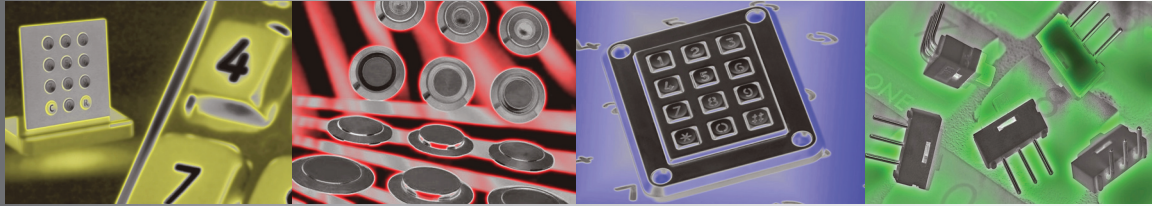




# EOZ

SOLUTIONS & COMPONENTS



## CATALOGUE

# FL series



## THE FL.SERIES RANGE, THE FIRST 12MM /13.5MM PUSH BUTTON IN THE WORLD WITH A FULLY ILLUMINATED LENS.

Available in 12mm and 13.5mm standard mounting hole sizes, a unique high brightness full face illuminated switch and a non-illuminated version as a plug-in replacement for competitor products.

Designed and manufactured in France with IP67 sealing and rugged PA6.6 polyamide construction the FL series has superb tactile feedback and vibrant single or bi-colour multi-LED illumination.

### MECHANICAL

Travel (nom)	2 mm ±0.3mm
Operating force (nom)	5 N ±30%
Panel thickness (max)	1 - 6 mm
Terminal type	Plug-in terminal 2.8 x 0.5
Switching action	Momentary

### ELECTRICAL

Dielectric strength	2500V a.c.
Insulation resistance	1GΩ
Contact resistance	< 50mΩ

### LIGHTING

Voltage	5V
Current LED	65 mA max

### ENVIRONMENTAL

Ingress protection	IP67
Operating temperature range	-40°C to +85°C



### MATERIALS

Body	PA 6.6
Button	PC
Contacts	Gold plated nickel
Contacts terminals	Gold plated nickel
LED terminals	Silver plated nickel

### PART NUMBERS

#### NON-ILLUMINATED

Ø13.5	Ø12	Cap
FL13NN5	FL12NN5	Black
FL13NB5	FL12NB5	Blue
FL13NG5	FL12NG5	Green
FL13NO5	FL12NO5	Orange
FL13NR5	FL12NR5	Red
FL13NW5	FL12NW5	White
FL13NY5	FL12NY5	Yellow

#### ILLUMINATED

Ø13.5	Ø12	Cap
FL13LB5	FL12LB5	Blue
FL13LG5	FL12LG5	Green
FL13LO5	FL12LO5	Orange
FL13LR5	FL12LR5	Red
FL13LW5	FL12LW5	White
FL13LY5	FL12LY5	Yellow

#### DUAL-COLOR ILLUMINATED

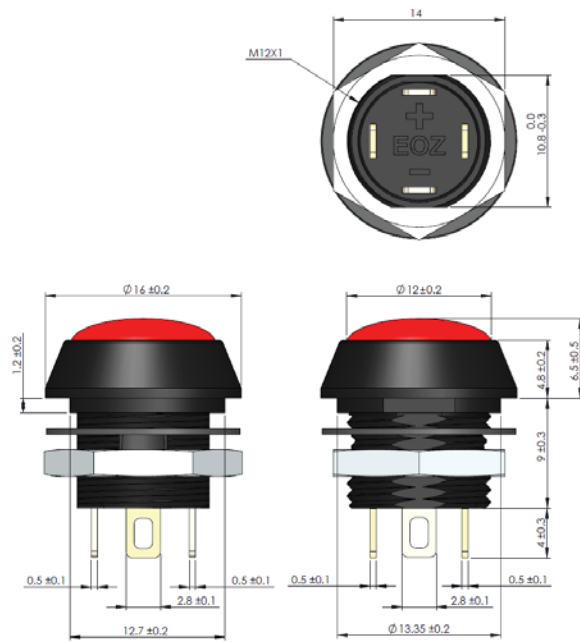
Ø13.5	Ø12	Cap	Illumination color
FL13DGB5	FL12DGB5	Milky white	Green or Blue
FL13DRB5	FL12DRB5	Milky white	Red or Blue
FL13DRG5	FL12DRG5	Milky white	Red or Green

EAO Ltd  
Highland House  
Albert Drive  
Burgess Hill  
RH15 9TN  
Tel 01444 236000  
sales.euk@eao.com

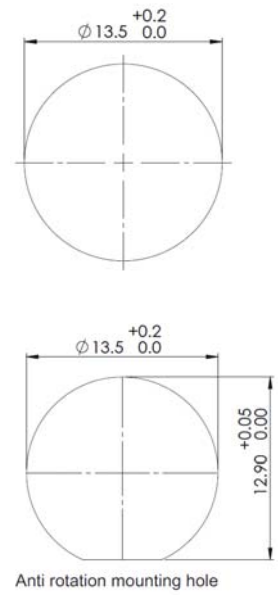
[www.eao.com](http://www.eao.com)



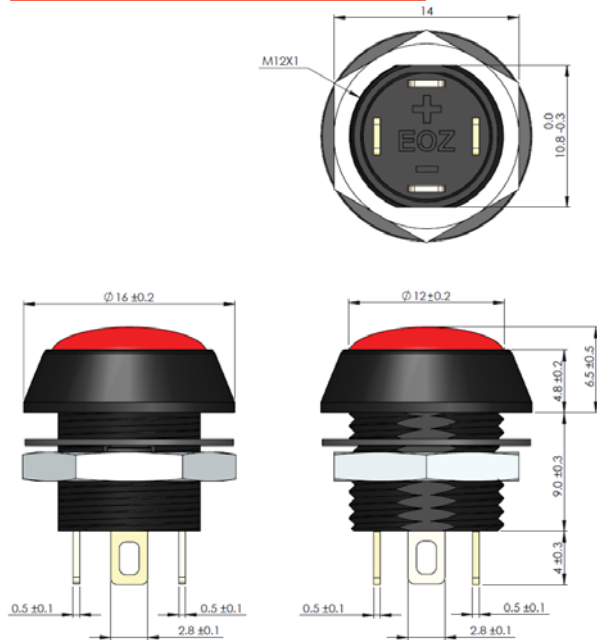
**Ø13.5mm PRODUCT DRAWINGS**



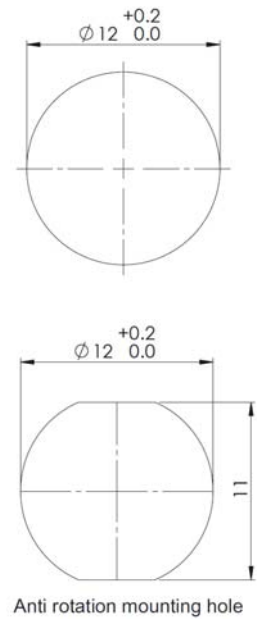
**PANEL CUT OUT**



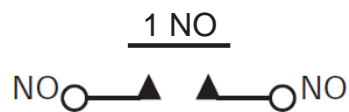
**Ø12mm PRODUCT DRAWINGS**



**PANEL CUT OUT**



**DIAGRAM**

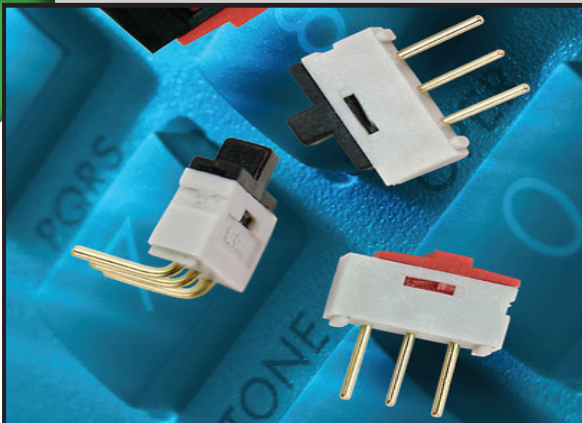




# 1K2



A1



## COMPONENTS

Recommended for all PCB applications as the most compact changeover switch on the market, the 1K2 is ideal as a jumper replacement.

A standard (red) or extended (black) slide actuator gives instant recognition of switch position.

### Electrical life 1 000 operations

- Resistance to wave soldering at 250° C, 5 sec.
- Choice of straight or right angle PCB mounting
- Saline mist 24 hours, 96 hours (tropicalised version),
- Damp heat 4 days, 21 days (tropicalised version),
- Electrical life 1 000 operations
- Cursor position

## TECHNICAL SPECIFICATIONS

### ELECTRICAL SPECIFICATIONS

Nominal Current	500 mA
Minimum Current	1 mA
Nominal Voltage	12 V
Maximum Voltage	24 V
Minimum Voltage	10 mV
Electrostatic breakdown value	5 kV
Isolation resistance	≥10000 MΩ at 100Vdc
Contact resistance	≤22 Ω
Electrical life	1000 actuations
Electric strength as per EN IEC 60512-2	250 V <sub>rms</sub> , 50 Hz, 1 min

### MECHANICAL CHARACTERISTICS

Switching action	Maintained		
Actuating travel	1.6 mm		
Operating temperature	-40°C ... +85°C		
Shock resistance as per IEC 60512-4-6c	50 g, 11 ms		
Environmental resistance	Standard «Gold cont.»	Tropical «Gold cont.»	
	- Damp heat as per EN IEC 60512-11f	4 days	21 days
	- Saline mist as per EN IEC 60512-11f	24 hours	96 hours

#### Manual spot welding guideline

The 1K2 is designed for machine wave flow soldering. If manual soldering needs to be done, the following guidelines have to be adhered to (in accordance to IEC 60068-2-20):

Size of tip of soldering iron: 3mm dia.

- Type of solder: Sn/Ag/Cu
- Soldering temperature: 350°C at 370°C
- Soldering time: 1s at 5s max
- In order to avoid overheating, a small break has to be observed between each solder-application
- The soldering iron has to be kept clean at all times.
- It is mandatory to tin the tip of the soldering iron before the soldering can take place.
- When soldering, the tip of the iron has to first pre-heat the «inter-section» between pin and circuit, before applying the solder.

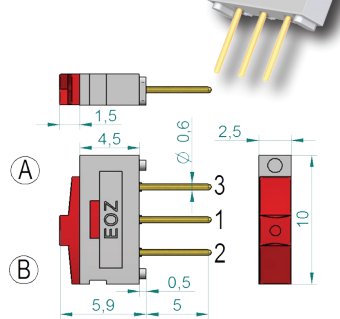
### STANDARD PART NUMBERS

Change-over slide switch 1-pole	Part Numbers
Pins axial (standard version), plastic black raised slider	<b>09.03290.01</b>
Pins axial (standard version), plastic red slider	<b>09.03201.02</b>
Pins axial (3 mm), plastic black raised slider	<b>09.03290.01X116</b>
Pins axial (3 mm), plastic red slider	<b>09.03201.02X115</b>
Pins axial (tropicalised version), plastic red slider	<b>19.03201.01</b>
Pins bent at right-angles (standard version) plastic black raised slider	<b>09.10290.01</b>
Pins bent at right-angles (standard version) plastic red slider	<b>09.10201.02</b>

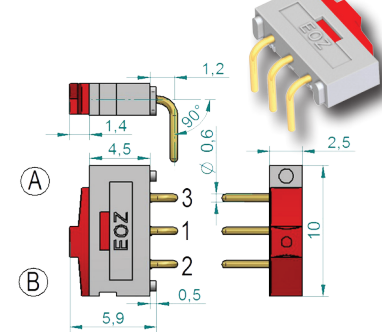
Further options and information available: [www.eozonline.com](http://www.eozonline.com)

### DIMENSIONS

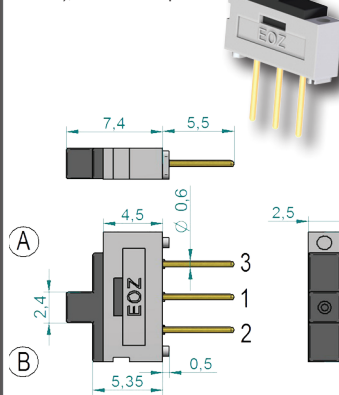
Pins axial (standard version), Red plastic slider



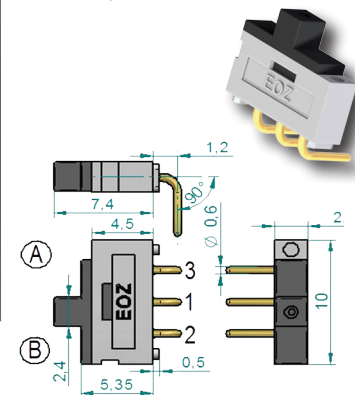
Right-angles bented pins (standard version) Red plastic slider



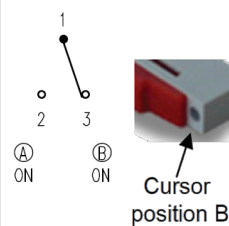
Pins axial (standard version), Black raised plastic



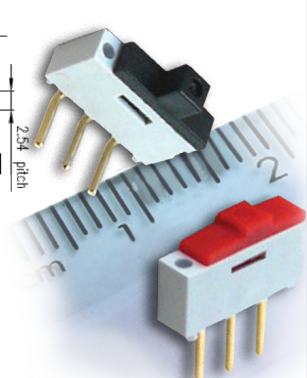
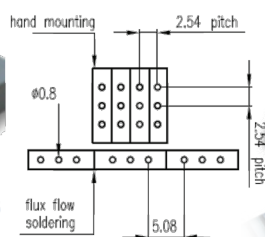
Right-angles bented pins (standard version) Black raised plastic slider



### CONNEXIONS



### MOUNTING





# DJET Ø 6.35 mm Toggle Switch and Pushbutton



A7



## COMPONENTS

Recommended for outdoor applications, military and avionics equipment, telecommunications, medical equipment, power supplies. The professional toggle and pushbutton switches are available in one or two pole version available.

### Electrical life 100 000 operations

- Front panel thickness: Min. 1.2 mm
- Switching system: Positive snap-action
- Damp heat: 56 days (Gold contact versions only)
- Tightening torque: Rear nut 125 Ncm  
Ruffle 30

## TECHNICAL SPECIFICATIONS

ELECTRICAL SPECIFICATIONS		
	Standard «silver cont.»	Tropical «gold cont.»
Operating: voltage	10V	10 mV
current	50 mA	100 µA
Switch rating «Resistive circuit»		
Voltage	220 V 110 V 48 V 24 V 12 V	
Current	1.5A 2.5A 1A 2.25A 4.5A	
Inductive circuit: 50 % of above values		
Isolation resistance	≥100000 MΩ at 500Vdc	
Contact resistance	≤10 mΩ	≤10 mΩ
Electrical life (actuations)	100 000	100 000
Electric strength		
1000 Vrms, 50 Hz between terminals on the same pole		
2000 Vrms, 50 Hz between all terminals connected together and ground		
2000 Vrms, 50 Hz between terminals of adjacent poles		

MECHANICAL CHARACTERISTICS		
Storage temperature	-40 °C ... +85 °C	
Operating temperature	-40 °C ... +85 °C	
Protection degree	IP 65	
Shock resistance as per IEC 60512-4	100 g	
Environmental resistance		
- Damp heat as per EN IEC 60512-11f	Standard «silver cont.»	Tropical «gold cont.»
- Saline mist as per EN IEC 60512-11f	-	56 days
		96 hours

STANDARD PART NUMBERS					
Toggle switch Ø6.35mm metal <b>chrome</b>		Switching action	contact	Numbers	Technical drawing
• Standard «silver» contact	#	MA-MA	1	<b>01.17301.21</b>	3
• Standard «silver» contact	#	MA-MA	2	<b>02.17312.21</b>	2
Pushbutton switch Ø6.35mm metal <b>mat-black</b>					
• Tropical «gold» contact	#	MA-MO	1	<b>17.17851.30</b>	1
Pushbutton switch Ø6.35mm metal <b>chrome</b>					
• Standard «silver» contact	#	MA-MO	1	<b>07.17801.21</b>	1
• Tropical «gold» contact	#	MA-MO	1	<b>17.17851.21</b>	1

Switching action: MA= Maintained, MO= Momentary

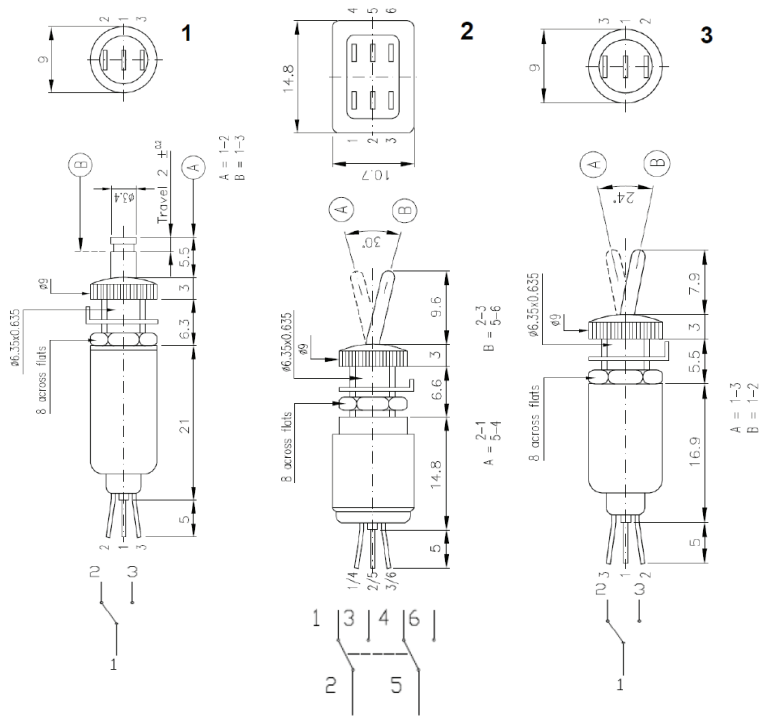
# = Silicone Cap available page 17

Further options and information available: [www.eozonline.com](http://www.eozonline.com)



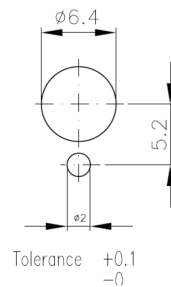
## DIMENSIONS

technical drawing



## MOUNTING

FRONT PANEL  
MOUNTING HOLE:





# DJET Ø 10mm Toggle Switch



A8



## COMPONENTS

Recommended for outdoor applications, military and avionics equipment, telecommunications, medical equipment, power supplies. The professional toggle switches are available in one or two pole version. The switches can be IP 65 with fitted silicone cap or IP 67 front sealed.

### Electrical life 100 000 operations

- Switching system: positive snap-action
- Front panel thickness: Min. 1.2 mm
- Damp heat: 56 days (Gold contact versions only)
- Tightening torque: Rear nut 125 Ncm  
Ruffle 30

## TECHNICAL SPECIFICATIONS

ELECTRICAL SPECIFICATIONS				
	Standard «silver cont.»		Tropical «gold cont.»	
Operating: voltage	10V		10 mV	
current	50 mA		100 µA	
Switch rating «Resistive circuit»				
Voltage	220 V	110 V	48 V	24 V
Current	1.5A	2.5A	1A	2.25A
Inductive circuit: 50 % of above values				
Isolation resistance	≥100000 MΩ at 500Vdc			
Contact resistance	≤10 mΩ		≤10 mΩ	
Electrical life (actuations)	100 000		100 000	
Electric strength				
1000 Vrms, 50 Hz between terminals on the same pole				
2000 Vrms, 50 Hz between all terminals connected together and ground				
2000 Vrms, 50 Hz between terminals of adjacent poles				

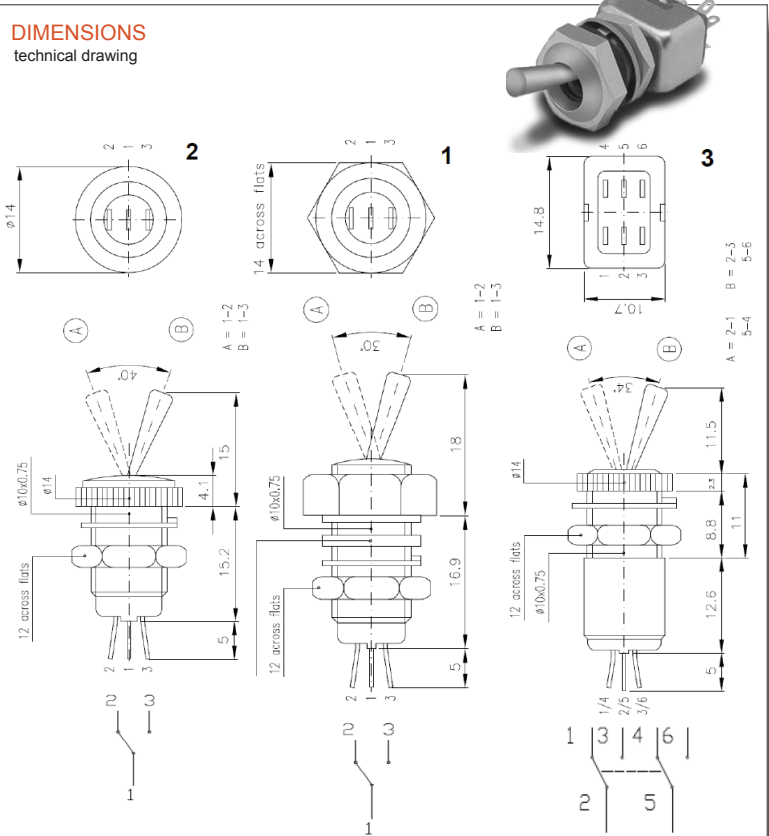
MECHANICAL CHARACTERISTICS		
Storage temperature	-40 °C ... +85 °C	
Operating temperature	-40 °C ... +85 °C	
Protection degree	IP 67 (sealed 10 mm dia. version only) IP 65 with protective cap #	
Shock resistance	as per IEC 60512-4	100 g
Environmental resistance		
- Damp heat	as per EN IEC 60512-11f	56 days
- Saline mist	as per EN IEC 60512-11f	96 hours

STANDARD PART NUMBERS				
Toggle switch Ø10mm metal <b>mat-black</b>				
• Tropical «gold» contact, IP67 «front sealing»	MA-MA	1	<b>11.17201.30</b>	1
Toggle switch Ø10mm metal <b>mat-chrome</b>				
• Tropical «gold» contact, IP67 «front sealing»	MA-MA	1	<b>11.17201.22</b>	1
• Standard «silver» contact, IP67 «front sealing»	MA-MA	1	<b>11.17271.22</b>	1
• Standard «silver» contact, IP67 «front sealing»	MA-MA	2	<b>12.17273.22</b>	3
Toggle switch Ø10mm metal <b>chrome</b>				
• Tropical «gold» contact	MA-MA	1	<b>11.17051.21</b>	2
• Tropical «gold» contact #	MA-MA	2	<b>12.17063.21</b>	3
• Standard «silver» contact	MA-MA	1	<b>01.17001.21</b>	2
• Standard «silver» contact #	MA-MA	2	<b>02.17013.21</b>	3

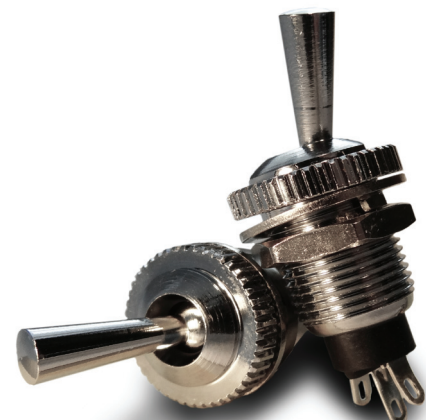
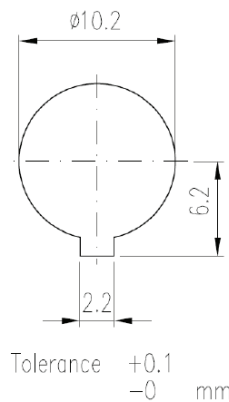
Switching action: MA= Maintained.

# = Silicone Cap available page 17

Further options and information available: [www.eozonline.com](http://www.eozonline.com)



## MOUNTING





# DJET Ø 10mm Pushbutton



A9



## COMPONENTS

Recommended for outdoor applications, military and avionics equipment, telecommunications, medical equipment, power supplies. The professional toggle switches are available in one or two pole version. The switches can be IP 65 with fitted silicone cap or IP 67 front sealed.

### Electrical life 100 000 operations

- Switching system: positive snap-action
- Front panel thickness: Min. 1.2 mm
- Damp heat: 56 days (Gold contact versions only)
- Tightening torque: Rear nut 125  
Ruffle 30

## TECHNICAL SPECIFICATIONS

ELECTRICAL SPECIFICATIONS				
	Standard «silver cont.»		Tropical «gold cont.»	
Operating: voltage	10V		10 mV	
current	50 mA		100 µA	
Switch rating «Resistive circuit»				
Voltage	220 V	110 V	48 V	24 V
Current	1.5A	2.5A	1A	2.25A
Inductive circuit: 50 % of above values				
Isolation resistance	≥100000 MΩ at 500Vdc			
Contact resistance	≤10 mΩ		≤10 mΩ	
Electrical life (actuations)	100 000		100 000	
Electric strength				
1000 Vrms, 50 Hz between terminals on the same pole				
2000 Vrms, 50 Hz between all terminals connected together and ground				
2000 Vrms, 50 Hz between terminals of adjacent poles				

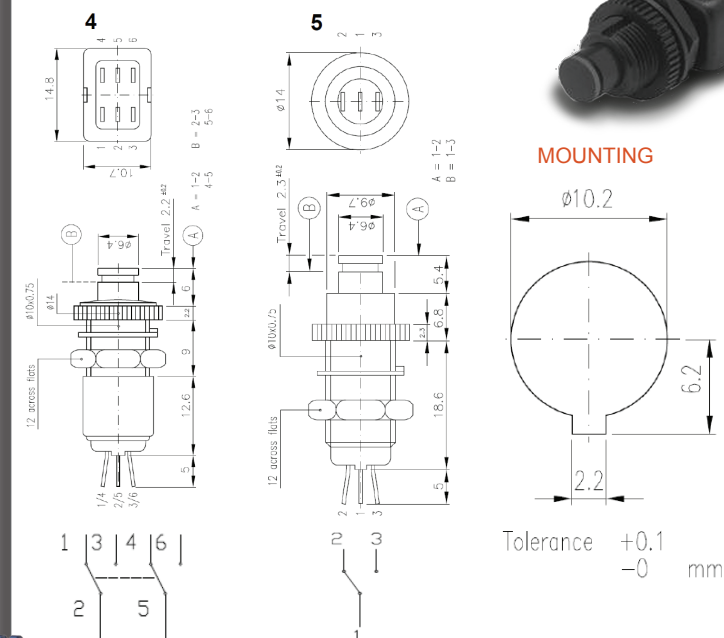
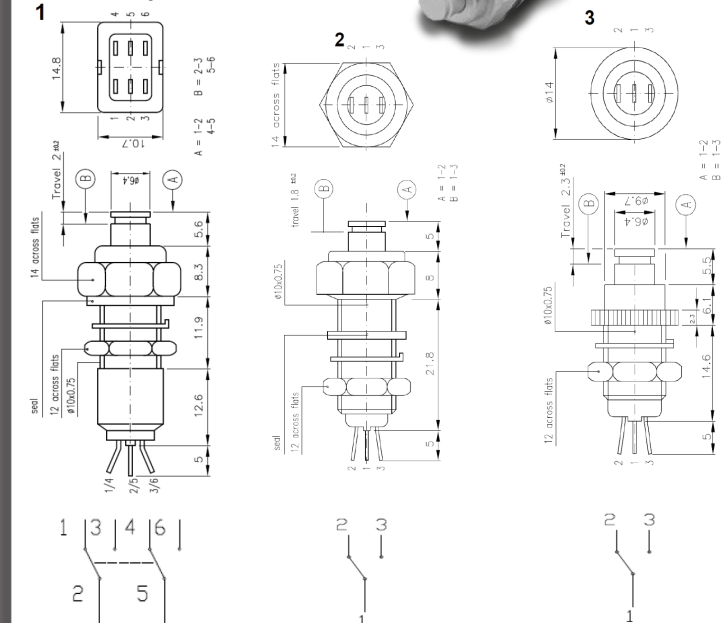
MECHANICAL CHARACTERISTICS		
Storage temperature	-40 °C ... +85 °C	
Operating temperature	-40°C ... +85°C	
Protection degree	IP 67 (sealed 10 mm dia. version only) IP 65 with protective cap	
Shock resistance as per IEC 60512-4	100 g	
Environmental resistance		
- Damp heat as per EN IEC 60512-11f	56 days	
- Saline mist as per EN IEC 60512-11f	96 hours	

STANDARD PART NUMBERS				
Pushbutton Ø10mm metal <b>mat-black</b>	Switching action	contact	Numbers	Technical drawing
• Tropical «gold» contact, IP67 «front sealing»	MO	2	<b>18.17253.30</b>	1
• Tropical «gold» contact, IP67 «front sealing»	MO	1	<b>17.17252.30</b>	2
• Standard «silver» contact, IP67 «front sealing»	MO	1	<b>17.17282.30</b>	2
• Tropical «gold» contact	MO	1	<b>17.17551.30</b>	3
• Tropical «gold» contact	MO	1	<b>17.17552.30</b>	5
• Tropical «gold» contact #	MO	2	<b>18.17563.30</b>	4
Pushbutton Ø10mm metal <b>mat-chrome</b>				
• Tropical «gold» contact, IP67 «front sealing»	MO	1	<b>17.17252.22</b>	2
• Standard «silver» contact, IP67 «front sealing»	MO	1	<b>17.17282.22</b>	2
Pushbutton Ø10mm metal <b>chrome</b>				
• Tropical «gold» contact, IP67 «front sealing»	MO	2	<b>18.17253.22</b>	1
• Standard «silver» contact, IP67 «front sealing»	MO	2	<b>18.17283.22</b>	1
• Tropical «gold» contact	MO	1	<b>17.17552.21</b>	5
• Tropical «gold» contact #	MO	2	<b>18.17563.21</b>	4
• Standard «silver» contact	MO	1	<b>07.17502.21</b>	5
• Standard «silver» contact #	MO	2	<b>08.17513.21</b>	4

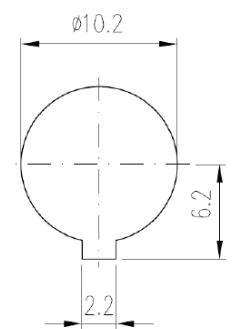
Switching action: MO= Momentary  
# = Silicone Cap available page 17

Further options and information available: [www.eozonline.com](http://www.eozonline.com)

## 3 DIMENSIONS technical drawing



## MOUNTING



Tolerance +0.1  
-0 mm

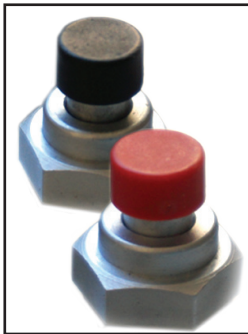


# Accessories DJET

## Toggle Switch and Pushbutton

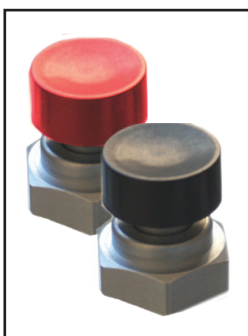
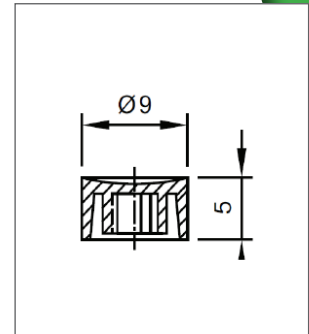


A10



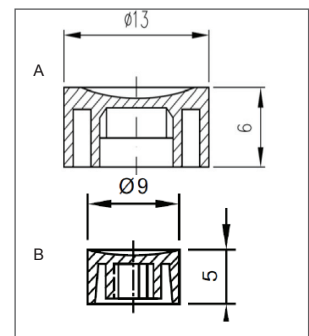
### Cap for pushbutton Ø 6.35 mm

Type	Front ring	Reference
Cap Ø 9 mm	Plastic black	<b>20.17804.01</b>
Type	Front ring	Reference
Cap Ø 9 mm	Plastic red	<b>20.17804.02</b>



### Cap for pushbutton Ø 10 mm

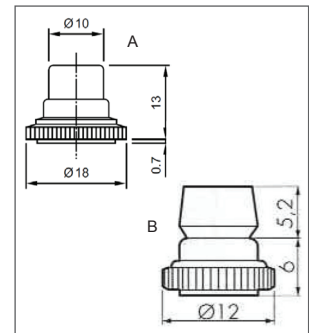
Type	Front ring	Reference	Draw.
Cap Ø 9 mm	Plastic black	<b>20.17504.01</b>	B
Cap Ø 13 mm	Plastic black	<b>20.17254.01</b>	A
Type	Front ring	Reference	Draw.
Cap Ø 9 mm	Plastic red	<b>20.17504.02</b>	B



### Protective cap for pushbutton

with black silicone cap

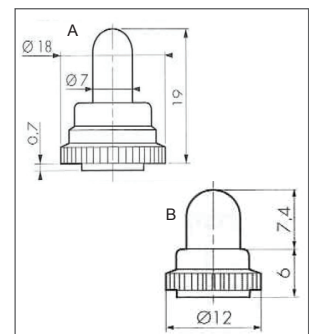
Type	Front ring	Reference	Draw.
Cap for Ø 10 mm	Metal chrome	<b>20.17292.21</b>	A
Cap for Ø 6.35 mm	Metal chrome	<b>20.25292.21</b>	B
Cap for Ø 6.35 mm	Metal black	<b>20.25292.30</b>	B



### Protective cap for toggle switch

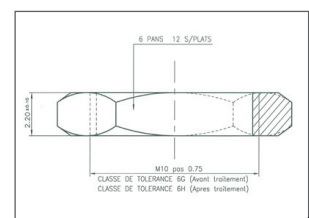
with black silicone cap

Type	Front ring	Reference	Draw.
Cap Ø for 10 mm	Metal chrome	<b>20.17291.21</b>	A
Cap Ø for 6.35 mm	Metal chrome	<b>20.25291.21</b>	B
Cap Ø for 6.35 mm	Metal black	<b>20.25291.30</b>	B



### Hexagon nut for pushbutton

Type	Front ring	Reference
Ø10 mm	Metal chrome matt	<b>20.17016.21</b>





# M.series



B1



## Keypads

Thanks to a 30 year experience in the conception and manufacturing of keypad devices, EOZ has developed the M.series keypad range, designed to operate in varied environments and which can be used in different applications.

Electrical life 1 million actuations for dome version

Electrical life 4 million actuations for membrane version

- Choice available for key shape and dimension
- Anti-twist keys and anti pull off keys
- Laser engraving for a high flexibility
- Standard colours of keys (other colours available):
  - Key top: natural (grey), green, red, yellow
  - Illumination: yellow and blue (standard)



## TECHNICAL SPECIFICATIONS

### ELECTRICAL SPECIFICATIONS

Power supply:	5 VDC, 240mA
Illuminated versions:	blue, red, green, yellow and white.
Contact resistance	Dome version: < 1 Ohm Membrane version: < 200 Ohms
Electrostatic breakdown value	15kV with a metallic front plate

### MECHANICAL CHARACTERISTICS

Storage temperature	-40°C to +85°C (-30°C for illuminated)	
Operating temperature	-25°C to +85°C	
Protection degree	IP 67 (front face)	
Shock resistance	IK 09 for standard versions with a 3mm thick front plate	
Actuation force:	Dome version:	4.5N +/- 30%
	Membrane version:	1.9N +/- 30%
Key travel:	0.5 ± 0.3 mm	1 ± 0.3 mm
Lifetime (actuations/key):	1 million actuations	4 million actuations
Environmental resistance		
- Damp heat (@+40°C) as per EN IEC 60512-6	21 days	
- Saline mist as per EN IEC 60512-6	96 Hours	
- Dry heat (@+85°C) as per EN IEC 60512-6	21 days	
- UV resistance	56 days	

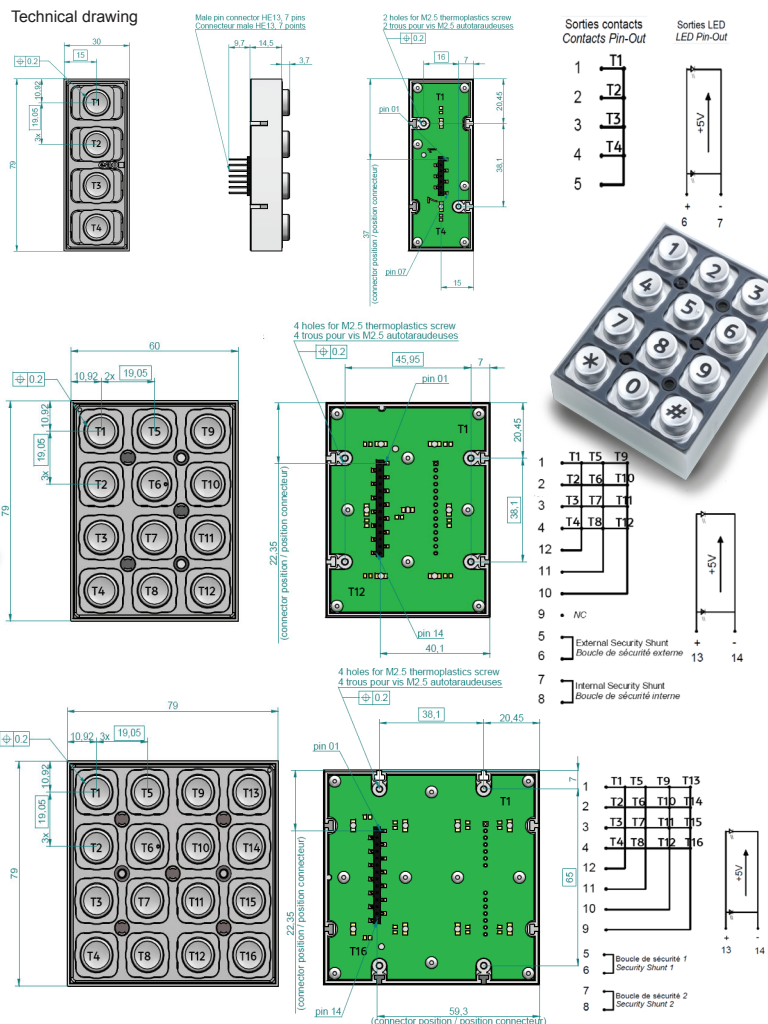


### STANDARD PART NUMBERS

4 Key version with 1.2.3.4 marking	Interface	Part numbers
• Non illuminated membrane	Common point	<b>M04PARSANLPA</b>
• Non illuminated domes	Common point	<b>M04PARSANSPA</b>
• Yellow illuminated membrane	Common point	<b>M04IARSAYLPA</b>
• Yellow illuminated domes	Common point	<b>M04IARSAYSIPA</b>
12 Key version with Telephone marking		
• Non illuminated membrane	Matrix	<b>M12PARSANLMT</b>
• Non illuminated domes	Matrix	<b>M12PARSANSMT</b>
• Yellow illuminated membrane	Matrix	<b>M12IARSAYLMT</b>
• Yellow illuminated domes	Matrix	<b>M12IARSAYSMT</b>
• Blue illuminated membrane	Matrix	<b>M12IARSABLMT</b>
• Blue illuminated domes	Matrix	<b>M12IARSABSMT</b>
16 Key version with Hexadecimal marking		
• Non illuminated membrane	Matrix	<b>M16PARSANLMH</b>
• Non illuminated domes	Matrix	<b>M16PARSANSMH</b>
• Yellow illuminated membrane	Matrix	<b>M16IARSAYLMH</b>
• Yellow illuminated domes	Matrix	<b>M16IARSAYSMH</b>
• Blue illuminated membrane	Matrix	<b>M16IARSABLMH</b>
• Blue illuminated domes	Matrix	<b>M16IARSABSMH</b>
16 Key version with marking Banking		
• Non illuminated membrane	Matrix	<b>M16PARSANLMB</b>
• Non illuminated domes	Matrix	<b>M16PARSANSMB</b>
<b>Mounting element</b>		
• Bracket		<b>FIX.M001</b>

Further options and information available: [www.eozonline.com](http://www.eozonline.com)

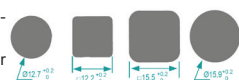
## DIMENSIONS



## MOUNTING

The keypads can be mounted from the rear, with different options possible:

- Brackets: 2 mounting clips made of ABS polycarbonate
- 4 holes in the back of the housing of the keypad for customised integration
- Tightening torque: 50 Ncm ± 5 Ncm (screws for thermoplastic)

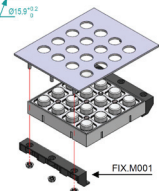


## TYPE OF STANDARD KEYS

- Standard colors: Natural aluminium, red, yellow and green



- Specific colors on request: blue, orange, anthracite grey...



# M.series Axess



## Keypads

A low-profile version of the M.series rugged keypad has been added to the range of products offered by EOZ – your solutions partner.

Just 8mm deep, the M.series “Axess” offers the same design flexibility and versatility as it’s larger brother, but with a lower behind-panel depth.

### Electrical life 1 million actuations

- Modularity is at the heart of the design
- Colour of LED illumination.
- M.series Axess, a low-profile keypad offering design flexibility.

B2

## TECHNICAL SPECIFICATIONS

### ELECTRICAL SPECIFICATIONS

Power supply:	5 VDC, 240mA
Illuminated versions:	blue and yellow as standard, red, green, and white on request
Contact resistance	Dome version: < 1 Ohm
Electrostatic breakdown value	10kV with a metallic front plate

### MECHANICAL CHARACTERISTICS

Storage temperature	-40°C to +85°C (-30°C for illuminated)
Operating temperature	-25°C to +85°C
Protection degree	IP 65 (front face)
Shock resistance	IK 09 for standard versions with a 3mm thick front plate
Actuation force:	4.5N +/- 30%
Key travel:	0.5 ±0.3 mm
Lifetime (actuations/key):	1 million actuations
<b>Environmental resistance</b>	
- Damp heat (@+40°C) as per EN IEC 60512-6	21 days
- Saline mist as per EN IEC 60512-6	96 Hours
- Dry heat (@+85°C) as per EN IEC 60512-6	21 days
- UV resistance	56 days

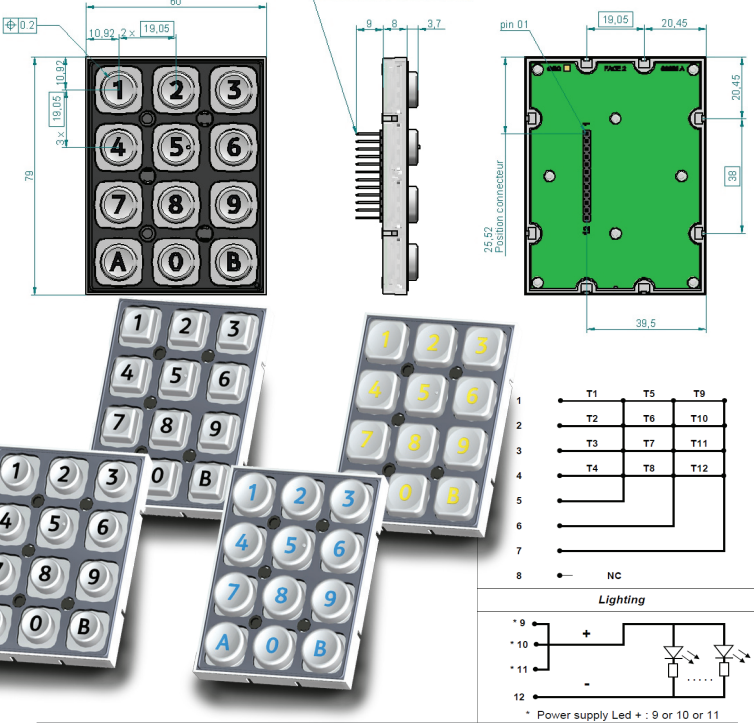
### STANDARD PART NUMBERS

	Shape	Seize	Dimension keys	Part numbers
<b>12 Key Non illuminated version with A and B «Function» marking</b>				
• Non illuminated	Round	Small	Ø 12	<b>AXN12001</b>
• Non illuminated	Square	Small	11.6 x 11.6	<b>AXN12002</b>
• Non illuminated	Round	Big	Ø 15.6	<b>AXN12003</b>
• Non illuminated	Square	Big	15 x 15	<b>AXN12004</b>
<b>12 Key YELLOW illuminated version A and B «Function» with marking</b>				
• Yellow illuminated	Round	Small	Ø 12	<b>AXL12011</b>
• Yellow illuminated	Square	Small	11.6 x 11.6	<b>AXL12012</b>
• Yellow illuminated	Round	Big	Ø 15.6	<b>AXL12013</b>
• Yellow illuminated	Square	Big	15 x 15	<b>AXL12014</b>
<b>12 Key BLEU illuminated version with A and B «Function» marking</b>				
• Blue illuminated	Round	Small	Ø 12	<b>AXL12021</b>
• Blue illuminated	Square	Small	11.6 x 11.6	<b>AXL12022</b>
• Blue illuminated	Round	Big	Ø 15.6	<b>AXL12023</b>
• Blue illuminated	Square	Big	15 x 15	<b>AXL12024</b>
<b>Mounting element</b>				
• Bracket				<b>FIX.AX01</b>

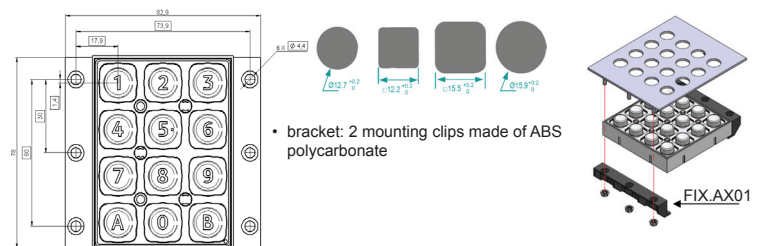
Further options and information available: [www.eozonline.com](http://www.eozonline.com)

## DIMENSIONS

Technical drawing

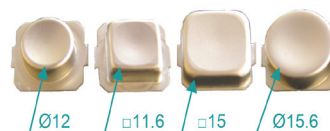


## MOUNTING



## TYPE OF STANDARD KEYS

- Standard colors: Natural aluminium, red, yellow and green
- Specific colors on request: blue, orange, anthracite grey....



# S.series



B3



## Keypads

The 12 or 16 key S.series keypads are specially designed for public environment applications, such as vending machines, ticket machines, payment terminals, telephones, access control systems and industrial machinery.

### Electrical life 4 million actuations / key

- The S.series therefore has high resistance to impact and vandalism (IK10) and is also sealed to IP 67
- KEYS: The metal anti pull-off keys are highly resistant to shock and fire.
- MARKING: Customised markings or symbols in different colours are available on request

## TECHNICAL SPECIFICATIONS

### ELECTRICAL SPECIFICATIONS

Power supply:	Nominal 5 V, 5 mA Maximum voltage 24 V Minimum voltage 0.5 V Minimum current 0.1 mA
Illumination	
Current consumption for single LED:	20 mA at 2.1 V (yellow and green) 20 mA at 1.9 V (red) 10 mA at 3.4 V (blue)
<i>NOTE: A load resistor may need to be connected by the customer in order to power the LED correctly. Luminosity and wave length scattering caused by technologie used in the LED manufacturing processes may lead to visual differences in our products</i>	
Contact resistance	≤200 Ω
Electrostatic breakdown value	5 kV
Isolation resistance	≥1000 MΩ at 100 VDC
Electric strength	as per EN IEC 60512-2 1500 Vrms, 50 Hz, 1 min.,

### MECHANICAL CHARACTERISTICS

Storage temperature	-30 °C ... +85 °C
Operating temperature	-25°C ... +85°C
Protection degree	IP 67 as per IEC 60529, mounted
Shock resistance	IK 10 (20J)
Actuation force:	2 N ±1N
Key travel:	1.5 mm ±0.3 mm
Lifetime (actuations/key):	4 million actuations
Rebound time:	≤40 ms
Environmental resistance	
- Damp heat (@+40°C) as per EN IEC 60512-6	21 days
- Saline mist as per EN IEC 60512-6	96 Hours
- Dry heat (@+85°C) as per EN IEC 60512-6	10 days

### STANDARD PART NUMBERS

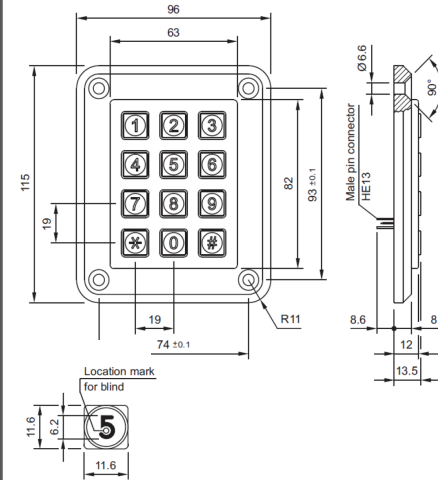
12 Keys version with TELEPHONE marking	Circuit	Part numbers
• Non Illuminated / Black	Common point «PC»	<b>S.12100.001</b>
• Non Illuminated / Black	Matrix «XY»	<b>S.12150.001</b>
• Blue Illuminated	Common point «PC»	<b>S.12100.211</b>
• Blue Illuminated	Matrix «XY»	<b>S.12150.211</b>
• Yellow Illuminated	Common point «PC»	<b>S.12100.241</b>
• Yellow Illuminated	Matrix «XY»	<b>S.12150.241</b>
16 Keys version with HEXADECIMAL marking	Circuit	Part numbers
• Non Illuminated / Black	Common point «PC»	<b>S.16300.001</b>
• Non Illuminated / Black	Matrix «XY»	<b>S.16350.001</b>
• Blue Illuminated	Common point «PC»	<b>S.16300.211</b>
• Blue Illuminated	Matrix «XY»	<b>S.16350.211</b>
• Yellow Illuminated	Common point «PC»	<b>S.16300.241</b>
• Yellow Illuminated	Matrix «XY»	<b>S.16350.241</b>

Further options and information available: [www.eozonline.com](http://www.eozonline.com)

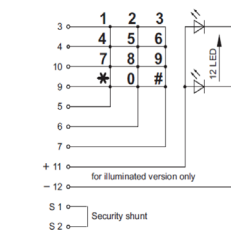
## DIMENSIONS

Technical drawing

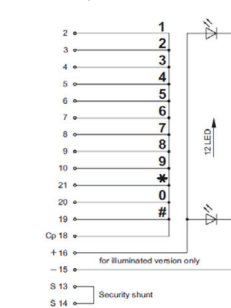
### 12 Keys telephone



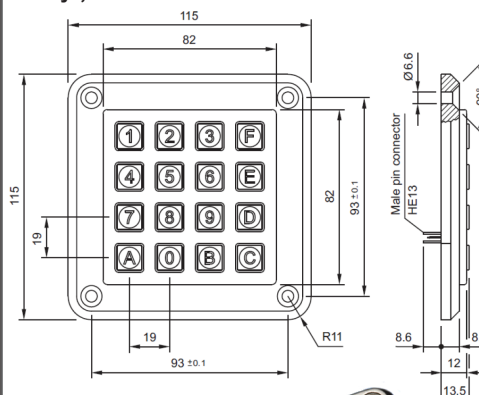
Matrix:



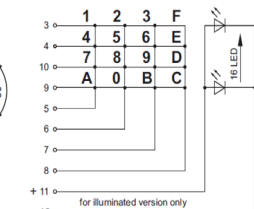
Common point:



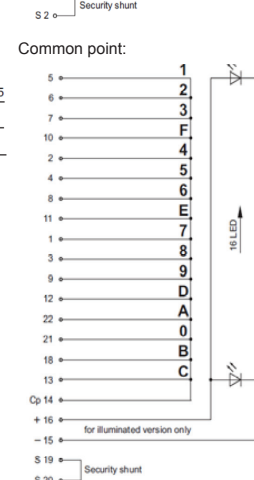
### 16 Keys, Hexadecimal



Matrix:



Common point:



# S.series Lite



## Keypads

The S.series Lite looks like a metal keypad, but the keys and housing are crafted from polycarbonate which is known for its incredible strength and high-impact resistance. It is also protected to IP67 against water, oil and dirt ingress and the metal-look finish is scratch-resistant to ensure long-lasting good

### Electrical life 4 million actuations / key

- KEYS: Polycarbonate (PC), metal-look
- MARKING: Precision marking using laser etching and marking. Customised markings or symbols on request.

B4

## TECHNICAL SPECIFICATIONS

ELECTRICAL SPECIFICATIONS	
Power supply:	Nominal 5 V, 5 mA Maximum voltage 24 V Minimum voltage 0.5 V Minimum current 0.1 mA
Illumination (by LED)	5V (all colours) blue and yellow as standard, red, green, and white on request
Contact resistance	≤200 Ω
Electrostatic breakdown value	5 kV
Isolation resistance	≥1000 MΩ at 100 VDC
Electric strength	as per EN IEC 60512-2 1500 Vrms, 50 Hz, 1 min.,

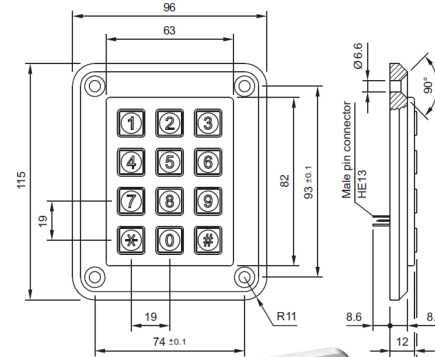
MECHANICAL CHARACTERISTICS	
Storage temperature	-30 °C ... +85 °C
Operating temperature	-25°C ... +85°C
Protection degree	IP 67 as per IEC 60529, mounted
Shock resistance	IK 09
Actuation force:	2 N ±1N
Key travel:	1.5 mm ±0.3 mm
Lifetime (actuations/key):	4 million actuations
Rebound time:	≤40 ms
Environmental resistance	
- Damp heat (@+40°C) as per EN IEC 60512-6	21 days
- Saline mist as per EN IEC 60512-6	96 Hours
- Dry heat (@+85°C) as per EN IEC 60512-6	10 days

STANDARD PART NUMBERS		
<b>12 Keys version with TELEPHONE marking</b>		
• Non Illuminated / Black	Common point «PC»	<b>SL.12100.001</b>
• Non Illuminated / Black	Matrix «XY»	<b>SL.12150.001</b>
• Blue Illuminated	Common point «PC»	<b>SL.12100.211</b>
• Blue Illuminated	Matrix «XY»	<b>SL.12150.211</b>
• Yellow Illuminated	Common point «PC»	<b>SL.12100.241</b>
• Yellow Illuminated	Matrix «XY»	<b>SL.12150.241</b>
<b>16 Keys version with HEXADECIMAL marking</b>		
• Non Illuminated / Black	Common point «PC»	<b>SL.16300.001</b>
• Non Illuminated / Black	Matrix «XY»	<b>SL.16350.001</b>
• Blue Illuminated	Common point «PC»	<b>SL.16300.211</b>
• Blue Illuminated	Matrix «XY»	<b>SL.16350.211</b>
• Yellow Illuminated	Common point «PC»	<b>SL.16300.241</b>
• Yellow Illuminated	Matrix «XY»	<b>SL.16350.241</b>

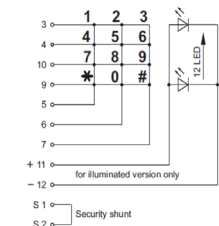
Further options and information available: [www.eozonline.com](http://www.eozonline.com)

## DIMENSIONS

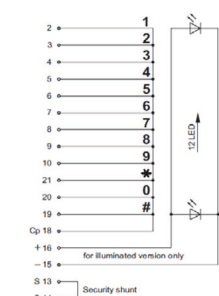
Technical drawing  
**12 Keys telephone**



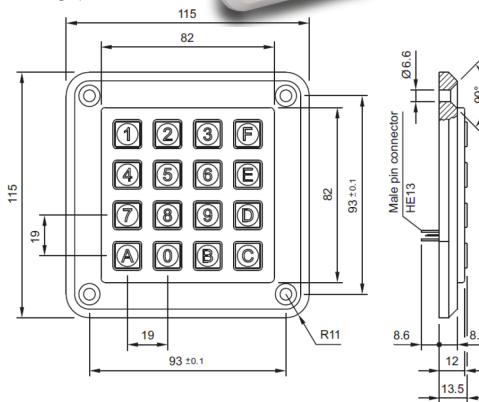
Matrix:



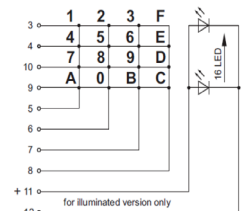
Common point:



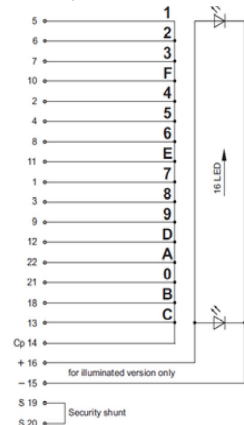
**16 Keys, Hexadecimal**



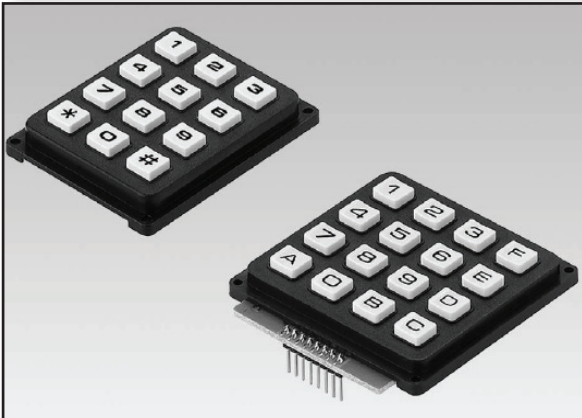
Matrix:



Common point:



# ECO.series



## Keypads

The ECO keypads are suited to all indoor applications including data-entry systems, remote controls, telephone, point of sales terminals or alarm systems.

The ECO range of low-cost, flush-mount keypads are rugged, economical devices available in 12-key telephone style and 16-key hexadecimal layouts.

Electrical life 1 Million actuations / key

B6

## TECHNICAL SPECIFICATIONS

### ELECTRICAL SPECIFICATIONS

Power supply:	Nominal 24V, 20 mA Maximum voltage 24 V Minimum voltage 500 mV Minimum current 10 mA
Contact resistance	≤200 Ω
Electrostatic breakdown value	5 kV
Isolation resistance	≥100 0 MΩ at 100 VDC
Switch rating	0.5 W

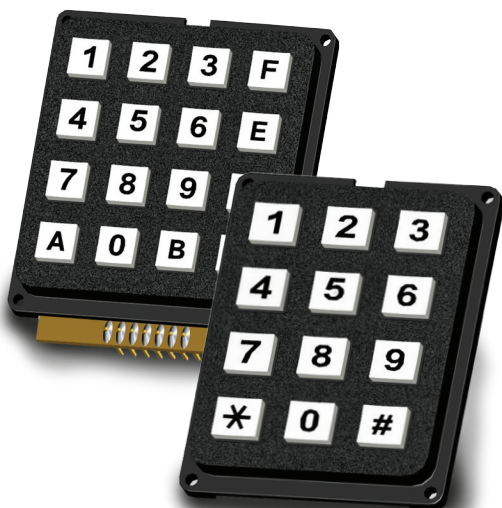
### MECHANICAL CHARACTERISTICS

Storage temperature	-40°C ... +65°C
Operating temperature	-20°C ... +60°C
Protection degree	IP 40
Shock resistance	IK 09
Actuation force:	1.2N ±35%
Key travel:	1.4 MM ±0.1N
Lifetime (actuations/key):	1 million actuations
Rebound time:	≤2 ms

### STANDARD PART NUMBERS

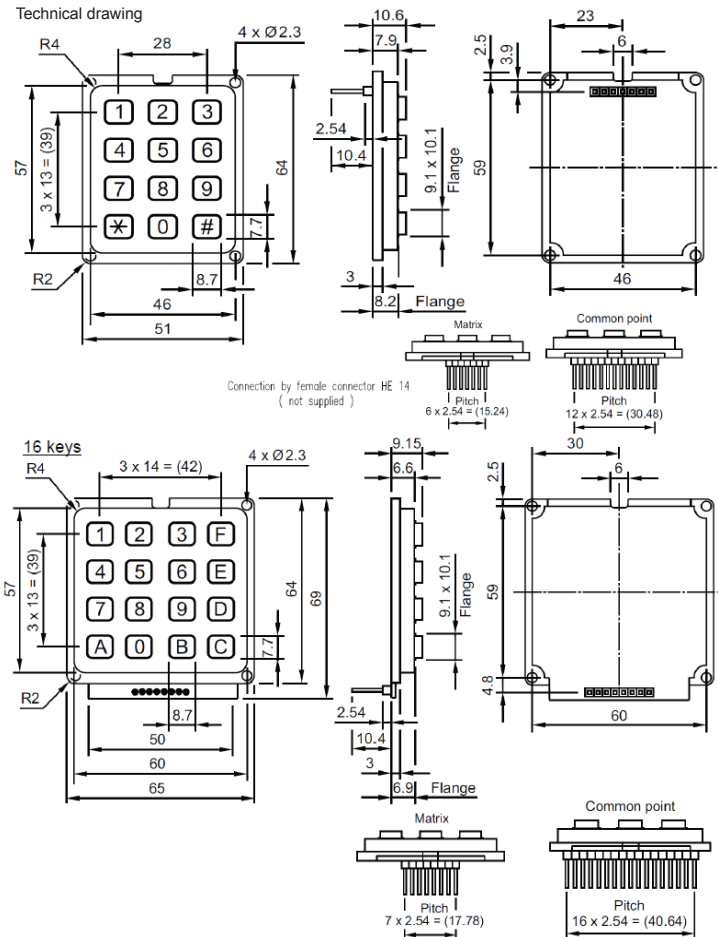
Packaging of 10 pcs	Key cap	Part numbers
<b>12 Key version with TELEPHONE marking</b>		
• Common point « PC »	plastic white	<b>ECO.12100.06</b>
• Matrix « XY »	plastic white	<b>ECO.12150.06</b>
<b>16 Key version with HEXADECIMAL marking</b>		
• Common point « PC »	plastic white	<b>ECO.16200.06</b>
• Matrix « XY »	plastic white	<b>ECO.16250.06</b>

Further options and information available: [www.eozonline.com](http://www.eozonline.com)



## DIMENSIONS

Technical drawing



### CONNECTION for 16 keys

	X1	X2	X3	X4
Y1	1	2	3	F
Y2	4	5	6	E
Y3	7	8	9	D
Y4	A	0	B	C

Matrix XY

CONTACTS



Common point



PC C B 0 A D 9 8 7 E 6 5 4 F 3 2 1

### CONNECTION for 12 keys

	X1	X2	X3
Y1	1	2	3
Y2	4	5	6
Y3	7	8	9
Y4	*	0	#

Matrix XY

CONTACTS



Common point



3 6 9 # 2 5 8 0 1 4 7 \* PC

PC = Common point

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