

**EN54C-LS4 sequential module  
for actuators without return spring**

**Features:**

- supply voltage  $20 \div 30$  V DC
- designed for cylinders without return spring
- 4x2 outputs independently secured with polymer fuses
- parametric trigger input INPUT ( $2 \times 4,7$  k $\Omega$ )
- technical output of failure
- optical indication of failure
- dedicated to fire alarm power supplies of EN54C series
- warranty - 5 years from the production date

**Description.**

The sequential module is designed for use with electric actuators without return spring used for fire dampers and smoke vents. These devices are used in fire alarm systems and smoke and heat control systems.

When switching on the electric actuator, a short-term current surge, exceeding its rated current, may occur. If multiple electric actuators are connected, the above-mentioned surge current poses a risk of incorrect operation of the power supply (e.g. triggering the protection of output circuit), despite not exceeding the current capacity of the power supply.

The sequential switching module causes the receivers connected to its outputs to be sequentially switched, with a delay of 100 ms. Thanks to this solution, the surge current is reduced to the value ensuring correct operation of the power supply. Thus, it enables safe connection of additional actuators. All outputs are independently protected by PTC polymer fuses and have LED diodes signaling the activation of each output.

The module is controlled by a control device (e.g. a CSP control panel) configuring the resistance at the INPUT connector (see Table 2). For example: a 4.7 k $\Omega$  resistance will activate the V1 outputs. The technical output of failure indicates failures at the parametric INPUT input - this situation can occur, among others, when the control cables are damaged.

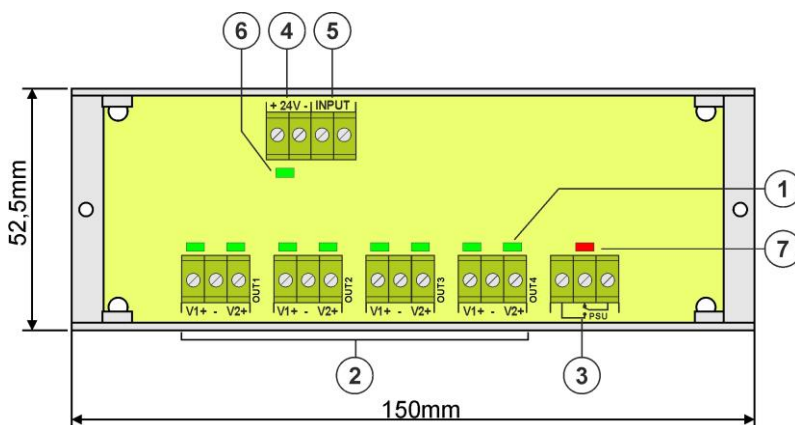


Fig.1. Module view.

**Table 1. Description of components.**

Component No.	Opis
[1]	LED - green LEDs (OUT1÷OUT4 outputs status)
[2]	OUT1 ÷ OUT4 independently secured outputs
[3]	PSU - technical relay output of parametric input failure
[4]	+24V- power input 20-30 V DC
[5]	INPUT parametric input
[6]	LED green LED for 24 V power supply indication
[7]	PSU red LED indicating failure

**Table 2. Status of V1 and V2 outputs depending on the resistance of the INPUT input**

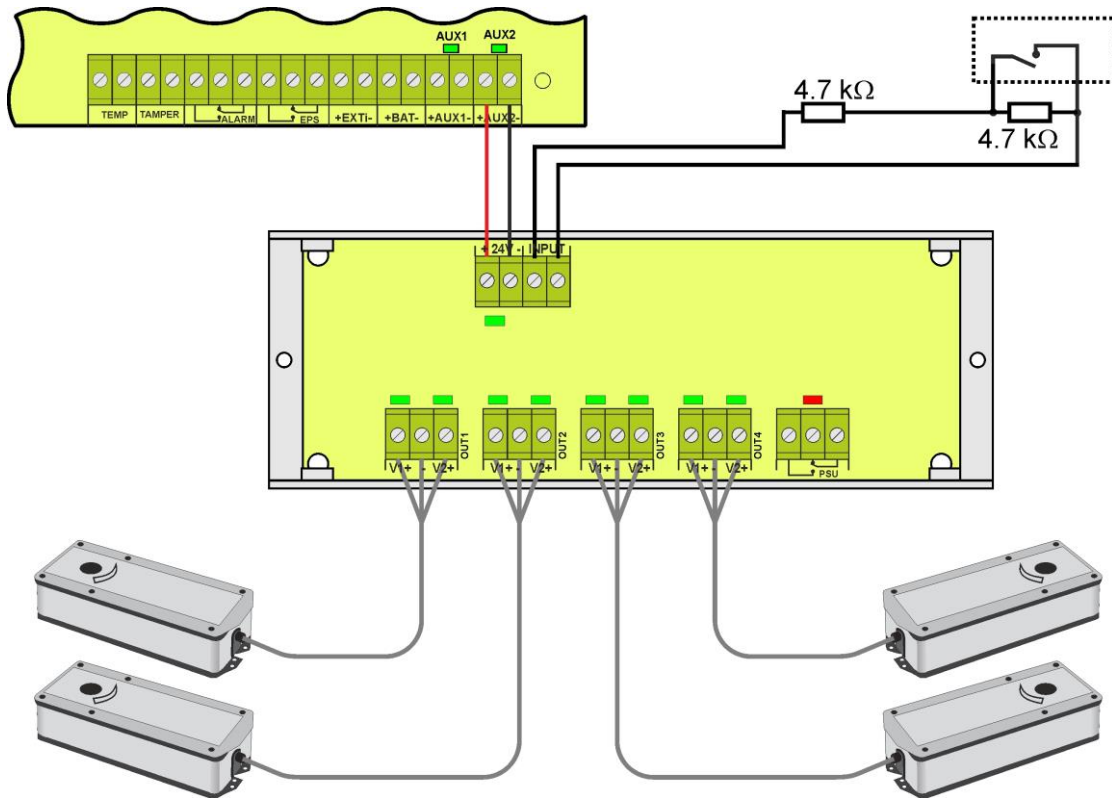
Input resistance	V1 outputs status	V2 outputs status	PSU
<4,7 k $\Omega$	OFF	ON	ON
4,7 k $\Omega$	ON	OFF	OFF
>4,7 k $\Omega$ , <9,4 k $\Omega$	OFF	ON	ON
9,4 k $\Omega$	OFF	ON	OFF
>9,4 k $\Omega$	OFF	ON	ON

**Installation.**

- 1) The module should be installed in the fixed section of the enclosure.
- 2) Connect AUX1 and AUX2 outputs with 24 V module inputs using the supplied cables.
- 3) The parametric INPUT input should be connected to the actuator control device, e.g. the CSP control panel.
- 4) If necessary, connect the PSU failure output.



When installing the fuse module in the power supply unit, power supply current consumption, used for the calculation of standby time, should be considered.



**Technical parameters.**

Supply voltage	20 ÷ 30 V DC
Current consumption	20 ÷ 30mA @ U <sub>in</sub> =20 ÷ 30 V DC
Output voltage	U <sub>AUX</sub> = U <sub>IN</sub> (according to supply voltage)
Output current	4 x 0,5 A
Number of power outputs	4 (OUT1 ÷ OUT4)
Overload protection	polymer fuse
Optical signaling of operation	8x LEDs - outputs condition V1÷ V2 (OUT1÷OUT4, green LEDs) PSU - failure indication (red LED)
Control input	INPUT - parametric, 2x4,7 kΩ
Operating conditions	2nd environmental class, -10°C ÷50°C
Dimensions (LxWxH)	150 x 52,5 x 27 [mm]
Net/gross weight	0,11kg / 0,13kg
Storage temperature	-20°C...+60°C
Additional equipment	Screws x 2

**WEEE Label**

According to the European Union WEEE Directive, waste electrical and electronic equipment should be disposed of separately from normal household waste.

**Pulsar sp.j.**

Siedlec 150, 32-744 Łapczyca, Polska  
 Phone (+48) 14-610-19-40, Fax. (+48) 14-610-19-50  
 e-mail: [biuro@pulsar.pl](mailto:biuro@pulsar.pl), [sales@pulsar.pl](mailto:sales@pulsar.pl)  
 http:// [www.pulsar.pl](http://www.pulsar.pl), [www.zasilacze.pl](http://www.zasilacze.pl)