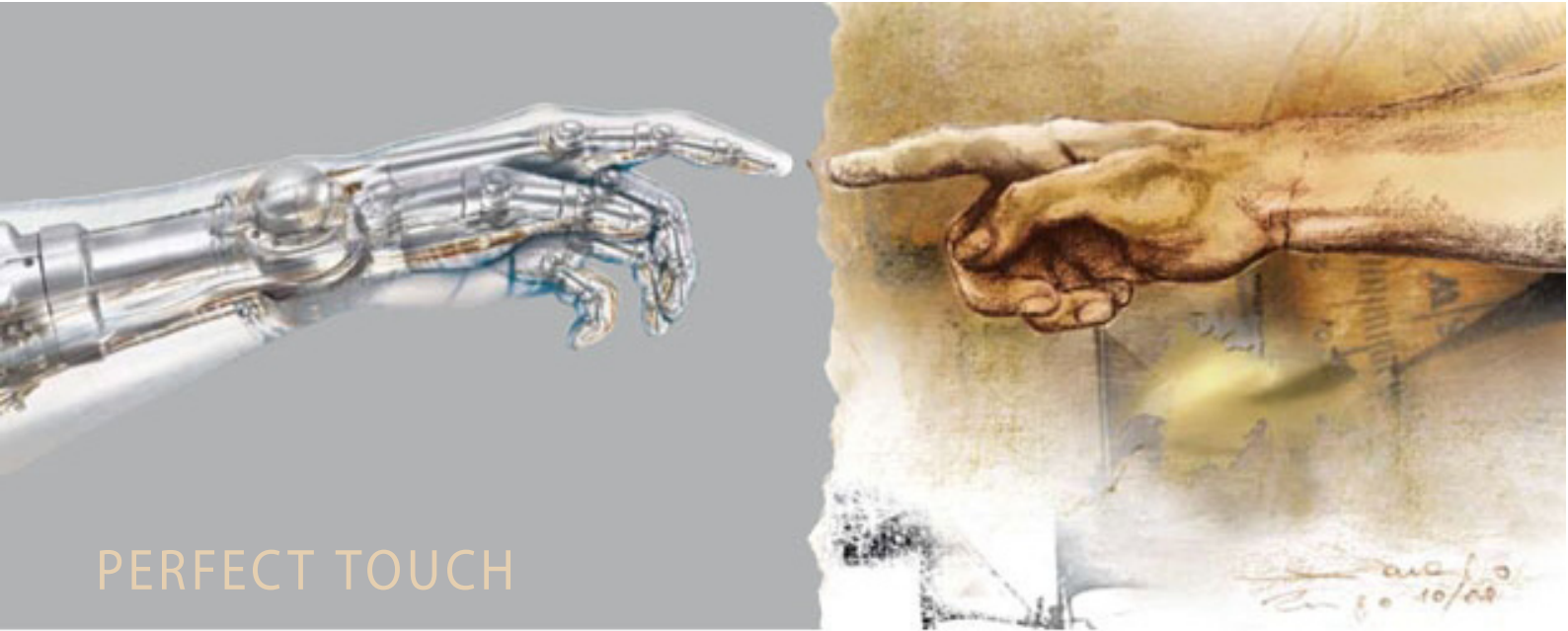


# Dynasim



PERFECT TOUCH

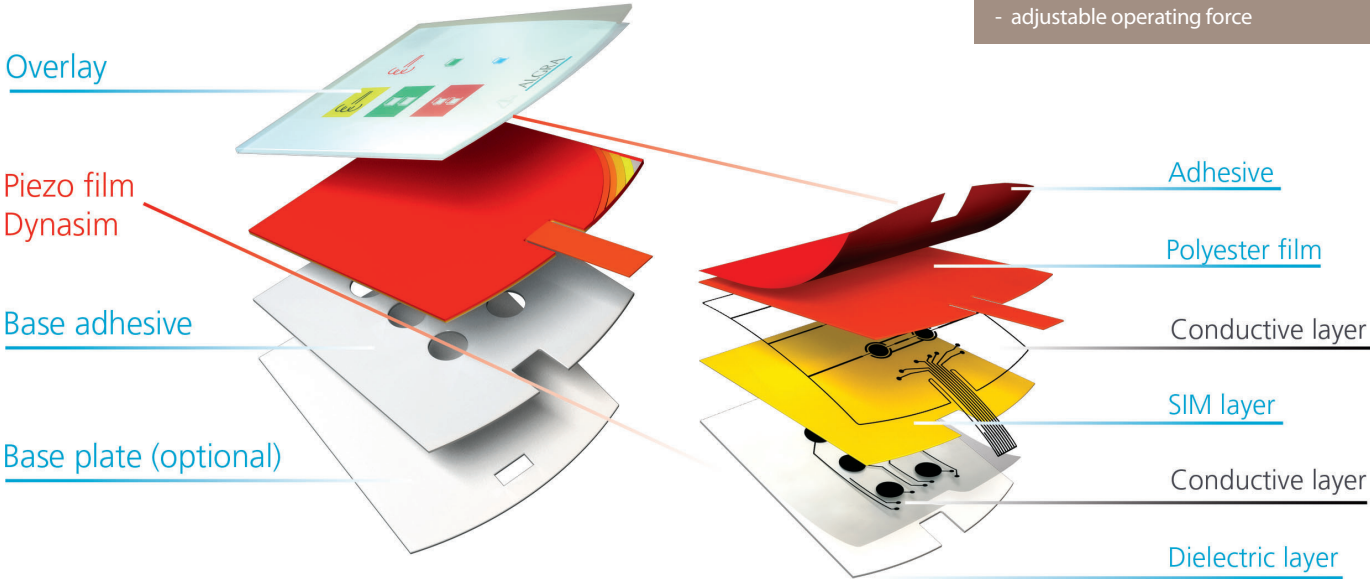
## DESCRIPTION

ALGRA Dynasim sets milestones in the use of piezo technology for input systems:

Layers of piezo, electrical conductors and insulation are pressed onto polyester film in a serigraphic process.

Overlays of aluminium, stainless steel, glass or plastic are bonded to this active piezo film and thus to the operating panel. Minor mechanical movements of just a few micrometers provide the desired key signals.

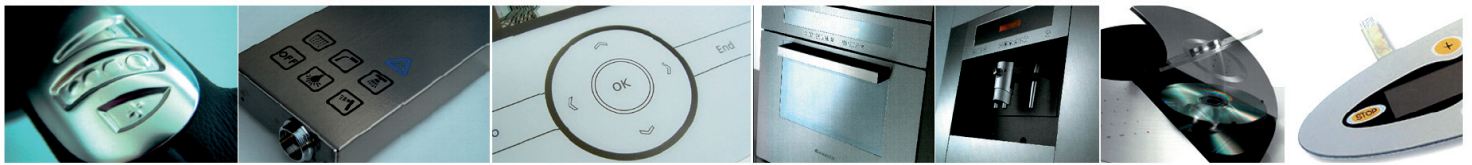
- ADVANTAGES
- no cracks in the foil because there is scarcely any mechanical movement
  - various overlay materials possible
  - suppression of electromagnetic interference
  - much more robust than membrane keyboards
  - large batches possible, same as membrane keyboards
  - convex form possible
  - free choice of key size (no limit)
  - unaffected by changes in air pressure
  - vandal resistant
  - adjustable operating force



## Technical data

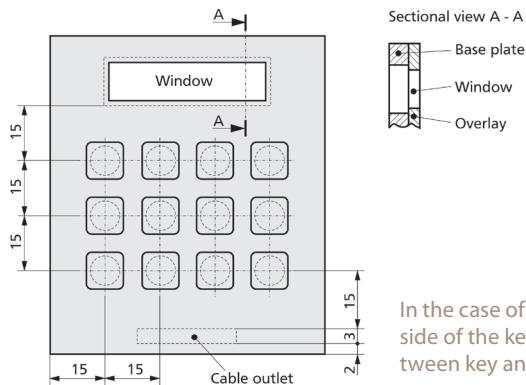
(All data refers to typical values and is particularly dependent upon the construction. Typical: polycarbonate 0.5 mm)

Electrical values:	Charge from a 4x4 matrix (1/2 key):	1 nC/N
	Charge from one key :	2 nC/N
	Capacity 4x ½ keys:	10 nF
	Capacity of one key:	5 nF
Mechanical values:	Mechanical loading:	up to 200 N/cm <sup>2</sup>
	Operation force:	0.5 to 100 N
	Required operation speed:	approx. 10 N/s
	Maximum cycles per second:	> 1000 Hz
	Storage temperature:	-40 °C to +100 °C
	Operating temperature:	-40 °C to +85 °C
	No. of press cycles:	> 10 millions
Output signal:	The charge or voltage is dependent upon: - material and thickness of the overlay - operating force / speed - load resistance	



Construction recommendations:

Key clearance typical:	19 mm
Minimum edge clearance:	15 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.

Interference suppression: To deflect high tension (and as protection from electromagnetic fields), a conductor grid can be fitted between the overlay and the switching elements if so desired.

## Overlay possibilities

Polycarbonate / Plexi	Thickness 0.2 - 1.5 mm, norm 0.5 mm
Aluminium	Thickness 0.2 - 0.7 mm, norm 0.3 mm
Stainless steel	Thickness 0.2 - 0.7 mm, norm 0.3 mm
Glass	Thickness 0.3 - 0.8 mm, norm 0.5 mm

The choice of material strength can be influenced by the size of the keys and the key spacing.