

celpac[®] 2G

SU / SUL / SUM

**Single phase
Solid State Relays & Contactors**



**THE 22.5 MM WIDE
SSR SOLUTION**

As the need for cost efficiency continues to grow, assembling components in electrical cabinets must be both quick and straightforward, while making optimal use of limited space. Our second-generation celpac® (2G) range has been specifically designed to meet these requirements.



celpac® 2G

The 22.5mm wide SSR solution

Performances & reliability

- ▶ It has the same center-to-center fastening as the celduc SO and SC ranges,
- ▶ Maximum voltage up to 1600V (690VRMS), 600VAC and 1200VAC as standard,
- ▶ Thyristor rating up to 75A,
- ▶ Large input range : 3-32VDC with regulated current models,
- ▶ Models available with AC,
- ▶ Yellow input status LED,,
- ▶ Over-voltage protection on the input,
- ▶ New generation of TMS² technology for thyristors for a longer life expectancy,
- ▶ Quick and easy connections,
- ▶ Designed according to European standards EN60947-4-3 (IEC947- 4-3) and IEC/EN60335-1 - VDE0700-1 - IEC62314 - UL-cUL,
- ▶ IP20 protection with removable flaps,
- ▶ Other protection devices available as an option : RC snubber, VDR, self turn-on.

A cost-effective and compact solution

- ▶ With an installation width of only 22.5 mm, our celpac® solid state relays and contacts take up the least possible space,
- ▶ Reduced assembly time, simple wiring,
- ▶ Reduced maintenance thanks to a very long service life,
- ▶ A single screwdriver for both the output and input.

REMINDER

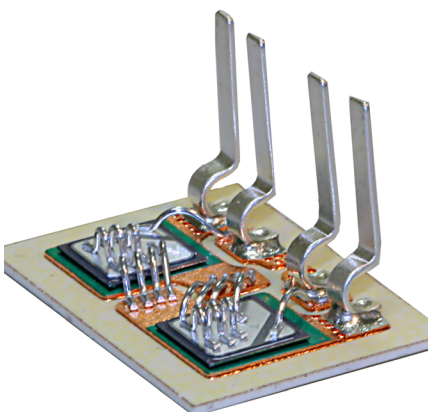
- SU7 ▶ Random for inductive and motor loads
- SU8 ▶ Zero-cross for all kinds of loads / heavy duty loads
- SU9 ▶ Zero-cross for standard industrial loads / resistive loads AC-1 (AC-51)

"Ready to use" versions

- SUL ▶ 22.5mm heatsink - 3K/W
- SUM ▶ 45mm heatsink - 2.2K/W

1- Very long service life

This very long service life is made possible by our TMS² technology. All our solid-state relays are equipped with back-to-back thyristors and feature fourth-generation TMS² technology, offering a significantly longer lifespan compared to most products available on the market.

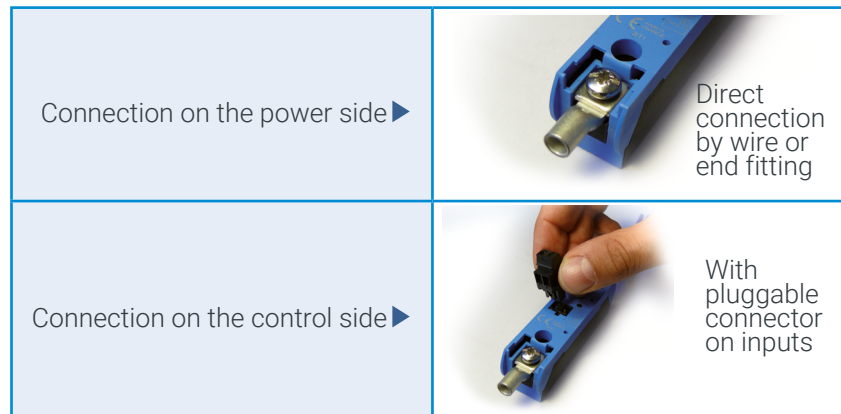


celduc® relais solid-state relays are manufactured using wire bonding technology. The copper clips used in "standard" technology by most solid-state relay manufacturers are replaced with bonding wires featuring multiple anchor points, capable of withstanding significant overload currents.

Wire bonding technology is fully automated, ensuring complete control of the production process. In addition, the connections between the wires and the chip are tested after assembly (pull test) and further validated through sampling tests (pull and shear tests), which enhances product reliability.

These technological differences explain why **celduc® relais SSRs offer a longer service life** (lifetime test results available on request).

2- Quick and easy connections



3- A wide range up to 75 A and 660 V for every application

Our celpac® range of single phase solid state relays & contactors is available **up to 75 A with an output voltage from 24 to 690 VAC** (600 V - 1200 V - 1600 V peak).

REMINDER

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For resistive or capacitive loads, zero-cross relays are recommended, as they help limit di/dt, reduce network disturbances, and extend the service life of both the load and the relay.

Random turn-on relays are suitable for all inductive loads, where the phase shift between voltage and current can create issues with zero-cross switching. They are also used in applications requiring precise load power control, such as phase-control systems.



4- «Ready to use» versions

celduc® relais provides “ready-to-use” solutions with integrated heatsinks.

The “L” option features a 22.5 mm heatsink (3 K/W), while the “M” option comes with a 45 mm heatsink (2.2 K/W).



SUL

Dim. 22.5 x 90 x 112 mm
(0.87 x 3.54 x 4.41 in)



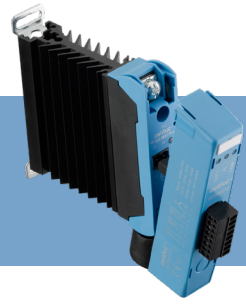
SUM

Dim. 45 x 90 x 112 mm
(1.77 x 3.54 x 4.41 in)

5- Optional modules

We offer two modules that are directly pluggable onto our SU/SUL/SUM type SSRs

- ▶ SAVE SPACE
- ▶ REDUCE COSTS
- ▶ EXTEND FUNCTIONALITY



ESUC

Current monitoring module

To combine with our SU/SUL/SUM in order to add monitoring functionality to our SSRs :

Diagnostics and control of up to 5 heater loads:

- ▶ Continuous current monitoring,
- ▶ Current set point training function via a push-button or external binary input,
- ▶ 2 alarm thresholds (+/-16%),
- ▶ Partial load break detection,
- ▶ Open load detection,
- ▶ SSR short circuit detection.



Product reference	Current range	Control
ESUC0450	2-40A	8-30VDC
ESUC0480	2-40A	16.8-45VDC
ESUC0150	1-10A	8-30VDC

Why choose this function?

- ▶ Quick fault detections (instantaneous alarm)
- ▶ Improves maintenance
- ▶ Helps detect heater faults and speeds up repairs.
- ▶ Maintains good quality production for plastic/rubber machines (specially thermosetting machines).
- ▶ 22.5mm wide with integrated heatsink and DIN rail adaptor
- ▶ Reduction of quantity, cost and time of wiring.

ECOM0010

Temperature controller PID, current monitor and communication interface in one unit

To combine with our SU/SUL/SUM in order to add monitoring functionality and a communication interface to our SSRs :

Temperature controller with :

- ▶ PID controller with automatic or manual tuning,
- ▶ Insulated inputs for J, K, T, E thermocouples, PT100 to come
- ▶ Auxiliary output for heating, cooling, alarm or to control a 3 phase Solid State Relay,
- ▶ Loop and heater fault alarms.
- Current monitoring up to 50A with current transformer
- RS485/Modbus RTU serial link (others available on request)
- Power supply : 24Vdc +/- 10%



Why choose this function?

- ▶ ECOM is the most compact solution available on the market, incorporating the latest measuring and control technology.
- ▶ By reducing wiring costs and minimizing the size of electrical cabinets, this solution increases efficiency.

6- Part numbering system

Housing - connection

U : with pluggable connector on inputs
A : with screw connection on inputs

Options

0 : None
4 : TVS on gate with LED indicator
6 : LED
7 : LED + VDR
8 : RC + LED
9 : RC + VDR + LED

Output voltage

4 : 230 VAC (600 Vp)
6 : 400 VAC (1200 Vp)
8 : 690 VAC (1600 Vp)

Others

0 : Standard

S

Option

None : no heatsink
L : 22.5mm heatsink (3 K/W)
M : 45 mm heatsink (2.2 K/W)

Series

7 : Random
8 : Zero-cross (heavy duty loads)
9 : Zero-cross (resistive loads)

Thyristor rating

1 : 10/12 A
2 : 25 A
3 : 35 A
5 : 50 A
7 : 75 A

Control voltage

0 : 3 → 32 VDC
3 : 6 → 32 VDC
4 : 3,5 → 32 VDC
7 : 18 → 30 VAC/DC
9 : 160 → 240 VAC

Thank you for your attention
and interest



www.celduc-relais.com