Magnetic sensors

MAGNETIC PROXIMITY SENSORS
We are the experts !!!

If you are looking for position, presence, level or speed detection, then we will be able to offer a solution from our range of magnetic sensors.

We can even design a specific product for your applications !

At **celduc® relais,** *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.*

Please consult us to have our expertise

Contents

REMINDER : Reed switches and magnetic sensors using reed switches can switch AC or DC current. In our technical data-sheets the values given for current and voltage are the maximum values. It means that in DC applications it corresponds to the max. switching current and voltage. In AC applications these values are the peak values, to obtain the nominal value you should divide by 1,414.

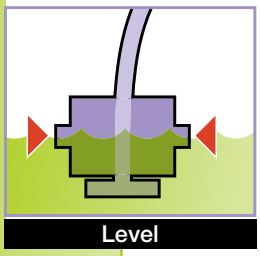
SCOPE

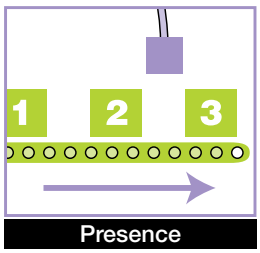
INDUSTRY
Counting
Cylinder positions
Machine safety
Advertising panel
Actuator position
Liquide level
Speed control.

HOME
Burglar alarm
Camera shutter control window position (blinds)
Lifts
Alarms
Big and small household goods
Swimming-pools.

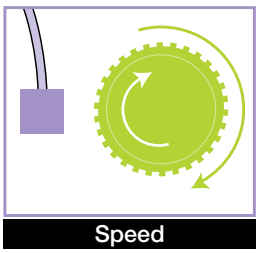
AIRCRAFT, SPACE AND ARMY
Fuel/oil level.
Camera shutter control
Sensors and actuators for Airbus.

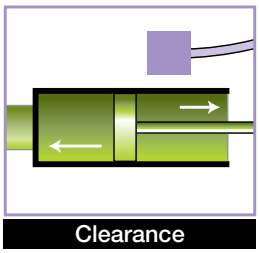
SPECIFIC APPLICATIONS
ATEX (explosive atmospheres).

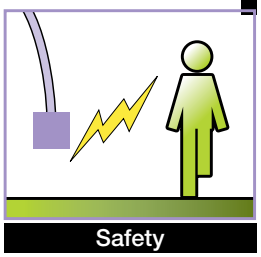

Level



Presence


Speed


Clearance

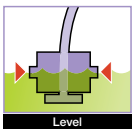

Safety

contact type

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

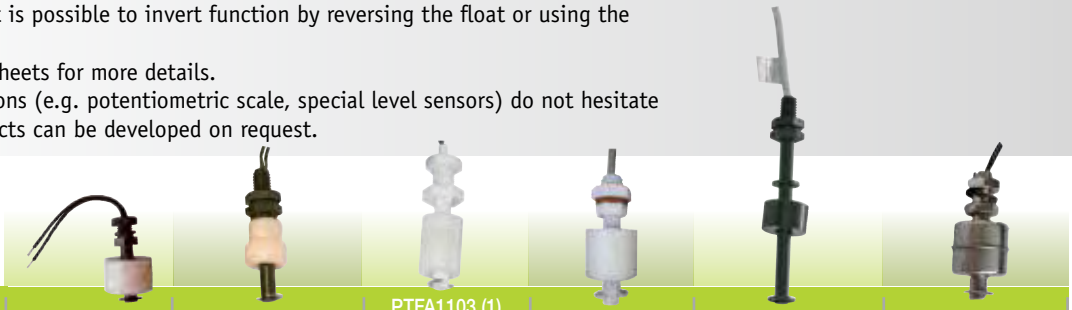
Other lengths of cable or wire possible for signifiant quantities.

Reed magnetic sensors



LEVEL & FLOW SENSORS

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.
With some sensors, it is possible to invert function by reversing the float or using the sensor upside down.
Please see the data sheets for more details.
For specific applications (e.g. potentiometric scale, special level sensors) do not hesitate to contact us : products can be developed on request.



VERTICAL LEVEL SENSORS

Product reference		PTF01070	PTFA1015	PTFA1103 (1) PTFA1104 (1)	PTFA5001 (1)	PTFA1210	PTFA2115 (1)(2)
Mounting		Vertically	Vertically	Vertically	Vertically	Vertically High and low level	Vertically
Contact status (float down)		1NO	1NO	1NC (PTFA1103) 1NO (PTFA1104)	1NC	1NO+NC	1NO
Connection type		2 wires 70mm	2 wires 1,5m	2 wires 300mm	Cable 2m	Cable (3 wires) 300mm	2 wires 1,5m
Material	Housing	Polyamide 6/6 resin with glass fiber content	Polyamide 6/6 resin with glass fiber content	Polypropylene	Polypropylene	Polyamide	Stainless steel
	Float	Polypropylene	Polypropylene			Polyurethane	
Liquid compatibility		Water	Water	(1)	(1)	(2)	(3)
Float travel		10mm	17mm	9mm	10mm	48,5mm	8mm
Max. switching power		10VA	10VA	10VA	50VA	Top : 10VA Bottom : 3VA	50VA
Max. switching voltage		100Vdc	100Vdc	230Vac	230Vac 350Vdc	Top : 200Vdc Bottom : 100Vdc	230Vac 350Vdc
Max. switching current		0,5A	0,5A	0,5A	0,5A	Top : 0,5A Bottom : 0,25A	0,5A
Density mini		0,8	0,75	0,7	0,9	0,6	0,75
Working temperature		0 / 70°C	0 / 70°C	-10 / 80°C	-10 / 80°C	-10 / 85°C	0 / 100°C
Thread		M8 x 1,25	3/8" threading UNC 1,588mm (16 per inch)	1/8" GAS (28 per inch)	M8 x 1,25	3/8" threading UNC 1,588mm (16 per inch	M10 x 1

(1) Possible to invert the functions by reversing the float
(2) Available in ATEX version (see page 39)

liquids compatibility

(1) → Compatible with acid : acetic, citric, formic, lactic, nitric diluted, phosphoric, sulphuric diluted ; soda ; alcohols : ethanol, methanol, propanol ; glycol ; mineral oil ; water
→ Not compatible with the following solvents : chloroforme, methylene chloride, trichloroethylene, toluene ; hard acids

(2) → Compatible with fuels, engine oil, kerosene, lubricaring oil, mineral oil, vegetal oil,
→ Not compatible with almost all acids, methylene chloride
→ Acceptable resistance to water

(3) → Compatible with almost all the liquids except hard acids

Reed magnetic sensors

working principle

A float fitted with one or more magnets moves with the liquid and actuates, due to its magnetic field, a hermetically sealed reed contact located in the body of the float.

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.

HORIZONTAL LEVEL SENSORS

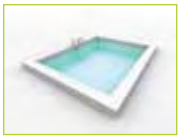
Product reference	PTFA0100	PTFA3115	PTFA3315 (2)	PTFA3415
Mounting	Horizontally External mounting	Horizontally	Horizontally	Horizontally External mounting
Contact status	1NO	1NO	1NO	1NO
Connection type	2 wires 175mm + Molex connector	2 wires 1,5m	2 wires 1,5m	Cable 1,5m
Material	Polyamide 30% glass fiber	Polyamide 30% glass fiber	Polypropylene	Polypropylene
Liquid compatibility	(2)	(2)	(1)	(1)
Float travel	50°	50°	50°	50°
Max. switching power	10VA	50VA	50VA	50VA
Max. switching voltage	200Vdc	230Vac 350Vdc	230Vac 350Vdc	230Vac 350Vdc
Max. switching current	0,5A	0,5A	0,5A	0,5A
Density mini	0,6	0,6	0,6	0,6
Working temperature	0 / 85°C	0 / 85°C	-10 / 100°C (wires/85°C)	-10 / 100°C (wires/85°C)
Thread	Specific	Specific	M16 x 2	M16 x 2

FLOW SENSORS

PTA10534 PTA10535	PTA10595
Horizontally Short paddle (Lg2= 57mm)	Horizontally Long paddle (Lg2= 77mm)
1NO	1NO
Cable 0,5m or 2m	Cable 2m
PPO (NORYL)	PPO (NORYL)
Water	Water
-	
100VA	100VA
230Vac 350Vdc	230Vac 350Vdc
1A	1A
-	-
0 / 80°C	0 / 80°C
Specific	Specific

(2) Available in ATEX version (see page 39).

applications



HEATING (air-conditioning, heaters, humidifiers)
→ To detect the water level in the tank.

DOMESTIC EQUIPMENT (electronic flush, solar systems)
→ To detect the water level.

FOOD INDUSTRY (coffee machines, vending machines)
→ Check the level of water left in the tank.

MEDICAL EQUIPMENT (sterilising equipment for medical instruments)
→ Check level of water for steam or liquid detergent level.

WATER TREATMENT (water purifying, desalinating)
→ The sensors enable the reserve water level to be established.

SWIMMING POOLS (water treatment, water heating)
→ Water level and flow.

AUTOMOBILE (radiator liquids level, windscreen washer, engine oil level, brake oil level)
→ Detection of liquids levels.

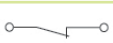
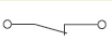
VARIOUS INDUSTRIES (photo lab equipment, scrubber machines, fuel dispensing systems).

Reed magnetic sensors

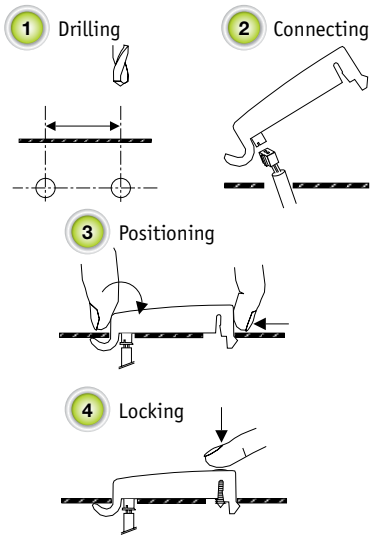
Sensors for window frames

This new range has been developed to detect position of the window : open or closed (supervising of openings).
Typical applications are alarm, heating, air-conditioning systems

Main advantages are :
→ Save time for mounting and wiring : pluggable connector, product to be clipped (no fixing screws)
→ Normally open (NO), normally closed (NC), change-over contact, safety current loop
→ Water-proof contact.

Product reference		PWA01500	PWB01500	PWA11500	PWB11500	PWC01500
Type of contact		NO	NC	NO + safety loop	NC + safety loop	Change-over
Contact status	Window open					
	Window closed					
Connection type		Cable + PHR2 connector (not included)		Cable + PHR4 connector (not included)		
Cable length		Ref. 2YB20030 : 3m Ref. 2YB20050 : 5m Ref. 2YB20100 : 10m Ref. 2YB20130 : 13m		Ref. 2YB40080 : 8m		
Max. switching power		10VA				
Max. switching voltage		100VDC				
Max. switching current		0,4A				
Activation distance		Depend on the magnet - see technical data-sheet				
Working temperature		-40 to +70°C				
Dimensions		47,7 x 9,7 x 9,1				

Mounting & wiring times much shorter !



Magnet PW520000
to be clipped

Magnet UR124540
to be screwed

Magnet UZ189538
to be glued

Magnetic sensor for windows and doors alarms

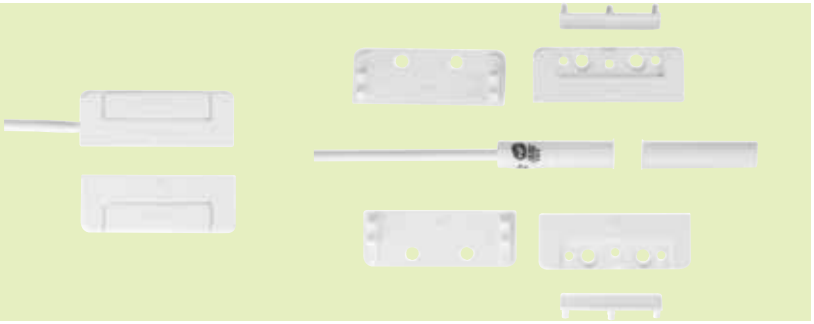
→ in compliance with NF324-H58 and EN 50131 (security level : shield 3)

This anti intrusion magnetic sensor is used in doors and windows access control systems for buildings.
PNA2P020 is built in two parts : "contact" and "magnet". Contact is open if no magnet (window or door open).

This sensor is built in plastic housing with 2 mounting options:
- Direct mounting – embedded version
- Mounting in additional housing : "contact" and "magnet" are fitted into another plastic housing for screw mount – top version.

The cable is made with 4 wires : 2 for the switch and 2 for auto-protection circuit.

Product reference	PNA2P020
Max. switching power	10W
Max. switching voltage	48Vac 67Vdc
Max. switching current	1A



Reed magnetic sensors

SAFETY SENSORS

The PXS or PSS type products are designed to control the opening of protective devices, machine casings and access doors.

These products, in their basic design and construction, are conform to the applicable European Directive for machinery safety 2006/42/CEE.
Correctly installed with their associated coded magnets and connected to adapted safety modules, they can reach the following safety level : **PLd and PLe according to EN 13849-1**
SIL3 according to EN 62061



Product reference	PXS79150	PXS59150	PXS10350	PXS70150	PSS79050	PSS79150	PSS59050	PSS59150	PSA60010	PSA60020
Contact status	2O	O+C	2O + 1C	2O + 1C	2O	2O	O+C	O+C	1O solid state	1O solid state
Current limiting resistor	10Ω	10Ω	-	10Ω	10Ω	10Ω	10Ω	10Ω	-	-
Max. switching power	3VA	3VA	3VA	3VA	3VA	3VA	3VA	3VA	500VA	500VA
Max. switching voltage	100VDC	100VDC	100VDC	100VDC	100VDC	100VDC	100VDC	100VDC	24-440VAC	6-440VAC
Max. switching current	100mA	100mA	100mA	100mA	100mA	100mA	100mA	100mA	3A	3A
Cable length	Cable 5m	Cable 5m	Cable 5m	Cable 5m	Cable 5m	Cable 5m	Cable 5m	Cable 5m	2 wires 350mm	2 wires 3m
Activation distance	8mm	8mm	8mm	8mm	5mm	5mm	5mm	5mm	12mm	12mm
Associated coded magnet	P2000100	P2000100	P2000100	P2000100	P3000100	P3000100	P3000100	P3000100	P6250000	P6250000
LED option	yes	yes	no	yes	no	yes	no	yes	no	no
Working temperature	-25 to +85°C	-25 to +85°C	-25 to +85°C	-25 to +85°C	-25 to +85°C	-25 to +85°C	-25 to +85°C	-25 to +85°C	-40 to +85°C	-40 to +85°C

associated coded magnets


P2000100


P3000100


P6250000


Terminals version on request
M8 or M12 depends on the model : see data sheet

Reed magnetic sensors

Screw position sensors

General use screw sensors for industry and household use :

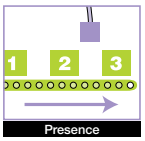
- → Rabbet sensors
- → Doors opening
- → Protection cover presence
- → Household applicances

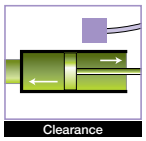


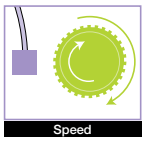
Product reference	PAA10060	PAA11202	PAB10020	PLA10100	PLA10160	PLA11208	PLA12430	PSL40010
Contact status	NO	NO	NC	NO	NO	NO	NO	NO
Connection type	2 wires / FASTON	2 wires	2 wires + HE14 connector	cable	2 wires	cable	cable	2 wires
Cable length	680mm	275mm	160mm	10m	360mm	800mm	3m	550mm
Max. switching power	12VA	12VA	3VA	12VA	12VA	12VA	12VA	10VA
Max. switching voltage	100VDC	100VDC	100VDC	100VDC	100VDC	250VDC	250VDC	350VDC
Max. switching current	0,4A	0,4A	0,25A	0,5A	0,4A	0,4A	0,4A	0,5A
Activation distance	16mm with P6250000	15mm with P6250000	18mm with P6250000	10mm with P6250000	19mm with P6250000	16mm with P6250000	12mm with P6250000	12mm with P6250000
Working temperature	-40 to +85°C	-40 to +100°C	-40 to +100°C	-40 to +85°C	-40 to +100°C	-40 to +100°C	-40 to +100°C	-40 to +85°C
Dimensions in mm	23x14x6	23x14x6	23x14x6	32x15x6,8	32x15x6,8	32x15x6,8	32x15x6,8	51 x16 x 7
Fixing screws distance	14mm	14mm	14mm	17,5mm	17,5mm	17,5mm	17,5mm	16mm

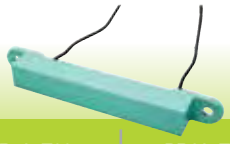

Product reference	PLA13701	PLA13730	PLA13750	PLA43403	PLB10060	PLB16701	PLC10040	PLC13701	PSC41000
Contact status	NO	NO	NO	NO	NC	NC	Change-over	Change-over	Change-over
Connection type	cable	cable	cable	cable	cable	cable	cable	3 wires	cable
Cable length	100mm	3m	5m	300mm	3m	100mm	1,5m	100mm	400mm
Max. switching power	12VA	12VA	12VA	100VA	12VA	12VA	NC : 3VA NO : 8VA	NC : 3VA NO : 8VA	100VA
Max. switching voltage	250VDC	250VDC	250VDC	350VDC	250VDC	250VDC	100VDC	100VDC	230VAC 350VDC
Max. switching current	0,4A	0,4A	0,4A	1A	0,4A	0,4A	0,25A	0,25A	3A
Activation distance	10mm with P6250000	10mm with P6250000	10mm with P6250000	12mm with P6250000	4<d<12mm (magnet provided)	4mm (magnet provided)	14mm with P6250000	10mm with P6250000	8mm with UR608000
Working temperature	-40 to +100°C	-40 to +100°C	-40 to +100°C	-40 to +100°C	-40 to +100°C	-40 to +100°C	-40 to +100°C	-40 to +100°C	-25 to +85°C
Dimensions in mm	32x15x6,8	32x15x6,8	32x15x6,8	32x15x6,8	32x15x6,8	32x15x6,8	32x15x6,8	32x15x6,8	51 x 16 x 7
Fixing screws distance	17,5mm	17,5mm	17,5mm	17,5mm	17,5mm	17,5mm	17,5mm	17,5mm	16mm

Reed magnetic sensors










Product reference	PB195T00	PB285T00	PB367G00	PB390G00	PBA13725	PBA13780
Contact status	NO	NC	NC	NO	NO	NO
Connection type	2 wires	2 wires	2 wires	2 wires	cable	cable
Cable length	80mm	80mm	80mm	80mm	2,5m	8m
Max. switching power	50VA	50VA	16VA	16VA	12VA	12VA
Max. switching voltage	250VAC	250VAC	250VDC	250VDC	250VDC	250VDC
Max. switching current	1A	1A	0,5A	0,5A	0,4A	0,4A
Activation distance	7mm with P4160000	6mm with P4160000	6mm with P4159000	13mm with P4160000	13mm with P4160000	13mm with P4160000
Working temperature	-40 to +100°C	-40 to +100°C	-40 to +100°C	-40 to +100°C	-40 to +100°C	-40 to +100°C
Dimensions in mm	86x8,5x12,5	86x8,5x12,5	51x8,5x11,5	51x8,5x11,5	51x8,5x11,5	51x8,5x11,5
Fixing screws distance	75mm	75mm	40mm	40mm	40mm	40mm

Sensor with metal housing

Product reference	PLMA0100
Contact status	NO
Connection type	1 shielded cable
Cable length	2m
Max. switching power	10W
Max. switching voltage	200VDC
Max. switching current	0,5A
Activation distance	25mm (provided magnet)
Working temperature	-40 to +85°C
Dimensions in mm	88x38x12
Fixing screws distance	69mm

Screw sensors with safety loop (Alarms)


Product reference	PBA10010	PMG12482
Contact status	NO	NO
Connection type	cable + safety loop	cable + safety loop
Cable length	8m	8m
Max. switching power	12VA	12VA
Max. switching voltage	250VDC	250VDC
Max. switching current	0,4A	0,5A
Activation distance	16mm with P4160000	14mm with P6250000
Working temperature	-40 to +100°C	-25 to +85°C
Dimensions in mm	51x8,5x11,5	33x15x6,8
Fixing screws distance	40mm	17,5mm

See also our new anti intrusion magnetic sensor with safety loop and designed in compliance with NF324-H58 & EN 50131.
Security level : shield 3 (page 32).

High power switching sensors

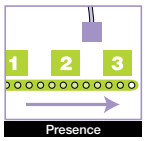
These sensors allow controlling loads up to 3A.

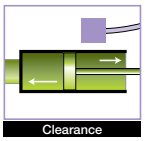
Product reference	PSA60010	PSA60020
Contact status	NO	NO
Max. switching power	500VA	500VA
Max. switching voltage	24-440VAC	6-440VAC
Max. switching current	3A	3A
Cable length	2 wires 350mm	2 wires 3m
Activation distance	12mm with P6250000	12mm with P6250000
Working temperature	-40 to +85°C	-40 to +85°C
Dimensions in mm	51x16x7	
Fixing screws distance	16mm	

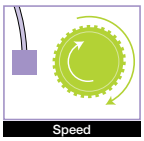
Safety sensors manufactured in compliance with the European Directive 2006/42/CE :
PLc according to ISO13849-1
SIL1 according to IEC62061
Category 1
High MTTFd

For other safety applications see page 33.

Reed magnetic sensors







TUBULAR POSITION SENSORS

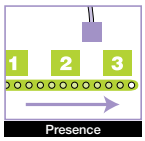
General use tubular sensors for industry and household use :
→ Rabbet sensors
→ Doors opening
→ Protection cover presence
→ Household appliances.

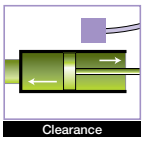
Product reference	PTA10440	PTA11235	PTA12401	PTA13730	PTA50010	PTB13702	PTC13730
Contact status	NO	NO	NO	NO	NO	NC	Change-over
Max. switching power	12VA	12VA	12VA	12VA	12VA	3VA	NC : 3VA NO : 8VA
Max. switching voltage	100VDC	100VDC	100VDC	100VDC	100VDC	100VDC	100VDC
Max. switching current	0,4A	0,4A	0,4A	0,4A	0,4A	0,25A	0,25A
Connection type	2 wires 500mm	Cable 3,5m	2 wires 100mm	2 wires 3m	2 wires 100mm	2 wires 200mm	Cable 3m
Activation distance with P6250000	7mm	15mm	14mm	10mm	18mm	14mm	7mm
Working temperature	-40 to +85°C	-40 to +85°C	-40 to +85°C	-40 to +85°C	-40 to +85°C	-40 to +85°C	-40 to +85°C
Dimensions in mm	Ø6x30 Plastic	Ø6x30 Plastic	Ø6x30 Plastic	Ø6x30 Plastic	Ø6x25,2 Plastic	Ø6x30 Plastic	Ø6x30 Plastic

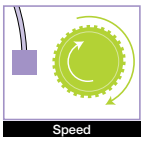
Product reference	PTA10490	PTPA0030	PTPA0100	PTPA0110	PTPA0230	PTPB0010
Contact status	NO	1NO	1NO	1NO	1NO	1NC
Max. switching power	10VA	12VA	12VA	12VA	12VA	12VA
Max. switching voltage	100VDC	100VDC	100VDC	100VDC	100VDC	100VDC
Max. switching current	0,4A	0,5A	0,5A	0,5A	0,5A	0,5A
Connection type	2 wires 800mm	2 wires 3m	Connectors	Connectors	2 wires 3m	2 wires 80mm + FASTON
Activation distance	16mm with P6250000	12mm (magnet provided)	12mm (magnet provided)	consult us	30mm (magnet provided)	10mm (magnet provided
Working temperature	-40 to +120°C	-40 to +85°C	-40 to +85°C	-40 to +85°C	-40 to +85°C	-40 to +85°C
Dimensions (mm)	Ø6x41 Raw brass	Ø11x28 Plastic	Ø11x28 Plastic	Ø11x28 Plastic	Ø23x27 Plastic	Ø23x28 Plastic

Reed magnetic sensors

Typical applications :
→ Speed sensors,
→ Presence, position, clearance sensors.







PTI range - M8 housing

Product reference	PTI40003	PTI40020	PTI50003	PTI50020	PTI60020	PTI70020
Contact status	1NO / A form	1NO / A form	1NC / B form	1NC / B form	1NO / A form	1NC / B form
Max. switching power	12VA	12VA	5W	5W	12VA	5W
Max. switching voltage	200VDC	200VDC	175VDC	175VDC	200VDC	175VDC
Max. switching current	0,5A	0,5A	0,25A	0,25A	0,5A	0,25A
Connection type	Cable 30cm	Cable 2m	Cable 30cm	Cable 2m	Cable 2m	Cable 30cm
Activation distance	12mm with magnet PT505000	12mm with magnet PT505000	7mm with magnet PT505000	7mm with magnet PT505000	12mm with magnet PT505100	7mm with magnet PT505100
Working temperature	-40 to +85°C	-40 to +85°C	-40 to +85°C	-40 to +85°C	-40 to +85°C	-40 to +85°C
Dimensions in mm	M8x1 - Lg 31 Plastic	M8x1 - Lg 31 Plastic	M8x1 - Lg 31 Plastic	M8x1 - Lg 31 Plastic	M8x1 - Lg 40 Stainless Steel	M8x1 - Lg 40 Stainless Steel

PTA/PDC ranges - M10 housing

→ Sensors with M12 housing on request

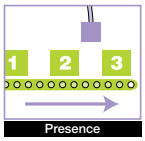
Product reference	PTA80020	PTA90160	PDC20030	New PTC10091
Contact status	1NO / A form	1NO	Change-over / C form	Change-over / C form
Max. switching power	12VA	12VA	60VA	NC : 3W, NO : 8W
Max. switching voltage	200VDC	100VDC	250VAC	100VDC
Max. switching current	0,5A	0,4A	1A	0,25A
Connection type	Cable 2m	Cable 1,5m	Cable 3m	Cable 100mm
Activation distance	25mm with magnet PT810000	12mm with magnet P6250000	20mm with magnet UR144360	20mm with magnet UR124540
Working temperature	-25 to +70°C	-40 to +125°C	-40 to +75°C	-25 to +85°C
Dimensions in mm	M10x1,5 – Lg 44,5 Stainless Steel	M10x1 - Lg 40 Raw brass	M10x1,5 - Lg 85,5 Plastic	M8x1,25 - Lg 41

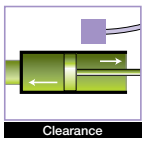
Reed magnetic sensors / Hall effect

Sensors for layout on PCB

Reed switch proximity sensors in plastic housing, for PCB mounting with no risk of damage.


Product reference	PHA01200	PHA11200	PHC13700
Contact status	NO	NO	Change-over
Max. switching power	12VA	12VA	NC : 3VA / NO : 8VA
Max. switching voltage	100VDC	100VDC	100VDC
Max. switching current	0,4A	0,4A	0,4A
Activation distance with U6250000	18mm	17mm	11mm
Working temperature	-40 to +100°C	-40 to +100°C	-40 to +100°C
Dimensions in mm	23x4,2x3,6	23x4,2x3,6	23x4,2x3,6





Hall effect sensors

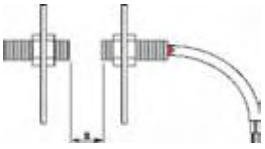
celduc® relais offers two ranges of electronical sensors :
→ Hall effect sensors
→ Gear tooth sensors.


Product reference	PTE11320	PTE11321	PTE21320	PTE21321	PTE31320	PTE31321	PTE41320	PTE41321
Contact status	Hall effect PNP	Hall effect NPN	Gear tooth PNP	Gear tooth NPN	Hall effect PNP	Hall effect NPN	Gear tooth PNP	Gear tooth NPN
Cable length	cable 2m	cable 2m	cable 2m	cable 2m	cable 2m	cable 2m	cable 2m	cable 2m
Activation distance	19mm	19mm	1,5mm	1,5mm	17mm	17mm	1,5mm	1,5mm
Max. switching voltage	6-48VAC	6-48VAC	6-48VAC	6-48VAC	6-48VAC	6-48VAC	6-48VAC	6-48VAC
Max. switching current	0,4A	0,4A	0,4A	0,4A	0,4A	0,4A	0,4A	0,4A
Working temperature	-25°C to +70°C	-25°C to +70°C	-25°C to +70°C	-25°C to +70°C	-25°C to +70°C	-25°C to +70°C	-25°C to +70°C	-25°C to +70°C
Dimensions in mm	Plastic housing M12x33				Raw brass housing M12x33			
Associated coded magnet	PT810000	PT810000			PT810000	PT810000		

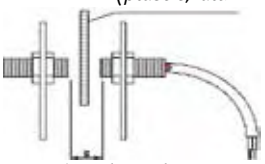
applications

- → **Counting**
- → **Industry**
- → **Lift**
- → **Speed sensors**
- → **Household electronical appliances**
- → **Tractors ...**

Direct detection

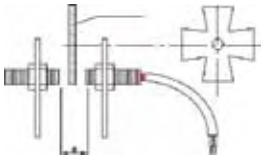


non-magnétic matérial (plastic, aluminium...)

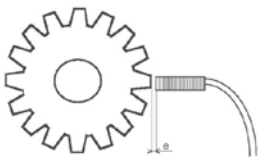


Detection through non-magnetic material

Ferro-magnetic material



Detection of ferro-magnetic (counting,...)



Gear tooth sensor

ATEX Sensors

celduc® relais is notified as manufacturer of ATEX products : INERIS 04ATEXQ406 and offers a wide range of ATEX sensors.
celduc® relais has EC-type examination certificate Nr. INERIS 04ATEX0105.
Groupe II : Open-air industry (other than mines) with possible inflammable dust.

Marking example : for part number PL.1...Ex (for other part numbers, please refer to our technical data-sheet)

CE0080 **II 2 GD** **Ex mb IIC T6 Gb**
Ex tb IIIC IP67 T85°C Db

II 1 GD **Ex ia IIB T6 Ga**
Ex ia IIIB T85°C Da

Type of devices : 1 for zone 0 (continuous risk)
2 for zone 1 (intermittent risk)
Gaz : G or Dust : D
Protection "m" for zone 1 and "i" for zone 0
Temperature class : T6 (85°C) T4 (135°C) or T3 (200°C)
Cables length 5m or 10m.


Product reference	PLA1125Ex	PLB1179Ex	PLC1125Ex	PTA1125Ex	PTC1125Ex
Contact status	1NO	1NC	Change-over	1NO	Change-over
Temperature group	T6	T6	T6	T6	T6
Max. switching power	10W 12VA	10W 12VA	3VA	10W 12VA	3VA
Max. switching voltage	60VDC	60VDC	60VDC	60VDC	60VDC
Max. switching current	0,4A	0,4A	0,25A	0,4A	0,25A
Cable length	cable 5m	cable 10m	cable 5m	cable 5m	cable 5m
Working temperature	-40 to +80°C	-40 to +80°C	-40 to +80°C	-40 to +80°C	-40 to +80°C
Housing material	Plastic	Plastic	Plastic	Plastic	Plastic
Dimensions in mm	32x15x6,8	32x15x6,8	32x15x6,8	Ø6x30	Ø6x30

Coded magnet P3000100 to be ordered separately





Product reference	PFA2125Ex	PFA3125Ex	PSS5905Ex	PSS7905Ex	PTA6125Ex	PTA9125Ex
Contact status	1NO	1NO	1NO + 1NC	2NO	1NO	1NO
Temperature group	T6	T6	T4	T4	T4/T6 or T3/T6*	T4/T6 or T3/T6*
Max. switching power	10W 12VA	10W 12VA	3VA	3VA	10W 12VA	10W 12VA
Max. switching voltage	60VDC	60VDC	60VDC	60VDC	60VDC	60VDC
Max. switching current	0,4A	0,4A	0,1A	0,1A	0,4A	0,4A
Cable length	cable 5m	cable 5m	cable 5m	cable 5m	cable 5m	cable 5m
Working temperature	-40 to +80°C	-40 to +80°C	-25 to +85°C	-25 to +85°C	-40 to +200°C	-20 to +200°C
Housing material	Stainless steel	Polypropylene	Plastic	Plastic	Brass	Brass
Dimensions in mm	Ø28x60	Ø28x90	51x16	51x16	Ø6x41	M10

**See technical data-sheets*

Sensors for lifts

(and other industrial applications)

Sensors for : - Detection of the lift position
- Doors opening control

celduc® relais offers a wide range of magnetic sensors for elevators with reed switches or "Electronic" magnetic sensors using an Hall effect cell or magneto resistance.

The magnetic field created by the permanent magnet, activates the sensitive part (the reed switch or the Hall effect cell or the magneto resistance). It is important to combine the magnet and sensor with consideration to the correct operating conditions (switching distance, presence of ferro-magnetic parts or non ferro-magnetic parts...).

celduc® relais is at your disposal to help you define the right products.

Advantages : - insensitive to the ambient working conditions (heat or cold air, humidity, dust...)
- high reliability
- large detection distance
- good reliability to shocks and vibrations
- IP67





Product reference	PMG12802	PMG12924	PMG12930	PMG13051	PMG13110
Contact status	NO bistable	NO	NO bistable	NC	NO
Max. switching power	60VA	100VA	60VA	30VA	30VA
Max. switching voltage	230VDC	230VDC	230VDC	230VDC	230VDC
Max. switching current	0,3A	3A	1A	0,5A	1A
Cable length	2m	7m	7,3m	6,5m	7m
Activation distance	7<D<25mm with UF252060	17<D<27mm with UP302010	7<D<40mm with UP302010	17<D<27mm with UP302010	9,5mm with UF221105
Working temperature	-25 to +85°C	-25 to +85°C	-25 to +85°C	-25 to +85°C	-25 to +85°C
Dimensions in mm	65x15x16	M14x75	80x30x30	M14x75	80x20x15

PC range – M12 housing

Typical applications :
→ Lifts : sensors with 2 or 3 normally open contacts are used to detect the position of the cabin as well as automatic level reset according to the weight.
→ Position / clearance sensors.

Product reference	PCA22330	PCA36720	PCC12320	PCC26720	PCLA3030	PC2A2330	PC3A2330
Contact status	1xNO / A form	1xNO / A form	Change-over / C form	Change-over / C form	Bistable / L form	2xNO / A form	3xNO / A form
Max. switching power	70VA	100VA	3VA	60VA	100VA	70VA	70VA
Max. switching power	300VAC	250VAC	100VAC	400VAC	250VAC	300VAC	300VAC
Max. switching current	0,5A	3A	0,25A	1A	3A	0,5A	0,5A
Cable length	Cable 3m	Cable 2m	Cable 2m	Cable 2m	Cable 3m	Cable 3m	Cable 3m
Activation distance	20mm with UR144361	15mm with UR144361	25mm with UR144361	18mm with UR144361	30mm with UP081508	20mm with UR144361	20mm with UR144361
Working temperature	-25 to +75°C	-25 to +75°C	-25 to +75°C	-25 to +75°C	-25 to +75°C	-40 to +75°C	-40 to +75°C
Dimensions in mm	M12x1 L 80 Plastic housing						

Sensors with M12x1 L50 housing on request

Control magnets

Range of standard permanent magnets used as actuators for our magnetic sensors.
Our range of magnetic sensors with reed switches or "Electronic" magnetic sensors using a Hall effect cell should be actuated with the correct magnet.
celduc ® relais offers 3 families of magnets to be chosen according to the application (working temperature, geometry, resistance to corrosion).

Material		Max. operating temperature	Derating according to temperature (recoverable)	Resistance to corrosion	
Alnico		500°C	very low (-0,025% per °C)	Good resistance	generally supplied in bars which should have a length of minimum x4 the diameter
Ferrite		250°C	high (-0,20% per °C)	Very good resistance	generally supplied in parallelepiped block, disc or ring
Rare earth	Samarium Cobalt (SmCo)	250°C	low (– 0,04% per °C)	Very good resistance	generally supplied in blocks or granulates
	Neodymium Iron Bore (NdFeBo)	80 to 160°C (see data-sheets)	low (– 0.10% per °C)	Bad resistance (must have tin or nickel coating)	generally supplied in blocks or granulates

celduc® relais is at your disposal to help you define the correct magnet/sensor arrangement according to your needs / operating conditions.

coated magnets

Product reference	For sensors ...	Bare magnet dimensions in mm	Dimensions in mm	Fig n°
PA320000	PA	Ø 3x20	23x15x6	1
P3150000	PA, PH, PL, PT	Ø 3x15	32x15x6,8	2
P4200000	PA, PH, PL, PT	Ø 4x20	32x15x6,8	2
P6250000	PA, PH, PL, PT	Ø 6x25	32x15x6,8	2
P4159000	PB or PLA	Ø 3x15	51,8x8,5x11,5	3
P4160000	PB or PLA	Ø 5x25	51,8x8,5x11,5	3
PT505000	PTI5 plastic	D5x5	M8x1 Lg 31	4
PT508000	PTI5 plastic	D5x8	M8x1 Lg 31,2	4
PT810000	PTE	D8x10	M12x1 Lg 31,2	6
PW520000	PWA, PWB, PWC	D5x20	47,7x9,7x9,1	7

bare magnets

Product reference	Material	Dimensions in mm	Fig n°
U315P003	Alnico5	Ø 3x15	1
U4200000	Alnico5	Ø 4x20	1
U6250000	Alnico5	Ø 6x25	1
U8300000	Alnico5	Ø 8x30	1
UB105000	Alnico5	Ø 10x50	1
UF207760	Ferrite	20,5x7,7x6	2
UF221105	Ferrite	Ø 22x11x5	3
UF341605	Ferrite	Ø 34x16x5	3
UZ189538	Ferrite	18x9.5x3.8	2
UP051508	Plastoferrite	50x15x8	4
UP071508	Plastoferrite	70x15x8	4
UP081508	Plastoferrite	80x15x8	4
UP102008	Plastoferrite	100x20x8	4
UP301508	Plastoferrite	300x15x8	4
UP302008	Plastoferrite	300x20x8	4
UR101000	NdFeBo	Ø 10x10	6
UR102540	NdFeBo	Ø 10x4x2,5	5
UR124540	NdFeBo	Ø 12x4x4,5	5
UR144361	NdFeBo	Ø 14x6x4,3	5
UR120500	NdFeBo	Ø 12x5	6
UR122000	NdFeBo	Ø 12x20	6
UR304000	NdFeBo	Ø 3x4	6
UR315000	NdFeBo	Ø 3x15	6
UR502000	NdFeBo	Ø 5x2	6
UR508000	NdFeBo	Ø 5x8	6
UR801000	NdFeBo	Ø 8x10	6

Special customers products

celduc® relais : the expert in specific sensors

There are numerous special customer applications in all sectors of activity.
Please consult us to have our expertise.

automobile

In the automotive industry there are numerous applications for our magnetic proximity sensors : detection of liquid levels (radiator liquid, windscreen washer, engine oil level, brake oil level, ...) but also closing/locking detection of the fuel tank knob , detection of water in the oil filter, potentiometric scales to be used in lorry tank for level measurement, ...

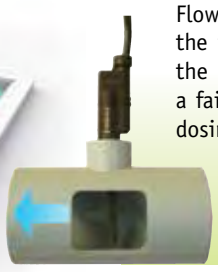
aircraft industry

Serving this industry is a proof of reliability. celduc ® relais has developed special sensors to detect the opening/closing of the doors as for example push-buttons used to detect open/closed doors in Airbus A380 ; sensors to detect tank refueling in Mirage Rafale and Saab Jas 39 fighters ; level sensors for AIRBUS humidifiers, ...

medical

In the medical field magnetic proximity sensors can be used in automatic analysis systems to control liquids level, presence of a tank, right-working of the arms, open /closed doors of sterilizers ...

swimming pools / water treatment



Flow sensors are used to supervise the flow rate and the function of the dosing pump and to indicate a failure or loss of capacity of the dosing pump.