



# MEDICAL INDUSTRY by **celduc**<sup>®</sup> relais

[www.celduc-relais.com](http://www.celduc-relais.com)

DESIGNER &  
MANUFACTURER OF  
SOLID STATE RELAYS AND  
MAGNETIC SENSORS

APPLICATIONS :  
MOTION CONTROL,  
HEATING CONTROL,  
POWER CONTROL







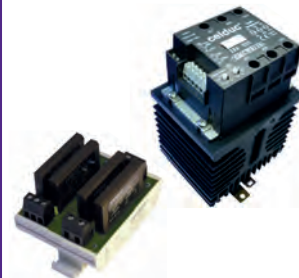
- Single phase SSR, modules for diag. function and temperature controller PID



- Two phase Solid State Relays



- Three phase Solid State Relays



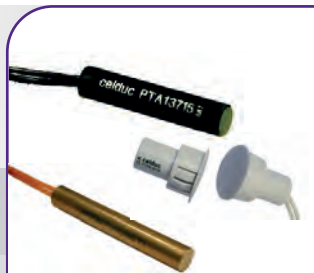
- Solid State Relays for motor control



PRODUCTS MADE IN FRANCE  
FOR MORE THAN 50 YEARS !



- Screw position sensors



- Tubular position sensors



- Level and flow sensors



- Control magnets



# OUR STRENGTHS



MORE THAN 50 YEARS OF  
EXPERIENCE ON THE MARKET  
AND A HIGH QUALITY LEVEL OF  
PRODUCTION IN FRANCE.



CONTROL OF THE COMPLETE  
CHAIN

design, development, production, testing  
and marketing.



ANALYSIS OF CUSTOMERS'  
REQUIREMENTS

celduc® relais is the indisputable global  
expert and preferred choice of companies all  
over the world.



A WORLDWIDE PRESENCE IN  
MORE THAN 60 COUNTRIES

for a better understanding of customer's  
needs and offering of solutions which fully  
meet their requirements.



CONSTANT PRODUCT  
DEVELOPMENT

our experienced R & D engineers constantly  
work on developing 10 to 15% of new  
products each year.



IN COMPLIANCE WITH THE  
MAJOR INTERNATIONAL  
STANDARDS

Some of our products meet the  
specifications of the medical  
industry. Consult us.





# SSR AND MAGNETIC SENSORS FOR

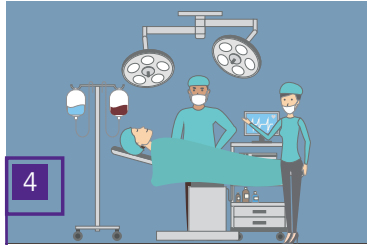
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Dialysis Machines



4

Patient temperature management / Warmers



3

Infant Incubators



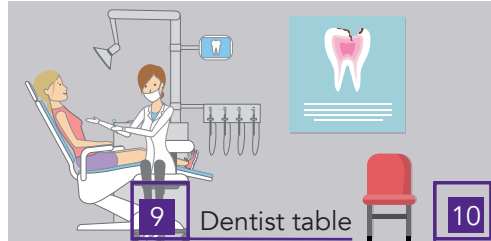
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Hospital Beds



9

Dentist table



10

Dental laboratory ovens



1

Rehabilitation equipment

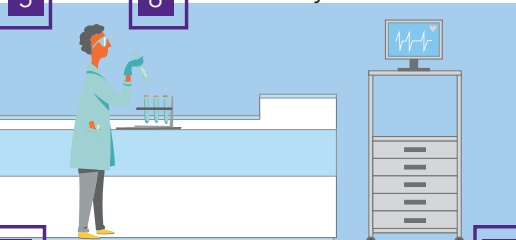
Medical Fridges / Refrigeration

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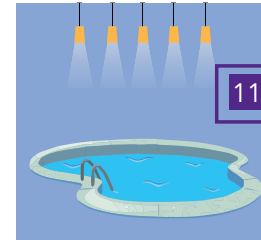
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Laboratory Sterilizers



11

Balneotherapy



Glassware washers

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8

Blood Analysers / Centrifuges



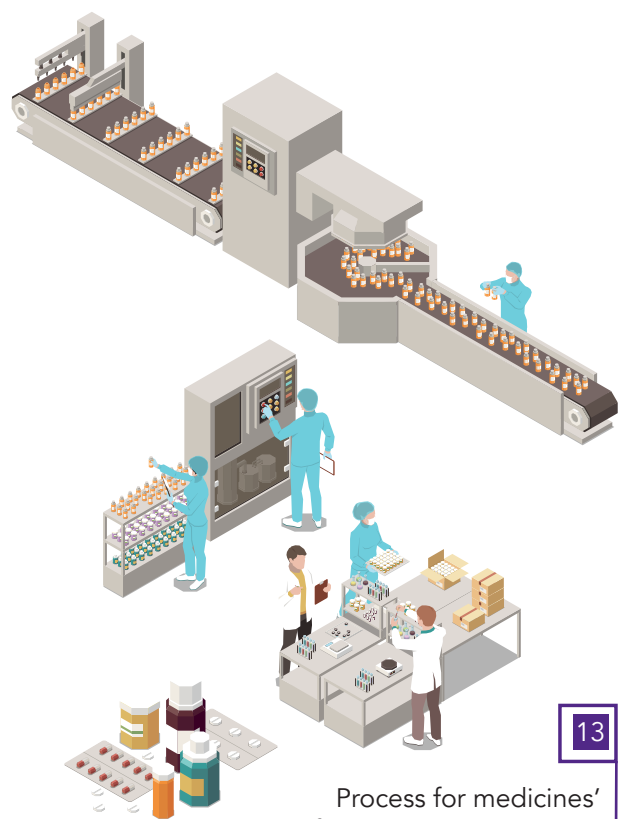
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Auxiliary equipment & accessories





# EACH EQUIPMENT



Process for medicines' Manufacturing and packaging

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# HOSPITAL BEDS / REHABILITATION EQUIPMENT

- Motor control

**CELDUC®RELAIS, WORLD LEADER IN SOLID-STATE POWER  
SWITCHING & CONTROL !**

## ADVANTAGES :

to replace electromechanical relays by Solid  
State Relays with built-in voltage protection

## KEY PRODUCTS

PCB SSR



SKA  
pages 18-19





# DIALYSIS MACHINES

- Blood temperature regulation
- Detergents' heating during the cleaning cycle

## CELDUC®RELAIS ' SSR ARE THE RIGHT CHOICE FOR ACCURATE AND LONG LIFE TIME TEMPERATURE CONTROL

### ADVANTAGES :

- ultra-miniature package
- very high frequency switching  
(in temperature control, low switching frequency limits the accuracy)

### KEY PRODUCTS

#### FOUR-LEG SSR



SCQ range  
pages 26-27

#### PCB SSR



SN8 range  
pages 18-19





# INFANT INCUBATORS / PATIENT TEMPERATURE MANAGEMENT

- Heating resistance control

## CELPAC® RANGE : PRICE-EFFECTIVE AND COMPACT SOLUTION

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### KEY PRODUCTS

#### SINGLE PHASE SSR



celpac®  
pages 20-21



celpac®  
pages 20-21

### ADVANTAGES :

The requirement for enhanced design, ease of installation, optimum life and the most competitive price is delivered by the new generation of celpac® products.





# MEDICAL REFRIGERATION

- Door position detection : open or closed (supervising the opening)

## BENEFIT FROM OUR REED TECHNOLOGY FOR POSITION DETECTION

### KEY PRODUCTS

#### MAGNETIC PROXIMITY SENSORS



tubular sensors  
pages 30-31

#### ADVANTAGES :

50-year experience in the  
reed switch technology



Image courtesy of B Medical Systems S.a r.l.



# LABORATORY STERILIZERS

- Heating control

COMPONENTS USED IN THE MEDICAL INDUSTRY MUST BE RELIABLE  
AND MUST SUSTAIN HIGH FREQUENCY SWITCHING.

## CELDUC'S SOLID STATE RELAYS MEET THESE REQUIREMENTS

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### KEY PRODUCTS

#### SINGLE PHASE SSR



okpac®  
pages 22-23

#### THREE-PHASE SSR



cel3pac & sightpac  
pages 28-29

### ADVANTAGES :

Using our own-design  
thyristors technology and  
RVF process (RoHs Void  
Free Process) for a longer  
lifespan (+40%)





# LABORATORY GLASSWARE WASHERS

- Heating control

CELDUC®RELAIS IS A RELIABLE AND EXPERIENCED PARTNER  
IN THE MEDICAL INDUSTRY

## ADVANTAGES :

In compliance with the major international standards

### KEY PRODUCTS

#### SINGLE PHASE SSR



celpac®  
pages 20-21

#### THREE-PHASE SSR



cel3pac & sightpac  
pages 28-29





# BLOOD ANALYSER / CENTRIFUGES

- Heating resistance control
- Machines safety to protect the operators against contaminations

CELDUC®RELAIS, MORE THAN 50 YEARS MARKET EXPERIENCE  
AND HIGH QUALITY PRODUCTION IN FRANCE

## KEY PRODUCTS

### PCB SSR



SKA  
pages 18-19

### SINGLE PHASE SSR



SO9  
pages 22-23

### SAFETY SENSORS



PSS  
+ coded magnet  
page 33





# DENTIST TABLE

- Motor control (up to 6 motors could be used to adjust the different positions of the seat and the armrest)

## INNOVATION AND QUALITY ARE THE DRIVERS OF OUR THINKING AND DOING

### KEY PRODUCTS

#### PCB SSR



SKA  
pages 18-19

#### ADVANTAGES :

Our extensive range of PCB solid state relays are suitable to applications that demand long life and high reliability.





# DENTAL LABORATORY OVENS

- Heating control

EMC OPTIMISED SSR SHOULD BE USED IN APPLICATIONS WHERE  
LOW ELECTROMAGNETIC EMISSION IS ESSENTIAL

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## KEY PRODUCTS

EMC OPTIMISED SSR



SON and SCFL  
pages 24-25





# BALNEOTHERAPY

- Heating control
- Liquid Level detection

CELDUC® RELAIS DESIGN SPECIFIC PRODUCTS ACCORDING  
TO THE CUSTOMERS SPECIFICATIONS AND ADAPT PRODUCTS  
TO THE CUSTOMERS NEEDS

## KEY PRODUCTS

### SINGLE PHASE SSR



celpac®  
pages 20-21

### LEVEL SENSORS



Horizontal level  
sensor  
pages 34-35



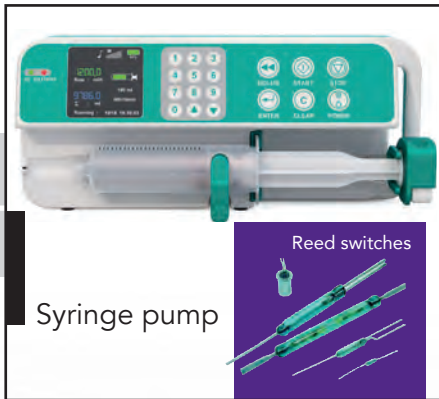


# AUXILIARY EQUIPMENT & ACCESSORIES

FOR EACH APPLICATION, THE CORRESPONDING SOLUTION!

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# PROCESS FOR MEDICINES' MANUFACTURING & PACKAGING

See also our dedicated brochure  
**PACKING INDUSTRY by celduc® relais** →



## OUR PRODUCTS ARE USED FOR HEATING AND PROCESS CONTROL IN:

- Complete lines for production of pharmaceutical products
- Packaging lines for drugs/pills packaging

### KEY PRODUCTS

#### SINGLE PHASE SSR



celpac®  
pages 20-21

#### THREE-PHASE SSR



cel3pac & sightpac  
pages 28-29





## SOLID STATE RELAYS

- AC switching up to 125A / 690VAC
- DC switching up to 50A / 1700Vp or 150A / 100Vp
- Diagnostic and protections available

**celduc® Solid State Relays (SSRs)** are widely used in the medical industry. Fully electronic, there are no moving parts inside the SSRs, so they have higher life-time expectancy.

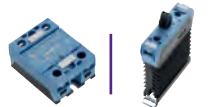
Some of our products fulfil the requirements for medical applications according to EN 60601-1 (VDE 0750).

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**PCB Solid State Relays** ..... p.18-19

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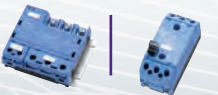
**Single phase Solid State Relays – celpac®2G & okpac® ranges** .... p.20-23



**Solid State Relays EMC optimised  
(low electromagnetic emission – low RFI)** ..... p.24-25



**Two-phase and 4-leg Solid State Relays with Faston terminals** ..... p.26-27



**Three-phase Solid State Relays & Contactors** ..... p.28-29

The solutions displayed in this brochure should not be considered as exhaustive, please visit [www.celduc-relais.com](http://www.celduc-relais.com)







# MAGNETIC PROXIMITY SENSORS

In the medical industry, there are numerous applications for our **magnetic proximity sensors** : if you are looking for position, presence or level detection, we are able to offer a solution. In the medical field, magnetic proximity sensors can be used in automatic analysis systems to control liquids level, presence of tank, proper-working of the arms, open/closed doors of sterilizers...

We are eager to offer the best products for your application, thanks to our 45-year experience in the key technologies that we use in our products :

- Reed switch, a dry contact in a sealed glass bulb providing insulation at the same time : a simple, reliable and low cost solution.
- Electronic cell, based on either magneto-resistance or Hall effect, necessary for higher performance, particularly in high frequency operation.

	Tubular position magnetic proximity sensors .....	p. 30-31
	Screw position magnetic proximity sensors .....	p. 32
	Safety sensors .....	p. 33
	Level sensors .....	p. 34-35

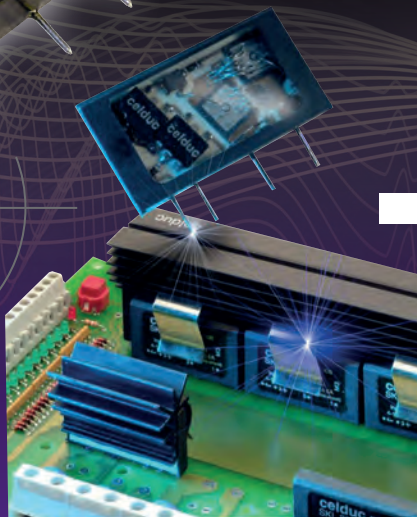
The solutions displayed in this brochure should not be considered as exhaustive,  
please visit [www.celduc-relais.com](http://www.celduc-relais.com)



# celduc<sup>®</sup>

## PRINTED CIRCUIT BOARD MOUNT (PCB) SOLID STATE RELAYS

SKA RANGE (AC OUTPUT UP TO 6A 230 OR 400VAC),  
WITH BUILT-IN VOLTAGE PROTECTION



celduc offers an extensive range of PCB solid state relays suited to applications that demand long life and high reliability and where fast response and high switching rates are required. AC versions are available from 5A up to 75A thyristor rating.

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# PCB Solid State Relays

AC or DC – for all types of loads

Out SK range for PCB mounting is available in different models :

- SKA range (AC output) up to 6A 230 or 400VAC, with built-in voltage protection
- SKB range (AC output) up to 6A 230 or 400VAC, for resistive loads
- SKL range (AC output), ideal for motor control (heatsink available on request)
- SKD range (DC output – BIPOLAR technology) up to 3A 60VDC
- SKLD range (DC output – MOSFET technology) up to 10A 36VDC

Reference	Thyristor rating	Switching voltage	Control voltage	Specifications	Fig.
SKA10420	5A	12-275VAC	2.5-10VDC	AC zero-cross output / most types of loads	1
SKA20441	5A	12-460VAC	3-30VDC	AC random output / most types of loads	1
SKB10440	5A	24-600VAC	3.7-10VDC	AC zero-cross output / resistive loads AC-51	1
SKL20740	75A	24-600VAC	8-32VDC	AC zero-cross output / most types of loads	2
SKD10306	3A	2-60VDC	3-30VDC	DC output – BIPOLAR technology	3
SKLD31006	10A	7-36VDC	7-30VDC	DC output – MOSFET technology	4

Our SN8 range is designed for PCB applications and when fitted with suitable heatsink, can control heavy loads in an ultra-miniature, physically compact package.

Reference	Thyristor rating	Switching voltage	Control voltage	I <sup>2</sup> t	Fig.
SN842100	25A	24-280VAC	3.5-15VDC	260A <sup>2</sup> s	5



1.



2.



3.



4.



5.

Other models available please visit our website [www.celduc-relais.com](http://www.celduc-relais.com)



celpac<sup>®</sup> 2G

## THE 22,5MM PITCH SSR SOLUTION

A WIDE RANGE OF SINGLE PHASE SOLID STATE RELAYS  
TO COVER ALL YOUR NEEDS



SU/SUL RANGE  
WITH PLUGGABLE CONNECTOR ON INPUTS



SA/SAL RANGE  
WITH SCREW CONNECTION ON INPUTS

The requirement for enhanced design, ease of installation, optimum life and the most competitive price is delivered by the new generation of celpac products.

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Reference	Thyristor rating	Switching voltage	Control voltage	I <sup>2</sup> t	Specifications	Fig.
<b>SA965460</b>	50A	24-600VAC	3.5-32VDC	1680A²s	Resistive loads AC-51	1
<b>SU942460</b>	25A	12-280VAC	3-32VDC	600A²s	Resistive loads AC-51	2
<b>SU865070</b>	50A	24-510VAC	3.5-32VDC	1 680A²s	For most types of loads	2



1.



2.

Reference	Thyristor rating	Max. switching current at 25°C	Switching voltage	Control voltage	I <sup>2</sup> t	Specifications	Fig.
<b>SAL942460</b>	25A	23A	12-280VAC	3-32VDC	450A²s	Resistive loads AC-51 – Mounted on heatsink	3
<b>SUL963460</b>	35A	30A	24-600VAC	3-32VDC	882A²s	Resistive loads AC-51 – Mounted on heatsink	4
<b>SUL967460</b>	75A	35A	24-600VAC	3-32VDC	7200A²s	Resistive loads AC-51 – Mounted on heatsink	4
<b>SUL865070</b>	50A	35A	24-510VAC	3.5-32VDC	1680A²s	For most types of loads – Mounted on heatsink	4



3.



4.

To add functions to your SSR, use our two modules directly pluggable on our SSR type SU and SUL



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



**ESUC**  
Current Monitoring, Diagnostics module

Other models available please visit our website [www.celduc-relais.com](http://www.celduc-relais.com)



# okpac<sup>®</sup>

## ■ A WIDE RANGE TO COVER ALL YOUR NEEDS

OUR OKPAC<sup>®</sup> RANGE COMBINES INNOVATION,  
PERFORMANCES AND DESIGN



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23



With our integrated back to back thyristors technology (direct copper bonded ceramic) offering a very high life expectancy, our SSRs are perfectly adapted to the requirements of medical equipment manufacturers. We offer a wide range with thyristor ratings up to 125A / 660V as well as a wide AC-DC input range with regulated current models. Removable flaps for IP20 protection.



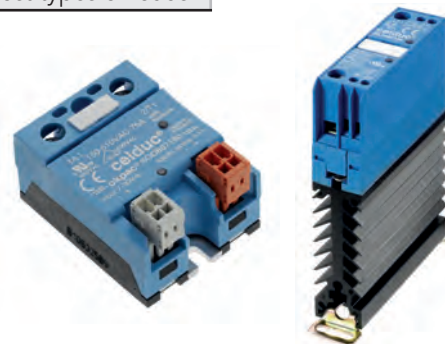
Reference	Thyristor rating	Switching voltage	Peak voltage	Control voltage	I <sup>2</sup> t	Specifications
<b>SO945460</b>	60A	12-280VAC	600V	3-32VDC	2800A²s	For resistive loads AC-51
<b>SO963460</b>	40A	24-600VAC	1200V	3.5-32VDC	1250A²s	For resistive loads AC-51
<b>SO965460</b>	60A	24-600VAC	1200V	3.5-32VDC	2800A²s	For resistive loads AC-51
<b>SO967460</b>	90A	24-600VAC	1200V	3.5-32VDC	7200A²s	For resistive loads AC-51
<b>SO842074</b>	25A	12-275VAC	600V	3-32VDC	600A²s	For most types of loads
<b>SO865970</b>	50A	24-510VAC	1200V	3.5-32VDC	2800A²s	For most types of loads
<b>SO867070</b>	75A	24-510VAC	1200V	3.5-32VDC	7200A²s	For most types of loads
<b>SO869070</b>	125A	24-510VAC	1200V	3.5-32VDC	22000A²s	For most types of loads



### YOU NEED POWER SSRs WITH DIAGNOSTICS ?

Our range of diagnostics relays comes in celpac® housing (ready to use) with our SILD and okpac® range (to mount on heatsinks) with our SOD and SOI.

These relays inform the user of the load status (resistive load), the output of the relay and the network through an NC (Normally Closed) diagnostic contact.



Other models available please visit our website [www.celduc-relais.com](http://www.celduc-relais.com)



# celduc®

## EMC OPTIMISED SOLID STATE RELAYS (LOW ELECTROMAGNETIC EMISSION LOW RFI)

**NEW**

### **SON RANGE:**

THESE RELAYS ARE DESIGNED FOR USE IN APPLICATIONS WHERE  
LOW ELECTROMAGNETIC EMISSION IS ESSENTIAL:  
HOUSEHOLD AND ELECTRICAL APPLIANCES, INFORMATION  
TECHNOLOGY AND MEDICAL EQUIPMENT.

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You can find standard "low noise" SSRs on the market but these are limited to a low switching current of 5A for domestic applications or to low inductive loads, while lots of pure resistive loads applications have high emission noise.

Our new EMC optimized SON range meets these requirements (Conducted emission noise level < 66dB $\mu$ V) and can control class B appliances on pure resistive loads.

According to the application, applicable European standards are different. For celduc®, the major EN standards for Low Electromagnetic Noise Emission are EN55022, EN55011 and EN55014 which represent the main categories for electrical appliances.



# SON

## Power and control connections with screws

Reference	Thyristor rating	Switching voltage	Peak voltage	Control voltage	I <sup>2</sup> t	Specifications
<b>SON845040</b>	50A	40-260VAC	600V	6-32VDC	2800A <sup>2</sup> s	EMC optimised (low electromagnetic emission – low RFI)
<b>SON865040</b>	50A	50-480VAC	1200V	6-32VDC	2800A <sup>2</sup> s	
<b>SON867040</b>	75A	50-480VAC	1200V	6-32VDC	7200A <sup>2</sup> s	



Our new EMC optimized SON can control class B appliances on pure resistive loads with switching current > 5A with conducted emission noise level < 66dB $\mu$ V. This is a great advantage compared to standard "low noise" SSRs currently available on the market.

Standard	Reference standard	Current limit
<b>CEI 60947-1</b>	CISPR 11, B class, 1st group	40A @ 220V
<b>CEI 60947-4-3</b>	CISPR 22, B class	27A @ 400V

# SCFL

## Power connection by FASTON terminals

Reference	Thyristor rating	Switching voltage	Peak voltage	Control voltage	I <sup>2</sup> t	Specifications
<b>SCFL42100</b>	25A	12-280VAC	600V	4-30VDC	312A <sup>2</sup> s	EMC optimised (low electromagnetic emission – low RFI)
<b>SCFL62100</b>	25A	24-440VAC	1200V	5-30VDC	312A <sup>2</sup>	



Other models available please visit our website [www.celduc-relais.com](http://www.celduc-relais.com)



# celduc®

■ USE OUR TWO-PHASE AND FOUR-LEG POWER SSR WITH FASTON TERMINALS FOR A QUICK CONNECTION AND SPACE SAVING !

**NEW**

**SOB5 RANGE**



- DOUBLE INPUT WITH CONNECTOR CE100F ITWPANCON TYPE OR SIMILAR.
- POWER CONNECTION BY FASTON 6,3MM TERMINALS WITH IP20 PROTECTION.

celduc@relais offers two-phase and four-leg power SSRs with Faston terminals.

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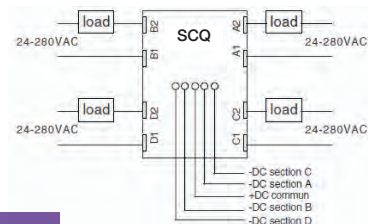
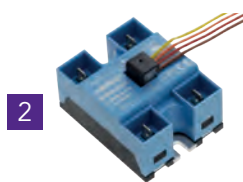


## SOB5

### Dual okpac® range with Faston terminals

We offer you various possible connections with Faston terminals.

Fig.	Reference	Thyristor rating	Switching voltage	Peak voltage	Control voltage	I <sup>2</sup> t	Specifications
1	<b>SOB542460</b>	2x25A	12-280VAC	600V	3-32VDC	265A <sup>2</sup> s	Zero-cross / 2 controls
	<b>SOB562460</b>	2x25A	24-600VAC	1200V	3.5-32VDC	265A <sup>2</sup> s	
2	<b>SOB544330</b>	2x40A	12-275VAC	600V	8-30VDC	882A <sup>2</sup> s	
	<b>SOB564330</b>	2x40A	24-510VAC	1200V	8-30VDC	882A <sup>2</sup> s	



## SCQ

### Four-Leg Solid State Relay

Fig.	Reference	Thyristor rating	Switching voltage	Peak voltage	Control voltage	I <sup>2</sup> t	Specifications
3	<b>SCQ842060</b>	4x25A	12-280VAC	600V	3-32VDC	288A <sup>2</sup> s	Led

Other models available please visit our website [www.celduc-relais.com](http://www.celduc-relais.com)



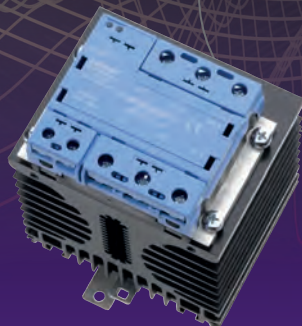
# cel3pac sightpac

## THREE-PHASE SOLID STATE RELAYS & CONTACTORS : NEW VISIONARY RANGES

SMT RANGE (45MM VERSION)  
SGT RANGE (100MM VERSION)

**NEW**

Superior design, easy installation,  
optimum lifespan and price effectiveness  
are delivered with the new generation  
of three-phase Solid State Relays.



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# cel3pac sightpac

## Three-phase Solid State Relays & Contactors



Reference	Thyristor rating	Switching current AC-51 (40°C)	Switching current AC-53 (40°C)	Switching voltage	Peak voltage	Control voltage	I <sup>2</sup> t	Protections	Fig.
<b>cel3pac range – to be mounted on heatsink</b>									
<b>SGT8678500</b>	3x75A	3x54A	3x16A	24-520VAC	1600V	24-255VAC/DC	7 200A <sup>2</sup> s	RC – VDR	1
<b>SGT8690500</b>	3x125A	3x64A	3x32A	24-520VAC	1600V	4-30VDC	22 000A <sup>2</sup> s	RC – VDR	1
<b>SGT8858200</b>	3x50A	3x42A	3x12A	24-640VAC	1600V	24-255VAC/DC	2 800A <sup>2</sup> s	VDR	1
<b>SGT8859200</b>	3x50A	3x42A	3x12A	24-640VAC	1600V	90-280VAC/DC	2 800A <sup>2</sup> s	VDR	1
<b>SGT8879200</b>	3x75A	3x54A	3x16A	24-640VAC	1600V	90-280VAC/DC	7 200A <sup>2</sup> s	VDR	1
<b>cel3pac range – “ready to use”, mounted on heatsink</b>									
<b>SGT8658502</b>	3x50A	3x24A	3x12A	24-520VAC	1600V	24-255VAC/DC	2 800A <sup>2</sup> s	RC – VDR	2
<b>sightpac range – to be mounted on heatsink</b>									
<b>SMT8620520</b>	3x25A	3x20A	3x5A	24-520VAC	1200V	4-30VDC	380A <sup>2</sup> s	RC – VDR	3
<b>SMT8628520</b>	3x25A	3x20A	3x5A	24-520VAC	1200V	24-255VAC/DC	380A <sup>2</sup> s	RC – VDR	3
<b>sightpac range – “ready to use”, mounted on heatsink</b>									
<b>SMT8628521</b>	3x25A	3x17A	3x5A	24-520VAC	1200V	24-255VAC/DC	380A <sup>2</sup> s	RC – VDR	4

Other models available please visit our website [www.celduc-relais.com](http://www.celduc-relais.com)



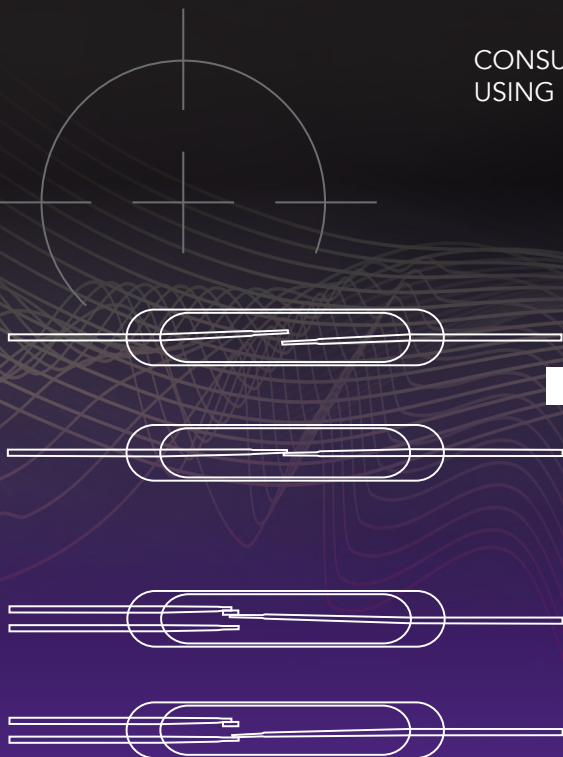
# POSITION SENSORS

LOOKING FOR POSITION DETECTION, DOOR  
OPENING DETECTION OR THE PRESENCE OF  
A PROTECTIVE COVER...

CONSULT OUR RANGE OF MAGNETIC PROXIMITY SENSORS  
USING REED SWITCHES, A DRY CONTACT IN A SEALED GLASS BULB.

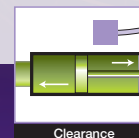
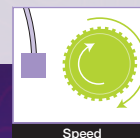
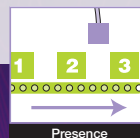
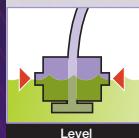
30

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Possible contact type:

- NO / A Form → Normally Open
- NF / B Form → Normally Closed
- BISTABLE NO / L Form
- CHANGE-OVER / C Form





# TUBULAR POSITION SENSORS



Range	PTA	PTB	PTC	PTPA0230	PTPB0010	PTI4	PTI5	PTI6	PTI7
Contact status	NO	NC	Change-over	NO	NC	NO	NC	NO	NC
Max. switching power	12VA	3VA	NC : 3VA NO : 8VA	12VA	12VA	12VA	5W	12VA	5W
Max. switching voltage	100VDC	100VDC	100VDC	100VDC	100VDC	200VDC	175VDC	200VDC	175VDC
Max. switching current	0.4A	0.25A	0.25A	0.5A	0.5A	0.5A	0.25A	0.5A	0.25A
Activation distance	PTA : between 7 and 18mm PTB : 14mm ; PTC : 7mm (with P6250000)			PTPA : 30mm PTPB : 10mm (magnet provided)		PTI4 : 12mm PTI5 : 7mm (with PT505000)		12mm with PT505100	7mm with PT505100
Working temperature	-40 to +85°C								
Dimensions (mm)	Ø6x30 Plastic			Ø23x27 Plastic	Ø23x28 Plastic	M8x1 – Lg31 Plastic		M8x1 – Lg40 Stainless Steel	M8x1 – Lg40 Stainless Steel

Other sensitivities, cable lengths or connection types are possible. Consult us ! [www.celduc-relais.com](http://www.celduc-relais.com)



# SCREW POSITION SENSORS



	PAA	PAB	PLA	PLB	PLC	PB367	PB390 / PBA
<b>Range</b>	PAA	PAB	PLA	PLB	PLC	PB367	PB390 / PBA
<b>Contact status</b>	NO	NC	NO	NC	Change-over	NC	NO
<b>Max. switching power</b>	12VA	3VA	12VA	12VA	NC : 3VA NO : 8VA	NC	NO
<b>Max. switching voltage</b>	100VDC	100VDC	100VDC or 250VDC	250VDC	100VDC	250VDC	250VDC
<b>Max. switching current</b>	0.4A	0.25A	0.4A	0.4A	0.25A	0.5A	0.5A
<b>Activation distance</b>	Between 10 & 18mm with P6250000 (depends on model)		Between 10 & 19mm with P6250000 (depends on model)	$4 \leq D \leq 12$ mm (magnet provided)	Between 10 & 14mm with P6250000 (depends on model)	6mm with P4159000	13mm with P4160000
<b>Working temperature</b>	-40 to +100°C						
<b>Dimensions (mm)</b>	23x14x6		32x15x6.8			51x8.5x11.5	
<b>Fixing screws distance</b>	14mm		17.5mm			40mm	

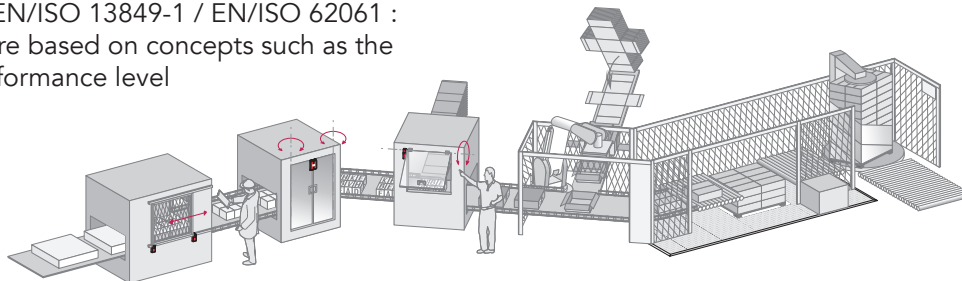
UL approved products on request

Other sensitivities, cable lengths or connection types are possible. Consult us ! [www.celduc-relais.com](http://www.celduc-relais.com)



# MAGNETIC SAFETY SENSORS

- 3 safety levels according to EN/ISO 13849-1 / EN/ISO 62061 :  
The latest safety standards are based on concepts such as the security level (SIL) or the performance level (performance level = PL).



A SOLUTION, WHATEVER THE SAFETY  
LEVEL IS REQUIRED !



SAFETY SENSOR  
PSA range

SIL 1  
PL = c



+ SAFETY MODULE

Safety coded sensor  
in association with  
safety module  
PSS or PXS ranges

SIL 1 / 2 / 3  
PL = c / d / e



# LEVEL SENSOR

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celduc® relais offers a large range of standard or specific level and flow sensors using Reed switches. Our sensors are available in plastic, brass or stainless steel housing, making it possible to use them with various chemical substances and/or operating temperatures.

## ADVANTAGES :

- One moving part
- The Reed contact is actuated by a magnetic field only : no contact so no wear
- The Reed contact is completely isolated from the liquid so perfectly waterproof
- The above advantages allow a safety use, repetitiveness, precision and minimum maintenance.



# LEVEL SENSORS



**PTFA5001**



**PTFA2115**



**PTFA0100**



**PTFA3315**

Range	PTFA5001	PTFA2115	PTFA0100	PTFA3315
<b>Mounting</b>	Vertically	Vertically	Horizontally External mounting	Horizontally
<b>Contact status</b>	1NC	1NO	1NO	1NO
<b>Connection type</b>	Cable 2m	2 wires 1.5m	2 wires 175mm + Molex connector	2 wires 1.5m
<b>Material</b>	Polypropylene	Stainless steel	Polyamide 30% glass fiber	Polypropylene
<b>Max.switching power</b>	50VA	50VA	10VA	50VA
<b>Max.switching voltage</b>	230VAC 350VDC	230VAC 350VDC	200VDC	230VAC 350VDC
<b>Max.switching current</b>	0.5A	0.5A	0.5A	0.5A
<b>Working temperature</b>	-10 / 80°C	0 / 100°C	0 / 85°C	-10 / 100°C (wires 85°C)
<b>Thread</b>	M8 x 1.25	M10 x 1	Specific	M16 x 2

Other sensitivities, cable lengths or connection types are possible. Consult us ! [www.celduc-relais.com](http://www.celduc-relais.com)



# celduc® relais ALSO PRODUCE

## MAGNETIC PROXIMITY SENSORS

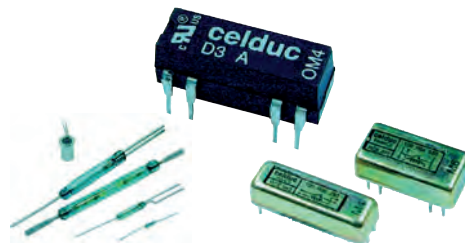
celduc® relais offers 2 technologies :

- Magnetic proximity sensors using reed switch technology : a simple, reliable and low cost solution
- Magnetic proximity sensors using an electronic cell, based on either magneto-resistance or Hall effect, necessary for higher performance, particularly in high frequency operation.



## REED RELAYS & SWITCHES

For detection of clearance, position and level in extreme environments with no mechanical link between moving parts. These magnetically actuated maintenance free Reed switches can meet the toughest challenges that industry can throw at them.





MORE INFORMATION  
NEEDED ? [www.celduc-relais.com](http://www.celduc-relais.com)

Catalogues and leaflets available on request



Product Guide



Single Phase SSRs &  
Contactors celpac range



Three-Phase SSRs  
& Contactors cel3pac  
& sightpac ranges





# celduc® relais

## worldwide presence in more than 60 countries

ALGERIA  
ARGENTINA  
AUSTRALIA  
AUSTRIA  
BELGIUM  
BRAZIL  
BULGARIA  
CANADA  
CHILE  
CHINA  
COLOMBIA  
CZECH REP.  
DENMARK  
EGYPT  
ESTONIA  
FINLAND  
FRANCE  
GERMANY  
GREECE  
HONG KONG  
HUNGARY  
INDIA  
INDONESIA  
IRELANDE  
ISRAËL  
ITALY  
JAPAN  
LATVIA  
LITHUANIA

MALAYSIA  
MEXICO  
MOROCCO  
THE NETHERLANDS  
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