



Newsletter October 2015

Solid State Relays



Voltage protection for DC Solid State Relays

When using DC Solid State Relays special precautions have to be taken, especially the use of protective components against overvoltage :

- to protect the SSR against the voltage transients coming from the mains,
- to protect the SSR against voltage transients due to the inductive effect of lines and loads.

Voltage protection can partially be incorporated into the SSR and additional required protective components are mentioned in red in our technical data-sheets : C1, D1 & D2.

➤ C1 : Non polarized capacitor (ex : polypropylen) connected between positive (+) and negative (-) of the power source. Its function is to compensate the line inductance between the power source and the relay. Capacitors need time to discharge so usually the capacitor is equipped with a discharging resistor.

➤ D1 : Transient-voltage-suppression diode, VDR, ... Clamping function to limit voltage transients across the power element of the DC solid state relay. This is necessary for DC SSR not equipped built-in voltage clamp.

➤ D2 : Diode ; diode + resistance ; diode + Transient-voltage-suppression diode. Its function is to eliminate flyback, which is the sudden voltage spike seen across the inductive load (or load side line inductance) when its supply voltage is suddenly reduced or removed.

Please do not hesitate to consult us to have our expertise and select the right protective components C1, D1 & D2.

Here are the main technical information we need to have :

- Type of DC mains generator and nominal voltage,
- Type of load and load current transient & nominal,
- Requested switching frequency,
- Ambient temperature,
- Wire length between the power source / mains generator,
- Wire length between the SSR and the load.

In order to ease the implementation of these protective components, celduc relais has developed "ready to use" solutions available in plastic enclosure :

celduc relais offers 2 different modules :

- [ESO01000](#) - protection against line inductance (C1, D2) - option for SOM (up to 130Vdc nominal)
- [ESO02000](#) - protection against line inductance (C1, D2, D1) - option for SCM (up to 40Vdc nominal)

Mounting example SCM + ESO02000 + protection cover 1K470000, everything mounted on heatsink WF121000.



XKLD0020 : DC solution having all protections included

This DC SSR is designed for inductive loads with high switching frequency (as for example : valves control, electro-magnets, ...).

XKLD0020 :

- Diagnostic status output (potential free),
- Control visualization by green LED,
- Output DC visualization by red LED,
- Built-in clamping voltage,
- Built-in free wheel diode,
- This product also includes a fuse on board to protect the installation.



PXLA3010 New "Bistable" sensor

celduc relais has extended its range of bistable magnetic proximity sensors with ref. PXLA3010.

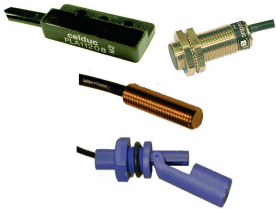
PXLA3010 :

- Magnetic proximity sensor with reed switch
- 1 bistable contact
- Switching power: 60W

Typical application : lifts



Sensors for lifts/elevators





celduc relais offers different solutions which meet the lifts manufacturers concerns, mainly safety. In fact, several types of controls must be done.

- Locking and door position must be controlled accurately before authorizing any movement of the cabin
- Accurate checking of the position of the cabin compared to the « requested » level asked by the user, to accept the opening of the lift in front of the floor doors. The position of the floor doors must coincide exactly with the lift in order to allow the door opening.
- Accurate checking of the position of the cabin at the top or the bottom of the lift shaft.
- Anytime, it is necessary to know the direction the cabin goes.

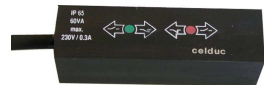
What type of products can celduc offer ?



[PMG12802](#) - NO bistable



[PMG13051](#) - NC



[PMG12930](#) - NO bistable



[PMG13110](#) - NO



[PXLA3010](#) - NO Bistable - **NEW**



[PCA22330](#) - NO
[PCA36720](#) - NO
[PCC12320](#) - Change-over
[PCC26720](#) - Change-over
[PCLA3030](#) - Bistable
[PC2A2330](#) - 2xNO
[PC3A2330](#) - 3xNO

Exhibitions - October 2015



We are pleased to inform you that celduc products will be presented at the following exhibitions :



-ELOSYS 2015 - Trenčín - SLOVAKIA

From the 13th to 16th of October 2015

Exhibitor : Elmart s.r.o.

[Website](#)



-TransRail 2015 - Paris (Stade de France - St. Denis) - FRANCE

14th & 15th of October 2015

Exhibitor : celduc relais

[Website](#)



-HOST 2015 - Milan - ITALY

From the 23rd to 27th of October 2015

Exhibitor : celduc relais / Mechtex

Stand R22 & S21 Pavillon 24

[Website](#)

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