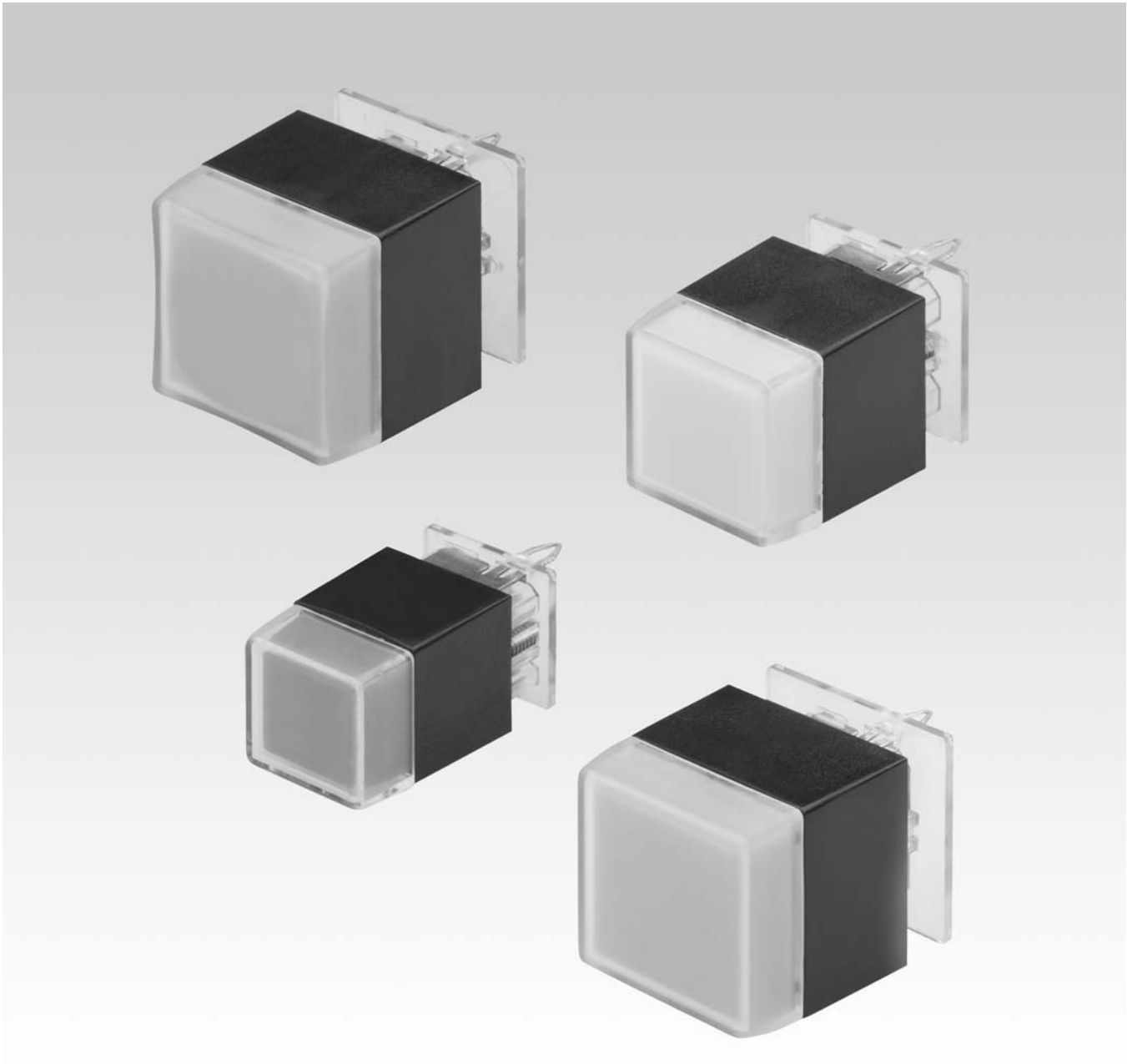




EAO Product Information

Series 95



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Product Information

General notes

The Series 95 is a high quality switch range containing illuminated and non-illuminated pushbuttons for professional Audio and Video applications. According to the switch version, the pushbuttons may be equipped with 2 or 3 SMD LED's with PLCC housing (height 2.1 mm) with a radiation angle of approx. 120 ° and thus generate up to 3 different colors on one pushbutton. The lenses are available matt translucent or clear transparent in flat, concave or convex form.

Fitting

The pushbutton should be plugged-in to the mounting hole and soldered onto the printed circuit board (PCB), after the soldering of the SMD LED's.

Mounting

Suitable for mounting on PCB's with thickness of 1.5 to 2.5 mm. The separated spring clip contact holds the switch in place during the assembly and soldering process. The soldered joint makes the electrical contact and fixes the switch in the PCB. Maximum soldering-temperature is 260 °C for 5 seconds. There is a solder stop between the SMD-LED's and the contact mounting areas. The PCB layout and mounting details are shown in the dimensional drawings. The switch must be used in a front panel.

Marking

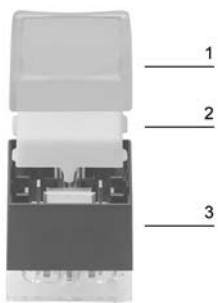
The diffuser can either be printed or engraved, or a film insert can be fitted between the diffuser and the lens.

Illumination

Luminosity and wave length scattering caused by the technology used in the LED manufacturing processes may lead to visual differences in our products.

*We reserve the right to modify technical data
All dimensions in mm*

Pushbutton illuminative



- 1 Lens
- 2 Diffuser
- 3 Switching element

Illuminated pushbutton



	Front protection	Contacts	Switching action	Terminals	Lens	Ø 19.05 x 19.05 mm Typ-Nr.	Ø 15.88 x 15.88 mm Typ-Nr.	Ø 12.7 x 12.7 mm Typ-Nr.	Component layout	Technical drawing	
Illuminated pushbutton high gloss finished	IP 40	1 NO	M	P	Plastic colourless transparent concave	95-414.770			3	3	0.004
					Plastic colourless transparent flush	95-414.750				3	3
mat	IP 40	1 NO	M	P	Plastic colourless transparent concave	95-414.740			3	3	0.004
					Plastic colourless transparent convex	95-414.730				3	3
high gloss finished	IP 40	1 NO	M	P	Plastic colourless transparent concave		95-515.770		2	2	0.004
					Plastic colourless transparent flush		95-515.750			2	2
mat	IP 40	1 NO	M	P	Plastic colourless transparent concave		95-515.740		2	2	0.004
					Plastic colourless transparent flush		95-515.720			2	2
high gloss finished	IP 40	1 NO	M	P	Plastic colourless transparent flush			95-313.750	1	1	0.003
mat	IP 40	1 NO	M	P	Plastic colourless transparent flush			95-313.720	1	1	0.003

Contacts: NO = Normally open


Switching action: M = Momentary action

Terminals: P = PCB terminal

Component layout from page 9, Technical drawing from page 10


Front

Lens

	Lens	∅ 19.05 x 19.05 mm Typ-Nr.	∅ 15.88 x 15.88 mm Typ-Nr.	∅ 12.7 x 12.7 mm Typ-Nr.	
Lens high gloss finished	Plastic colourless transparent concave	95-704.770	95-705.770		0.001
	Plastic colourless transparent convex	95-704.760			0.001
	Plastic colourless transparent flush	95-704.750		95-703.750	0.001
mat	Plastic colourless transparent concave	95-704.740	95-705.740		0.001
	Plastic colourless transparent convex	95-704.730	95-705.730		0.001
	Plastic colourless transparent flush	95-704.720	95-705.720	95-703.720	0.001




Diffuser

	Diffuser	∅ 19.05 x 19.05 mm Typ-Nr.	∅ 15.88 x 15.88 mm Typ-Nr.	∅ 12.7 x 12.7 mm Typ-Nr.	
Diffuser	Plastic blue translucent	95-804.620		95-803.620	0.001
	Plastic colourless transparent	95-804.720		95-803.720	0.001
	Plastic grau translucent	95-804.820		95-803.820	0.001
	Plastic green translucent	95-804.520		95-803.520	0.001
	Plastic orange translucent	95-804.320		95-803.320	0.001
	Plastic red translucent	95-804.220		95-803.220	0.001
	Plastic white translucent	95-804.920	95-805.920	95-803.920	0.001
	Plastic yellow translucent	95-804.420		95-803.420	0.001



Backside

Switching element


	Switching action	Contacts	∅ 19.05 x 19.05 mm Typ-Nr.	∅ 15.88 x 15.88 mm Typ-Nr.	∅ 12.7 x 12.7 mm Typ-Nr.	Component layout	
Switching element without Lens and Diffuser	M	1 NO	95-414.000			3	0.003
				95-515.000		2	0.002
					95-313.000	1	0.002



for combining with Lens and Diffuser
 Switching action: M = Momentary action
 Contacts: NO = Normally open
 Component layout from page 9

Assembling

Lens remover

	Typ-Nr.	 kg
Lens remover	95-900.005	0.003

Owing to possible mechanical damage removed lens must be replaced by a new part



Mounting tool

	Typ-Nr.	 kg
Mounting tool	95-900.009	0.003



Pushbutton- and Illuminated pushbutton

Shock resistance

50 g, 11 ms, as per IEC 60512-4-3

Switching system

Gold plated momentary contact, 1 normally open, self-cleaning

Approvals

Declaration of conformity

RoHS

Material

Plastic parts

PC, as per UL 94 HB, Cd-free

Material of contacts

CuSn, contact gold-plated, soldering terminal tinned

Mechanical characteristics

Actuating travel

4.5 mm

Actuating force

3 N to end position

Switching point

2.3 mm \pm 0.8 mm at operation

Life time

>5 million operations, as per IEC 60512-5-9a

Electrical characteristics

Illumination

recommended SMD-LED types:

P-LCC package or similar, radiation angle approx. 120 °;
use of smaller SMD-LED is possible.

SMD-LED configurations size:

max. 2 SMD-LEDs for switch size 12.70 mm

max. 3 SMD-LEDs for switch size 15.88 mm and 19.05 mm, single
colour or multi-colour.

Height of SMD-LED:

max. 2.1 mm

Electric strength

\leq 50 m Ω , as per IEC 60512-2-2b at new state

Isolation resistance

>1 T Ω , as per IEC 60512-2-3a between contacts

Switch rating

min. 1 mVDC, 100 μ A

max. 48 VDC, 50 mA

Electric strength

2.5 kVAC, as per IEC 60512-2-11

Environmental conditions

Front protection

IP 40 before front plate for complete switch

Operating temperature

-25 °C ... +70 °C

Storage temperature

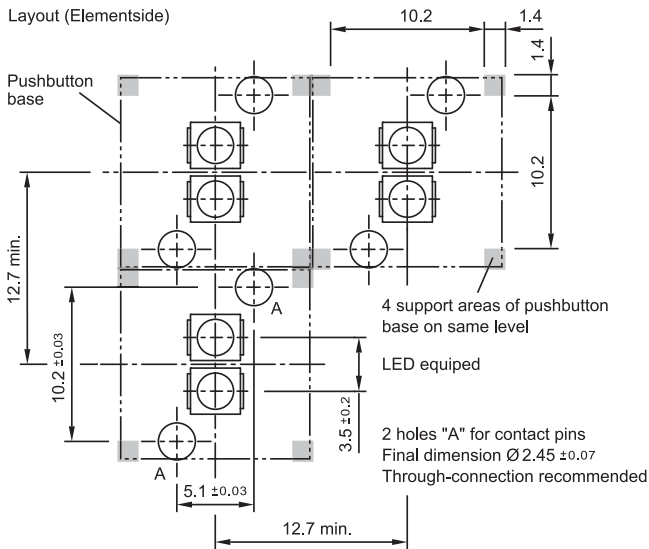
-40 °C ... +80 °C

Vibration resistance

10 g, at 10 - 2000 Hz, 0.75 mm, as per IEC 60512-4-4

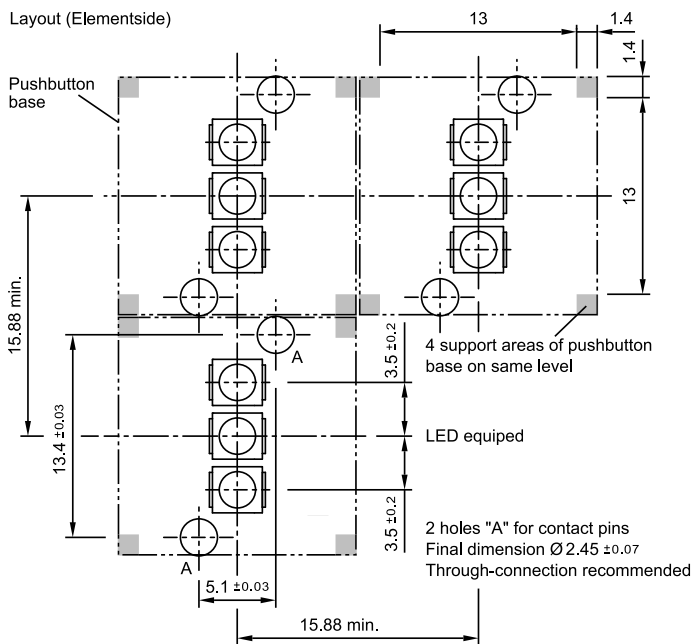
Component layout

1 Illuminated pushbutton page 5 | Switching element page 6



Libraries for the PCB layout-system p-cad 200X see : www.pcad.com/recources/libraries Third-party Libraries

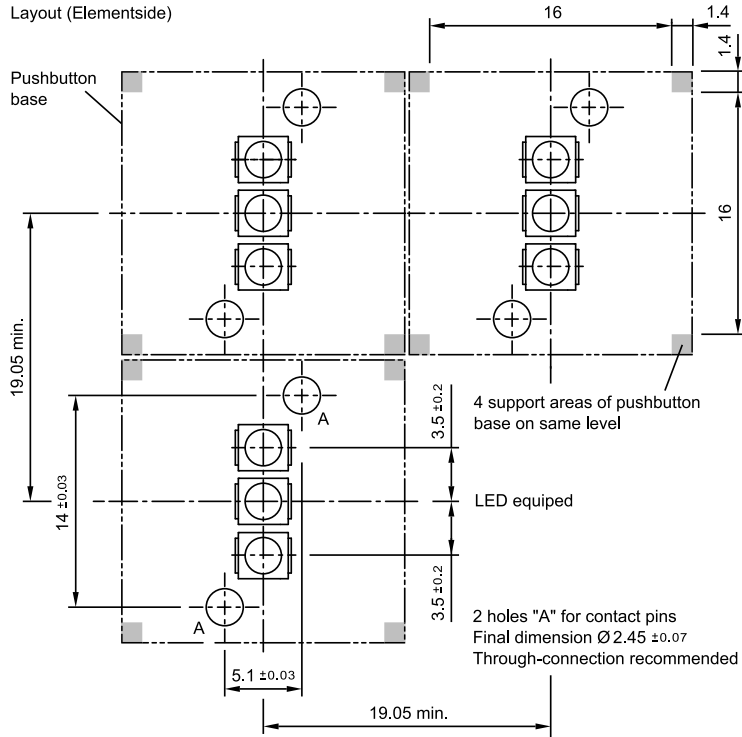
2 Illuminated pushbutton page 5 | Switching element page 6



Libraries for the PCB layout-system p-cad 200X see : www.pcad.com/recources/libraries Third-party Libraries

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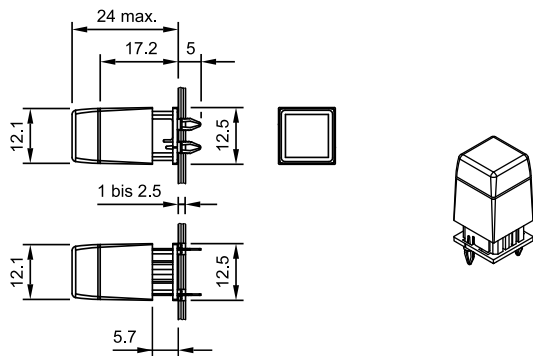
Layout (Elementside)



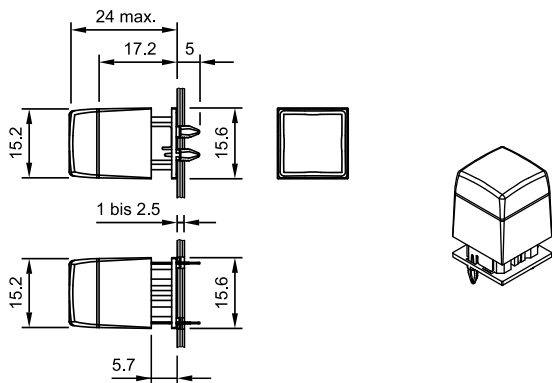
Libraries for the PCB layout-system p-cad 200X see : www.pcad.com/recources/libraries Third-party Libraries

Technical drawing

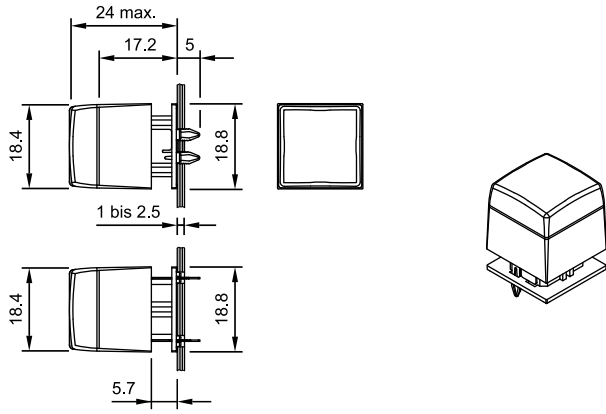
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3 Illuminated pushbutton page 5



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95-313.720	5				
95-313.750	5				
95-414.000	6				
95-414.730	5				
95-414.740	5				
95-414.750	5				
95-414.770	5				
95-515.000	6				
95-515.720	5				
95-515.740	5				
95-515.750	5				
95-515.770	5				
95-703.720	6				
95-703.750	6				
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95-705.730	6				
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95-803.320	6				
95-803.420	6				
95-803.520	6				
95-803.620	6				
95-803.720	6				
95-803.820	6				
95-803.920	6				
95-804.220	6				
95-804.320	6				
95-804.420	6				
95-804.520	6				
95-804.620	6				
95-804.720	6				
95-804.820	6				
95-804.920	6				
95-805.920	6				
95-900.005	7				
95-900.009	7				

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