

# CapKey

## Capacitive Buttons, Sliders and Wheels

### Specification sheet

#### Features:

- Capacitive Buttons, Sliders and/or Wheels behind a glass or plastic front.
- Standalone User Interface or in combination with a PCAP touchscreen.
- Transparent capacitive sensors (based on ITO material).
- Can be used in front of an illuminating LED, a LCD screen or an insert layer.
- Large design freedom in button shape and size.

#### Mechanical properties:

Sensor type	Aspect	Properties
Button	Size	5x5 mm or larger
	Spacing	6 mm or wider, center to center
	Shape	solid or ring shaped electrodes, almost any size and shape possible
	Panel thickness	Up to 20 mm glass Up to 10 mm plastic
Wheel	Diameter	30 mm ... 80 mm
	Panel thickness	Up to 4 mm glass Up to 3 mm plastic
Slider	Lenght	Typical: 50 ... 100 mm
	Width	Typical: 12 mm
	Shape	Usually straight, bended arc or other irregular shape possible
	Panel thickness	Up to 10 mm glass Up to 5 mm plastic

Support is given for the following capacitive controller technologies:  
Standard available controllers for Capkey technology:

Manufacturer	Acquisition	
	Method	Name
Atmel	Self	QTouch, QTouchADC
	Mutual	QMatrix
Cypress	Self	CapSense Express
Microchip	Self	CVD, CTMU, RightTouch
ON Semiconductor	Mutual	LC717 controller

Programmable controllers for Capkey technology (support by SCHURTER Electronics B.V.):

Manufacturer	Device	Name
Microchip	PIC16LF 1554/1559/1566/1567	CVD

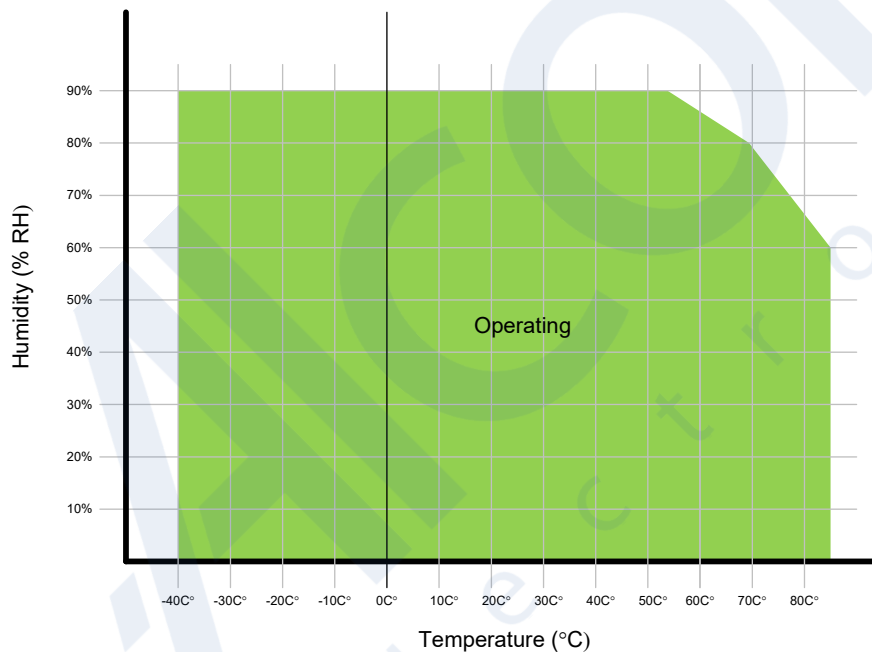
Sensor design according to the manufacturers Design Rules and own experience.

Electrical properties (dependent on the selected controller)	
Supply voltage	1.7V up to 5.5V
Insulation resistance channel to channel	≥20MΩ
Communication	I <sup>2</sup> C, SPI, UART or digital I/O
Max no. of keys (single controller)	14 (Self capacitance with standard controller), 30 (Microcontroller) 48 (Mutual capacitance), 60 (Microcontroller)

Visual appearance	<b>Optical</b>
	According "Visual Acceptance Criteria" SCHURTER Electronics B.V.

Bending radius tail	Kapton foil	Polyester foil
	2 mm minimum	4 mm minimum

	Environmental *	Test procedure
Temperature	Accordinging diagram	IEC 60068-2-14 Nb (-40°C / +85°C, 50%RH, 3hrs, 6 cycles)
Humidity	Accordinging diagram (No dew condensation allowed)	IEC 60068-2-30 (+55°C, 93%RH, 9hrs, 2 cycles) IEC 60068-2-78 (+40°C, 93%, 10 days)



\* These environmental specifications are valid for the CapKey sensor only. For assemblies, the lowest specifications are dominant.