

# Technical Data Series 84



## Auswahl

[►Series Overview](#)

[►Selection Table](#)

[►Article Search](#)

[►Article Enquiry](#)

[►View Enquiry List](#)

Range	Technical Data	Assembly	Actuator
Emergency-stop	Switching element illuminated pushbutton		

**Switching system**

**Switching system**

**Material**

**Switching system**

The double-break switching system can be supplied for the following switching functions :

1 Normally closed, 2 Normally closed, 1 Normally closed + 1 Normally open.

The Normally closed contacts have forced opening according to EN IEC 60947-5-1

**Mechanical characteristics**

**Material**

**Electrical characteristics**

**Connection cable**

**Environmental conditions**

Polyvinylchloride (PVC), operating temperature up to +65 °C

**Approvals**

**Mushroom-head cap**

Polybutyleneterephthalate (PBT), as per UL 94 V0 (red items)

**Actuator housing**

Polyamide (PA 66), as per UL 94 V0, Flat ribbon cable-cover Polyamide (PA 6.6), as per UL 94 V0

**Material of contact**

Silver alloy gold plated

**Mechanical characteristics**

**Front panel thickness**

Standard 1 ... 4 mm

with E-stop protective shroud Typ-Nr. 84-902 1 ... 3 mm

**Mounting hole**

22.5 mm dia. as per EN IEC 60947-5-1 with anti-twist device

**Terminals**

Soldering terminals 2.8 x 0.5 mm (solderable), CuSn6 tin-plated

Flat ribbon cable 2-, 4-, or 6-poles 0.5 mm<sup>2</sup> (AWG 22)

**Tightening torque**

Fixing nut 80 Ncm

**Actuating force**

22 N ±4 N

**Actuating travel**

approx. 4 mm to release the internal operation part

**Mechanical lifetime**

≥50.000 cycles of operations

**Electrical characteristics**

**Standards**

The devices comply with : EN IEC 60947-5-1, EN IEC 60947-5-5 (Emergency-stop), EN 418, EN IEC 60204

**Illumination**

LED red with pole reversal, constant current source

Operation Voltage	5 VDC ... 30 VDC
Current consumption	9.7 mA ... 12.4 mA

**Rated Operational Voltage  $U_o$**

250 VAC, as per EN IEC 60947-1

**Rated Insulation Voltage  $U_i$**

250 V, as per EN IEC 60947-1

**Rated Impulse Withstand Voltage  $U_{imp}$**

2.5 kV, as per EN IEC 60947-1

**Contact resistance**

New state  $\leq 50 \text{ m}\Omega$ , as per DIN IEC 60512-2-3

**Isolation resistance**

$>10^{11} \Omega$  between the open contacts at 500 VDC, as per DIN IEC 60512-2-10

**Electrical life**

$\geq 50\,000$  cycles of operations (inductive  $\cos\phi = 0.4$ ), as per EN IEC 60947-5-1

Voltage	120 VAC	240 VAC	125 VDC	250 VDC
Current	3 A	1.5 A	0.55 A	0.27 A

Reduced load  $\geq 50\,000$  cycles of operations (resistive)

Voltage	1 VAC/DC	42 VAC/DC
Current	100 mA	200 mA

**Conventional free air thermal current  $I_{th}$**

5 A, as per EN IEC 60947-5-1

the maximum current in continuous operation and at ambient temperature must not exceed the quoted maximum values.

**Switch rating**

Switch rating AC with silver contact (gold plated), service category AC-15, as per EN IEC 60947-5-1

Voltage	120 VAC	240 VAC
Current	3 A	1.5 A

Switch rating DC for silver contact (gold plated), service category DC-13, as per EN IEC 60947-5-1 (inductive)

Voltage	12 VDC	24 VDC	48 VDC	60 VDC	125 VDC	250 VDC
Current	5 A	4 A	2.1 A	1.7 A	0.55 A	0.27 A

**Recommended minimum operational data**

Silver contacts (gold plated)

Voltage	1 VAC/DC
Current	1 mA

**Electric strength**

500 VAC, 50 Hz, 1 min, as per DIN IEC 60512-2

**Rated conditional short-circuit current**

1000 A, type of short-circuit unit 6 A gG, as per EN IEC 60947-5-1

**Protection class**

Class II, as per EN IEC 60947-5

**Overvoltage category**

II, as per EN IEC 60947-1

**Degree of pollution**

3, as per EN IEC 60947-1

**Environmental conditions**

**Storage temperature**

-25 °C ... +80 °C

**Operating temperature**

-25 °C ... +65 °C

**Front protection**

IP 65, as per EN IEC 60529

**Shock resistance**

(semi-sinusoidal)

max. 150 m/s<sup>2</sup>, pulse width 11 ms, 3-axis, as per EN IEC 60068-2-27

**Vibration resistance**

(sinusoidal)

max. 50 m/s<sup>2</sup> at 10 Hz ... 500 Hz, 10 cycles, 3-axis, as per EN IEC 60068-2-6

**Climate resistance**

Damp heat, cyclic

96 hours, +25 °C / 97 %, +55 °C / 93 % relative humidity, as per EN IEC 60068-2-30

Damp heat, steady

56 days, +40 °C / 93 % relative humidity, as per EN IEC 60068-2-78

Dry heat

96 hours, +70 °C, as per EN IEC 60068-2-2

Low temperature

96 hours, -40 °C, as per EN IEC 60068-2-1

Saline mist

96 Stunden, +35 °C in chemical solution NaCl, as per EN IEC 60068-2-11

**Approvals**

**Approvals**

SEV

CE

UL

RoHS compliant

**Switching system**

**Switching system**

Material

Mechanical characteristics

Electrical characteristics

Environmental conditions

**Switching system**

Short-travel switching system with 2 independent contact points and tactile operation.  
Guarantees reliable switching even of very light loads.  
Fitted with 1 normally open contact.

2 million	cycles of operation	42 VAC, 50 mA at 840 $\Omega$
2 million	cycles of operation	42 VAC, 100 mA at 420 $\Omega$
300 000	cycles of operation	42 VAC, 100 mA at $\cos\phi$ 0,4
250 000	cycles of operation	42 VAC, 200 mA at $\cos\phi$ 0,395

1 million	cycles of operation	12 VDC, 250 mA at 48 $\Omega$
1 million	cycles of operation	24 VDC, 50 mA at 480 $\Omega$
1 million	cycles of operation	24 VDC, 100 mA at 240 $\Omega$
5 million	cycles of operation	42 VDC, 25 mA at 1680 $\Omega$
1.5 million	cycles of operation	42 VDC, 50 mA at 840 $\Omega$
100 000	cycles of operation	42 VDC, 100 mA at 420 $\Omega$

500 000	cycles of operation	24 VDC, 200 mA at L/R=30 ms
300 000	cycles of operation	42 VDC, 100 mA at L/R=30 ms
100 000	cycles of operation	42 VDC, 200 mA at L/R=30 ms

#### Switch rating

Voltage	50 mVAC/DC ... 42 VAC/DC
Current	10 uA ... 100 mA
Power	max. 2 W

#### Electric strength

500 VAC, 50 Hz, 1 min, as per DIN IEC 60512-2

#### Environmental conditions

##### Storage temperature

-40 °C ... +85 °C

##### Operating temperature

-25 °C ... +70 °C

##### Protection degree

IP 67 or IP 40, as per EN IEC 60529

##### Shock resistance

(semi-sinusoidal)  
max. 100 m/s<sup>2</sup>, pulse width 11 ms, 3-axis, as per EN IEC 60068-2-27

##### Vibration resistance

(sinusoidal)  
max. 50 m/s<sup>2</sup> at 10 Hz ... 500 Hz, 10 cycles, 3-axis, as per EN IEC 60068-2-6

#### Material

##### Material

##### Lens

Polycarbonate (PC), as per UL 94 V2 or Aluminium anodised

##### Actuator housing

Polyetherimide (PEI), as per UL 94 V0 or Aluminium anodised

##### Mechanical characteristics

##### Mounting hole

22.5 mm dia. and 30.5 mm dia.

##### Tightening torque

Fixing nut max. 80 Ncm

##### Actuating force

4.0 N ±0.2 N (measured at the lens)

##### Actuating travel

Total switching travel 1.2 mm

##### Mechanical lifetime

>1 million cycles of operations

##### Electrical characteristics

##### Electrostatic breakdown value

as per IEC 61000-4-2, mounted in plastic front panel

##### Environmental conditions

##### Storage temperature

-40 °C ... +85 °C

##### Operating temperature

**Operating temperature**

-25 °C ... +70 °C

**Front protection**

IP 67, IP 65 and IP40, as per EN IEC 60529

**Climate resistance**

Damp heat, cyclic

96 hours, +25 °C / 97 %, +55 °C / 93 % relative humidity, as per EN IEC 60068-2-30

Damp heat, static

56 days, +40 °C / 93 % relative humidity, as per EN IEC 60068-2-78

Rapid change of temperature

100 cycles, -40 °C ... +80 °C, as per EN IEC 60068-2-14



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ООО "ЛайфЭлектроникс"

"LifeElectronics" LLC

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- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
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