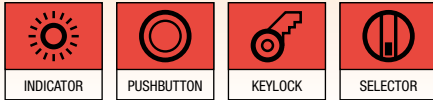


# Series 51

16 mm IP65 5A 250VAC



Choose one component from each of the coloured sections to assemble a complete switch.  
For other options or further information please contact your local sales office.

## Product Profile

The Series 51 is a high quality switch range that includes pushbuttons, indicators, selector switches and keylock switches.

It is possible to choose up to 4NO/4NC snap-action switching elements per switch.

Low level switching elements are also available.

Technical data see page 80

- IP65 Protection
- Switch Rating, 5A, 250VAC
- Raised Mounting into 16 mm cut out
- Illumination using midget-grooved T1 $\frac{3}{4}$  lamps or single chip LED's
- All standard lenses are transparent with translucent diffuser available in different colours
- For keylock switches 2 key systems and 145 different keys are available

## Indicator



Indicator bodies, raised in round, square and rectangular, black plastic, 16 mm mounting, solder terminals

Image	Part No.	Size
1	51-040.005	18x24 mm
2	51-050.005	18x18 mm
3	51-030.005	18 mm $\varnothing$

## Illuminated pushbutton



Illuminated pushbutton, snap-action, raised, rectangular, black plastic, 16 mm mounting

Part No.	Moment/Maint	Contact type	Size
51-121.0252	Momentary	1NO/1NC	18x24 mm
51-122.0252	Momentary	2NO/2NC	18x24 mm
51-261.0252	Maintained	1NO/1NC	18x24 mm
51-262.0252	Maintained	2NO/2NC	18x24 mm

For complete switch also order **A**

For complete switch also order **A**

## Illuminated pushbutton



Illuminated pushbutton, snap-action, raised, square, black plastic, 16 mm mounting

Part No.	Function	Contact type	Size
51-151.0252	Momentary	1NO/1NC	18x18 mm
51-152.0252	Momentary	2NO/2NC	18x18 mm
51-281.0252	Maintained	1NO/1NC	18x18 mm
51-282.0252	Maintained	2NO/2NC	18x18 mm

## Keylock switch



Illuminated pushbutton, snap-action, raised, round, black plastic, 16 mm mounting

Part No.	Function	Contact type	Size
51-131.0252	Momentary	1NO/1NC	18 mm $\varnothing$
51-132.0252	Momentary	2NO/2NC	18 mm $\varnothing$
51-271.0252	Maintained	1NO/1NC	18 mm $\varnothing$
51-272.0252	Maintained	2NO/2NC	18 mm $\varnothing$



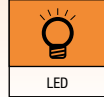
Keylock switch, 2 position, raised, snap-action, round, black plastic, 18 mm  $\varnothing$

Graphic	Part No.	Function	Contact	Key rem.
	51-135.025D2	Maint.	1NO/1NC	A + C
	51-136.025D2	Maint.	2NO/2NC	A + C
	51-235.025D2	Maint.	1NO/1NC	A
	51-335.025D2	Maint.	1NO/1NC	C
	51-141.025D2	Mom.	1NO/1NC	A

For complete switch also order **A**

For complete switch also order **A**

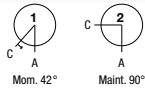
Choose one component from each of the coloured sections to assemble a complete switch.  
For other options or further information please contact your local sales office.



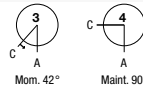
**Keylock switch**



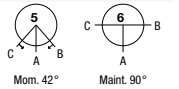
Keylock switch, 2 position, raised, snap-action, square, black plastic, 18x18 mm



Keylock switch, 2 position, raised, snap-action, rectangular, black plastic, 18x24 mm



Keylock switch, 3 position, raised, snap-action, rectangular, black plastic, 18x24 mm

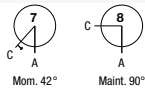


Graphic	Part No.	Function	Contact	Key rem.	Graphic	Part No.	Function	Contact	Key rem.	Graphic	Part No.	Function	Contact type	Key rem.
1	51-145.025D2	Moment.	1NO/1NC	A	4	51-195.025D2	Maint.	1NO/1NC	A + C	6	51-361.022D	Maint.	2x 1NO/1NC	A
1	51-146.025D2	Moment.	2NO/2NC	A	4	51-196.025D2	Maint.	2NO/2NC	A + C	6	51-362.022D	Maint.	2x 2NO/2NC	C + A + B
2	51-155.025D2	Maint.	1NO/1NC	A + C	4	51-295.025D2	Maint.	1NO/1NC	A	5	51-364.022D	Moment.	2x 1NO/1NC	A
2	51-255.025D2	Maint.	1NO/1NC	A	4	51-296.025D2	Maint.	2NO/2NC	A					
2	51-355.025D2	Maint.	1NO/1NC	C	4	51-395.025D2	Maint.	1NO/1NC	C					
					4	51-396.025D2	Maint.	2NO/2NC	C					
					3	51-495.025D2	Moment.	1NO/1NC	A					
					3	51-496.025D2	Moment.	2NO/2NC	A					

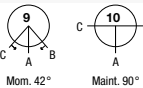
**Selector switch**



Selector switch, 2 position, raised, snap-action, round, black plastic, 18 mm Ø



Selector switch, 3 position, raised, snap-action, round, black plastic, 18 mm Ø



**LED**



LED, T1¼ MG, single chip, 12 Volt and 28 Volt.  
(Also available in 6 Volt, 24 Volt and 48 Volt)

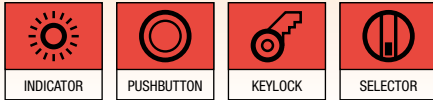
Graphic	Part No.	Function	Contact type	Graphic	Part No.	Function	Contact type	Colour	Part No.	Contact type
7	52-131.0252	Momentary	1NO/1NC	10	52-571.022A	Maintained	2x 1NO/1NC	Red	10-2J09.1062	12VAC/DC, 15 mA
7	52-132.0252	Momentary	2NO/2NC	9	52-572.022A	Momentary	2x 1NO/1NC	Yellow	10-2J09.1064	12VAC/DC, 15 mA
8	52-271.0252	Maintained	1NO/1NC					Green	10-2J09.1065	12VAC/DC, 15 mA
8	52-272.0252	Maintained	2NO/2NC					Blue	10-2J09.1066	12VAC/DC, 15 mA
								White	10-2J09.1069	12VAC/DC, 15 mA
								Red	10-2J13.1062	28VAC/DC, 7/14 mA
								Yellow	10-2J13.1064	28VAC/DC, 7/14 mA
								Green	10-2J13.1065	28VAC/DC, 7/14 mA
								Blue	10-2J13.1066	28VAC/DC, 7/14 mA
								White	10-2J13.1069	28VAC/DC, 7/14 mA

For complete switch also order **A**

For complete switch also order **A**

# Series 51

16 mm IP65 5 A 250 VAC



Choose one component from each of the coloured sections to assemble a complete switch.  
For other options or further information please contact your local sales office.

## A Accessories



Lens, opaque for rectangular pushbutton actuators, not for illumination



Lens, front transparent/rear translucent for rectangular indicator and pushbutton actuators



Lens, opaque for square pushbutton actuators, not for illumination

Colour	Part No.	Size	Colour	Part No.	Size	Colour	Part No.	Size
● Black	51-901.0	18 x 24 mm	● Red	51-903.2	18 x 24 mm	● Black	51-951.0	18 x 18 mm
			● Yellow	51-903.4	18 x 24 mm			
			● Green	51-903.5	18 x 24 mm			
			● Blue	51-903.6	18 x 24 mm			
			○ Clear	51-903.7	18 x 24 mm			

## A Accessories



Lens, front transparent/rear translucent for square indicator and pushbutton actuators



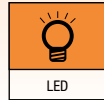
Lens, opaque for round pushbutton actuators, not for illumination



Lens, front transparent/rear translucent for round indicator and pushbutton actuators

Colour	Part No.	Size	Colour	Part No.	Size	Colour	Part No.	Size
● Red	51-953.2	18 x 18 mm	● Black	51-931.0	18 mm Ø	● Red	51-933.2	18 mm Ø
● Yellow	51-953.4	18 x 18 mm				● Yellow	51-933.4	18 mm Ø
● Green	51-953.5	18 x 18 mm				● Green	51-933.5	18 mm Ø
● Blue	51-953.6	18 x 18 mm				● Blue	51-933.6	18 mm Ø
○ Clear	51-953.7	18 x 18 mm				○ Clear	51-933.7	18 mm Ø

Choose one component from each of the coloured sections to assemble a complete switch.  
For other options or further information please contact your local sales office.



**A Accessories**



Lever for selector switch, coloured lever bar options available as indicated

Flap guard, raised in square and rectangular

Blanking plate

Colour	Part No.	Image	Part No.	Size	Image	Part No.	Size
● Black	52-928.0	1	51-925	18x24 mm	1	51-947.0	18x24 mm
● Red	52-928.20	2	51-920	18x18 mm	2	51-948.0	18x18 mm
● Yellow	52-928.40				3	51-949.0	18 mm Ø
● Green	52-928.50						
● Blue	52-928.60						

**A Accessories**



Mounting tool, lens and LED remover

Image	Part No.	Product description
1	01-907	Mounting tool
2	02-905	Lens remover
3	61-9740.0	LED remover

**Actuator with snap-action switching element****Switching system**

Self-cleaning, double-break, snap action switching system (with contact gap 2x0.5mm).

1 normally closed or 1 normally open contact per element.

Snap-action switching elements with soldering terminals at the sides: up to 4 switching element can be on a pushbutton (max.

4 normally closed and 4 normally open contacts).

Snap-action switching element with axial plug-in terminals 2.8mm stackable, only 1 switching element can be on a pushbutton.

**Material****Material of contact**

Gold plated silver

**Switch housing**

Axial soldering-/plug-in terminal 2.8mm:

Diallylphthalate DAP, Polyamide 66, Polysulfone, heat-resistant and self-extinguishing.

Soldering terminal: PA 6.6 Ultramid

**Actuator housing**

Polyetherimide, self-extinguishing

**Mechanical characteristics****Terminals**

Snap-action switching element with tinned soldering terminals at the sides:

Max. wire diameter 2 wires à 1.2mm

Max. wire cross-section of stranded cable 1 x 1 mm<sup>2</sup>

Snap-action switching element with axial soldering terminals, which can also be used as plug-in terminals 2.8x0.5mm:

Max. wire diameter 2 wires of 1mm

Max. wire cross-section of stranded cable 2 of 0.75mm<sup>2</sup> or 1x1.0mm<sup>2</sup>

**Actuating torque**

2.5Ncm ... 5.5Ncm, depending on the number of switching elements. Measured at the key or lever of the keylock- or selector switch.

**Actuating force**

4N ... 6N, depending on the number of switching elements

**Actuating travel**

Illuminated pushbutton 3mm

Keylock-/selector switch actuator 2 positions:

1x ca. 42° deflection momentary action

1x ca. 90° deflection maintained action

**Rebound time**

≤5ms

**Mechanical lifetime**

Momentary action 2 million cycles of operation

Maintained action 1 million cycles of operation

Keylock switch 50 000 cycles of operation

**Electrical characteristics****Standards**

IEC 61058, EN 61058

**Rated voltage**

250VAC/VDC

**Rated current**

5A

**Contact resistance**

Starting value (initial) ≤50mΩ

**Electrostatic discharge**

≤15KV (Keylock switch)

**Conventional free air thermal current**

5A

The maximum current in continuous operation and at ambient temperature not exceeding the quoted maximum values.

**Switch rating**

250VAC, 5A (cosφ 1)

250VAC, 3A (cosφ 0.3)

**Switch rating AC (cosφ 0.7)**

Voltage	125VAC	250VAC
Current	3A	2A

Voltage	125VAC	250VAC
Current	3A	2A

**Switch rating DC (inductive) L:R = 30ms**

Voltage	24VDC	60VDC	110VDC	220VDC
Current	2A	0.7A	0.2A	0.1A

Voltage	24VDC	60VDC	110VDC	220VDC
Current	2A	0.7A	0.2A	0.1A

**Electric strength**

2500VAC, 50Hz, 1min. between all terminals and earth, as per IEC 60512-2-11

**Protection class**

Class II

**Environmental conditions****Storage temperature**

-40°C ... +85°C

**Service temperature**

-25°C ... +55°C

For indicators and illuminated pushbuttons mounted as a block, make sure the heat can escape freely.

**Protection degree**

IP65 front side, as per IEC 60529

**Shock resistance**

(Single impacts, semi-sinusoidal)

15g for 11ms, as per IEC 60512-4-3, IEC 60068-2-27

**Vibration resistance**

(Sinusoidal)

10g at 10Hz ... 1500Hz, amplitude 1.5mm, as per IEC 60512-4-4, IEC 60068-2-6

**Climate resistance**

Standard condition, as per IEC 60068-2-3 and 2-30

Changing condition, as per IEC 60068-2-14 and 2-33

## Approvals

### Approbations

CB (IEC 61058)  
 CSA  
 ENEC (EN 61058)  
 Germanischer Lloyd  
 UL

### Declaration of conformity

CE

## Actuator with snap-action switching element block (Keylock-/selector switch 3 positions)

### Switching system

Self-cleaning, double-break, snap action switching system  
 1 normally closed or 1 normally open contact per element.

### Material

#### Material of contact

Gold plated hardsilver

#### Switch housing

Diallylphthalate (DAP), heat-resistant and self-extinguishing

#### Actuator housing

Polyetherimide, self-extinguishing

## Mechanical characteristics

### Terminals

Soldering terminal which can also be used as plug-in terminal  
 2.8x0.5mm:  
 Max. wire diameter 2 wires of 1 mm  
 Max. wire cross-section of stranded cable 2x0.75 mm<sup>2</sup>

### Actuating torque

2.5Ncm ... 5.5Ncm, depending on the number of switching elements.  
 Measured at the key or lever of the keylock- or selector switch.

### Actuating travel

Keylock-/selector switch actuator with 3 positions  
 2x ca. 42° deflection momentary action  
 2x ca. 90° deflection maintained action

### Rebound time

≤5ms

### Mechanical lifetime

Keylock switch	50 000 cycles of operation
Selector switch	100 000 cycles of operation

## Electrical characteristics

### Electrostatic discharge

≤15 KV (Keylock switch)

### Conventional free air thermal current

5 A

The maximum current in continuous operation and at ambient temperature not exceeding the quoted maximum values.

### Switch rating

250 VAC, 5 A (cosφ 0.75)

### Electric strength

2500 VAC, 50 Hz, 1 min. between all terminals and earth, as per IEC 60512-2-11

### Protection class

Class II

## Environmental conditions

### Storage temperature

-40 °C ... +85 °C

### Service temperature

-25 °C ... +55 °C

for selector switches mounted as a block, make sure the heat can escape freely

### Protection degree

Front side, as per IEC 60529  
 IP65 keylock switch  
 IP40 selector switch

## Approvals

### Approbations

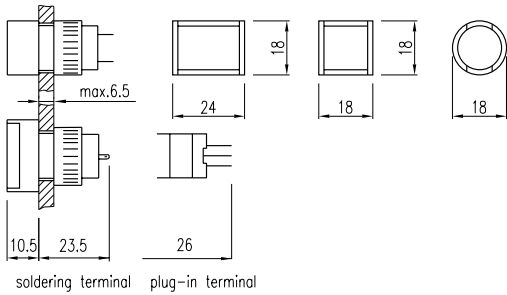
CB (IEC 61058)  
 CSA  
 ENEC (EN 61058)  
 Germanischer Lloyd  
 UL

### Declaration of conformity

CE

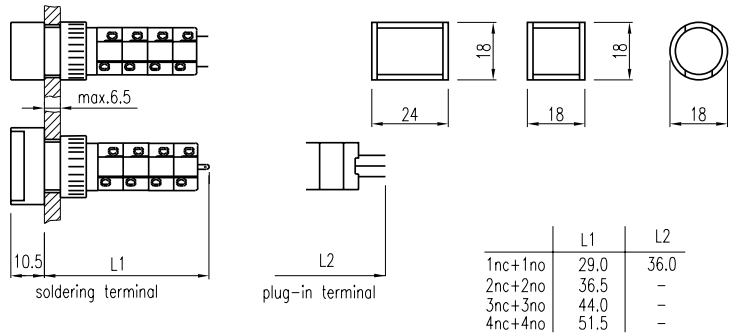
## 51 Indicator

Raised, Round, Square, Rectangular



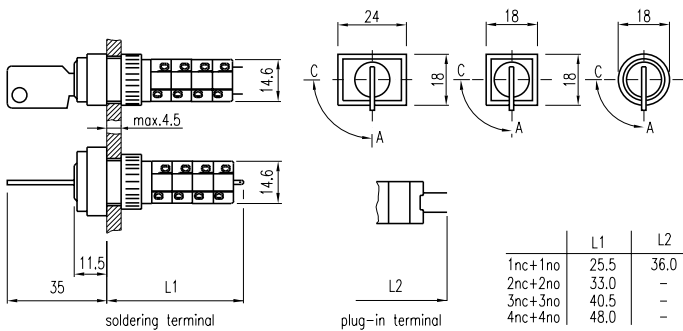
## 51 Pushbutton

Raised, Round, Square, Rectangular



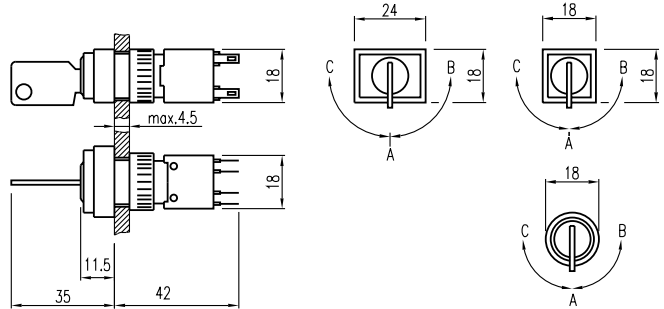
## 51 Keylock switch

Raised, 2-Position, Round, Square, Rectangular



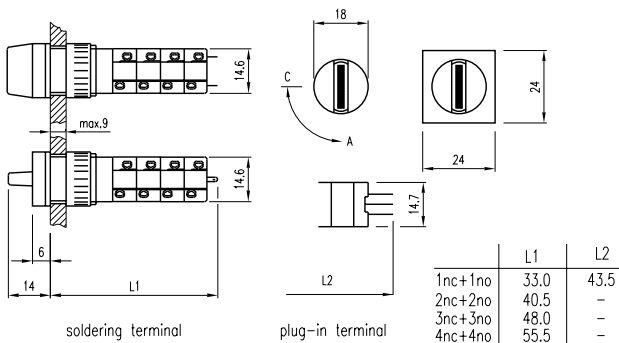
## 51 Keylock switch

Raised, 3-Position, Round, Square, Rectangular



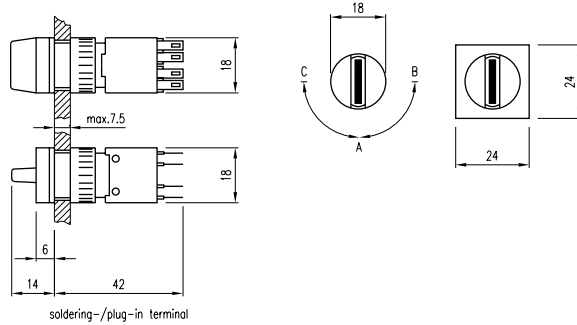
## 52 Selector switch

Raised, 2-Position, Round



## 52 Selector switch

Raised, 3-Position, Round



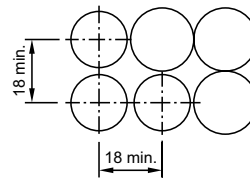
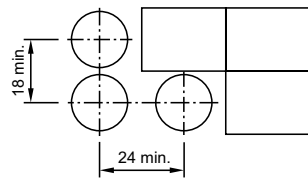
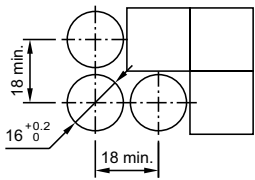
## 51 Cut-outs

Indicator, Pushbutton, Round, Square, Rectangular

18 x 18 mm

18 x 24 mm

Ø 18 mm



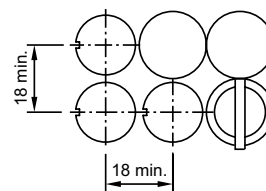
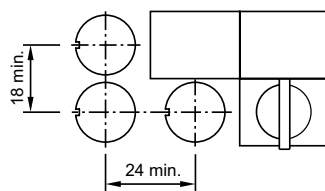
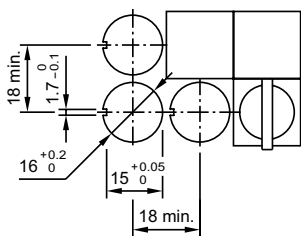
## 51 Cut-outs

Keylock 2-Position Round, Keylock 2-Position Square,  
Keylock 2-Position Rectangular, 2 & 3-Position Selector Round

18 x 18 mm

18 x 24 mm

Ø 18 mm





Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- Конкуренспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



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