SURROUND YOURSELF with SAFETY

SAFETY EDGES

TECHNICAL DOCUMENTATION

RIELLO ELETTRONICA

gamma system

SENSITIVE EDGES

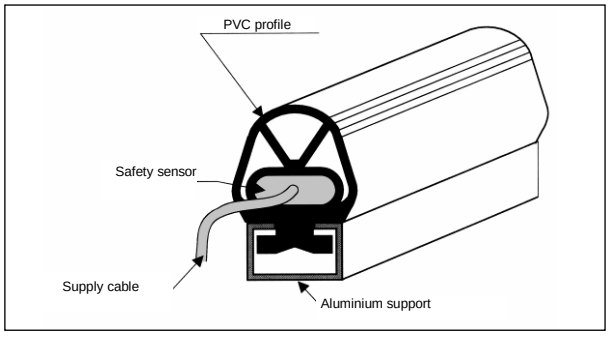
The sensitive edge is a safety component to avoid crashing or cutting risks by sliding doors, automatic moving protections, electrical gates etc.
The edges feature a PVC or EPDM coating, inside is a sensor (2 conductive blades, separated by a non-conductive part). When the edge is pressed, the blades are in contact and close the circuit.
The state change of the internal sensor (NO to NC) is processed by the control unit that sends a machine stop signal, eliminating the danger situation.

TYPES OF EDGES

Type B0 Type B1N Type B2 Type B2N	Standard solution: length upon customer's request with pre-assembled sensor and aluminium support
Conductive edge type B1NC B1NC-B *8,2kΩ* Conductive edge type B1NC-AG B1NC-AGB *8,2kΩ* Conductive edge type B2C *8,2kΩ* *Conductive edge B0C – B0C-AG 8,2kΩ*	Standard solution (upon request) or "do it yourself" (cutting/assembly of accessories by customer/installer)

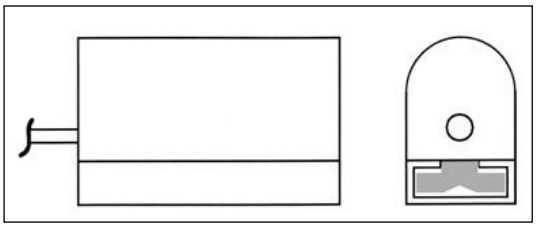
Edge type "B0"
Profile of black EPDM. The edges feature a sensor on the upper part of the profile to get maximum sensitivity.
Particularly suitable for safety catches or as an alternative to emergency wire micro switching.
Supplied with both sides adhesive tape for wall fixing.
The edges of the profile are sealed with polyurethane resin to perfect watertight.
The outlet cable can be only on head side.

Edge type "B1N" - "B2" - "B2N"
Profile of black PVC for B1N and B2N; material EPDM for type B2. The edges feature a sensor on the bottom of the profile, to get a sensibility with front side operations, as well as with a max. angle of ±45°. The ends of the profile are closed using polyurethane resin (better tightness). Particularly suitable for bent edges.

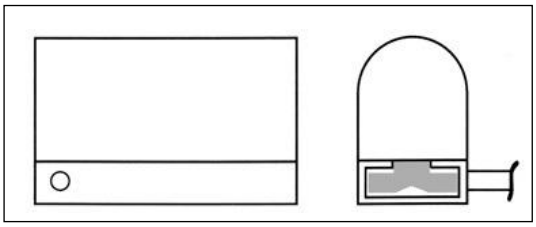


The supply cable is a 4 poles cable 4*0,35mm^2 FROR 300/500 standard length 3 meters.
Different lengths can be supplied upon request.

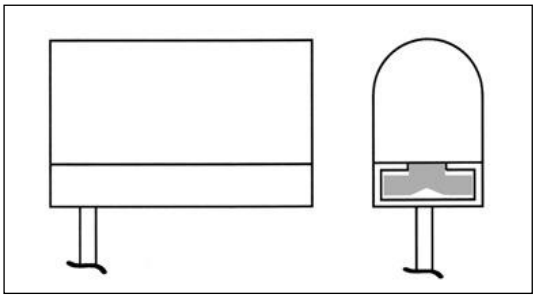
For the B1N-B2-B2N the standard outlet of the cable is at the end of the profile.(Head outlet)
Upon request, the cable outlet can be on the bottom, right or left side (see drawing).



Head outlet (standard)

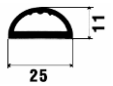
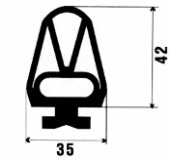
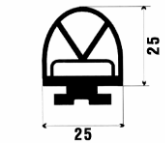
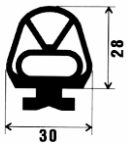


Side outlet right(see picture) or left



Bottom outlet

TECHNICAL FEATURES

Description	*Type B0*	*Type B1N*	*Type B2*	*Type B2N*
				
Operating distance	3 mm	5 mm	5 mm	5 mm
Overrun operation	2 mm	20 mm	8 mm	10 mm
Operating thrust	30N	30N	30N	10N
Material	EPDM	PVC	EPDM	PVC
Length	max15 m upon request	max 6 m upon request		
Fastening material	Double-sided adhesive tape	Alu profile		
Chemical resistance	Acids, atmospheric agents	Oils, hydrocarbons, Diesel oil	Acids, atmospheric agents	Oil, hydrocarbons, Diesel oil
Degree of protection	IP54			
Operating temperature	-5°C to +50°C			
Power cord	2*0.35mm			
Output contact	NO			
Max contact voltage	30 V			
Max contact current	30 mA			
Reference standards	EN 13856-2 , EN ISO 13849-1			
Safety parameters	Combined with GP02/E	Combined with GP02R.T		
Category	3	3		
PL	e	e		
PFH	$8,58*10^{-8}$	$8,58*10^{-8}$		
No. of operations/year	5000	5000		
Usage categories	DC13(24) – 1,5A AC1(230) – 1,5A AC15(230) – 2A	AC15(230) – 4 A		
Mission time [years]	20	20		
Max controllable length	12 m	20 m		
Part of human body which can be detected	Hand, limb, body			

How to order a sensitive edge type B0-B1N-B2-B2N:

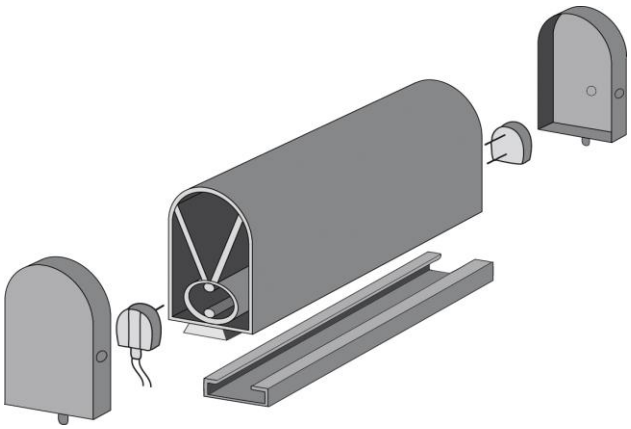
Example: ordering a sensitive edge, length 1 m.

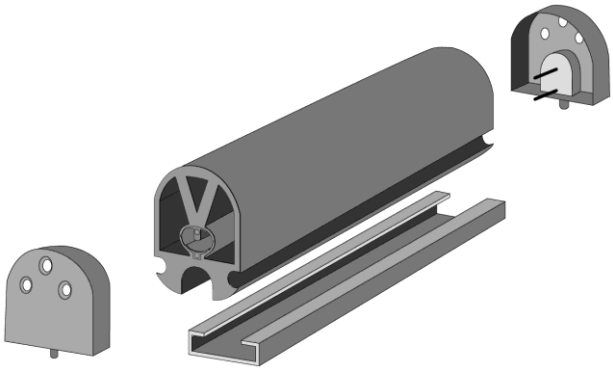
For a correct order, always specify:
-type of sensitive edge… (ex. **B1N**)
-length (mm) of the profile… (ex. 1000 mm)
-length of the supply cable and outlet (ex. CS standard 3 m with head outlet.
Specify if different for type B1N-B2-B2N.only.
-the fastening profile (ex.”SAC25” or “SAI25” or “SAL25” see drawing)

The complete description for the order is:
Sensitive edge type B1N L=1000 mm-CS-SAC

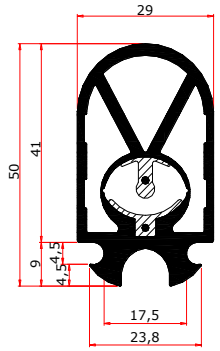
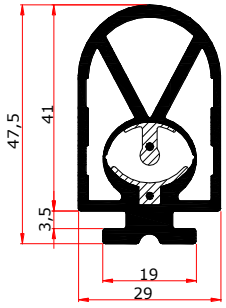
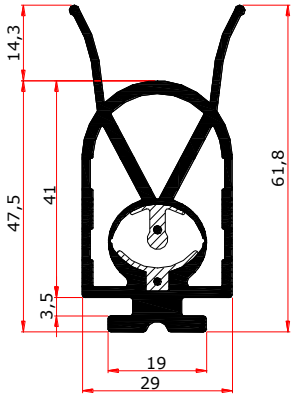
The conductive edges *8,2kΩ*

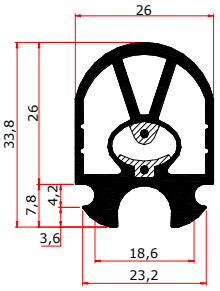
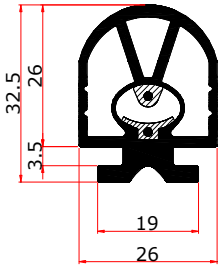
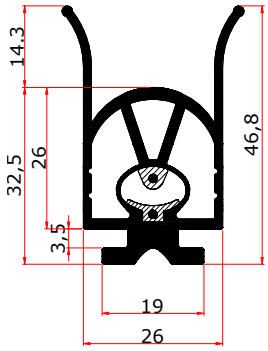
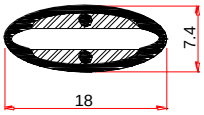
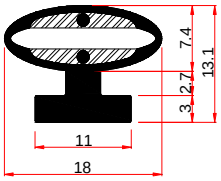
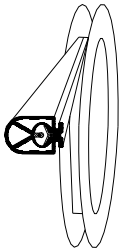
Featuring a thermoplastic profile TPE with 2 co-extruded parts of conductive material (sensor) and 2 copper wires, to stabilize the resistive value of the contact on the length of the edge.
Particularly suitable for external use, with any environment and temperature (-15°C +55°C).
It can be supplied as a ***"do it yourself" solution***, with a series of accessories allowing to the customer/installer to implement the edge directly on the machine.
Upon request, the edge can be tailor-cut and supplied complete with all accessories.
The supply of the system is made by electric cable 2 wires 2*0,35 mm^2 CEI 20-22 with die-cast needle connector to allow an easy insertion into the chamber containing the copper cable. Standard length of cable 3 meters.
The electric circuit is closed by a needle connector containing an electric resistance 8,2kOhm.
The ends of the edge are sealed by means of special plugs that, stuck with a special stick, have a better tightness to water.
The standard outlet of the supply cable is at the end of the profile. If the outlet is lateral or on the bottom, please communicate at the order. For the "do it yourself" solution, the cable outlet is made by drilling the cable hole into the terminal plug.





Type Available:

		
Type B1NC	Type B1NC-AG Universal foot	Type B1NC-AGB Universal foot with lips

		
Type B2C	Type B2C-AG Universal foot	Type B2C-AG Universal foot with lips
		
Type B0C	Type B0C-AG	Roll

SENSITIVE EDGES

TECHNICAL FEATURES

Description	*Type B1NC* *Type B1NC-B*	*Type B1NC-AG* *Type B1NC-AGB*	*Type B2C* *Type B2C-AG*
Max operating angle α	90°		
Pre-run (specimen ø80 - 100 mm/sec)	5,05 mm		5,40
Overrun (specimen ø80, 10 mm/sec)	15,639 mm - 250N 17,939 mm - 400N 20,237 mm - 600 N		3,28 mm - 250N 4,18 mm - 400N 6,88 mm - 600N
Max operating force (specimen ø80 - 100 mm/sec)	146 N (-15°C)		84 N (-15°C)
Material	TPE black colour		
Length*	Mounted version, max 6 mt or 25 m-long roller		
Max length of sensor	20 m (can be controlled via control unit)		
Weight kg/m	0,6		0,4
Mounting orientation	All		
Fastening material	aluminium profile standard Length = 6 m		
Dimensions of non-sensitive surface	40 mm from each end		
Operating temperature	-15° +55°C		
Chemical resistance	See Table		
Max applicable thrust	500 N		
Degree of protection (EN 60529)	IP65		IP67
Storage temperature	-15 °C - 55° C		
Power cord*	2*0.35 mm^2		
Output contact	N.O		
Max. length of connection CABLES	100 m.		
Rated supply voltage	24 VDC		
Max contact voltage	30 V		
Max contact current	30 mA		
Reference standards	EN 13856-2, EN ISO 13849-1; EN ISO 12978		
Safety parameters	Combined with GP02R		Combined with GP02R-C
Category	3		
PL	e		
PFH	$8,58*10^{-8}$		
No. of operations/year	5000		
Usage categories	AC15(230) – 4 A		AC15(230)/DC13(24) – 3 A
EC-TYPE certification	10DM4SA107		11DM4SC16
Mission time [years]	20		
Part of human body which can be detected***	Hand, limb, body		

Resistenza chimica materiale in TPE / *CHEMICHAL RESISTANCE TPE MATERIAL*

Prodotto ***Products***	**Buona** ***Good***	**Media** ***Medium***	**Non idonea** ***Not suitable***
Acids and Alkalis	X		
Aqueous solutions	X		
Acetic Acid	X		
Acrylonitrile	X		
Aniline	X		
Bromobenzene			X
n-buthyl acetate	X		
Cyclohexane		X	
Diethyl Ehter	X		
Dimethylformmide	X		
Doityl Phthalate	X		
1,4- Dioxane	X		
95 % Ethanol	X		
Glycerol	X		
n-Hexane	X		
Methyletylketone	X		
Nitrobenzene	X		
Piperidine	X		
1-propanol	X		
Pyridine	X		
Trichloroethylene			X
Turpentine			X
Xylene		X	
Petroleum, Oils and Fuels		X	
Automatic Transmission fluid		X	
Hydraulic brake fluid	X		
Lithium grease	X		
Power steering fluid			X
Antifreeze, 50/50 Ethylene Glycol/water	X		
Pydraul	X		
Skydrol	X		
Sunvis		X	
Ucon	X		
Freon		X	

Chemical resistance must be verified to the specific agents and conditions of usage because compatibility depends by the surrounding materials and chemicals and by other variables such as concentration and temperature. Unless otherwise specified, tests are performed at room temperature.

All values included in this document are for reference purposes only and should not be considered as material specification

How to order a sensitive edge type B1NC

Always specify the following:
-Type of sensitive edge… (ex. **B1NC**)
-Length (mm) of the profile.. (ex. 1000 mm)
-Length of the supply cable and outlet ...
(ex. CS standard 3 m, head outlet. If different, specify the length and the outlet.
Type of fastening support (ex. “SAC29” or “Sal29“ or “SAL29“)
The complete order is therefore:
Sensitive edge type B1NC L=1000 mm-CS-SAC

For the “ Do it yourself ” solution, order according to the following scheme:

n. 1 package profile TPE type ….. (ex. **B1NC** standard roll 25mt)
n. 1 package connector kits type **KC** (n. 1 connector with resistance type KCR + n. 1 connector with electric cable type KCC)
n. 1 package standard length 6 m support of aluminium type **SAC29 – SAL29 – SAI29** for profile fastening
n. 1 Kit package with 2 closing plugs type: **TC1** for profile B1NC,
n. 1 bottle 10ml of primer cod. **PR**
n. 1 bottle 10ml of stick gel cod. **CY**

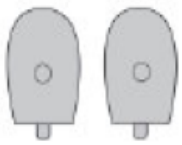
How to order a sensitive edge type B1NC-AG

The edge B1NC-AG is different than the B1C type only for the anchorage foot studied for replacing in total the other product present into the market and for its accessories.
For ordering this type specify the following:
-Type of sensitive edge… (ex. **B1NC-AG**)
-Length (mm) of the profile.. (ex. 1000 mm)
-Length of the supply cable..(CS standard 3 m),
The outlet cable can be only bottom side.

For the “ Do it yourself ” solution, order according to the following scheme:

n. 1 package profile TPE type … (ex. **B1NC-AG** standard roll 25 mt)
n. 1 package connector kits type **KC1AG**
(n. 1 closing/connector with resistance type KC1AGR + n. 1 closing/connector with electric cable type KC1AGC)
n. 1 bottle 10ml of primer cod. **PR**
n. 1 bottle 10ml of stick gel cod. **CY**

Single items to order B1NC in case of “ Do it yourself “ solution

Single connector with cable (B1NC or B1NC-B) type KCC code GSB1NCKCC	
Single connector with resistance (B1NC or B1NC-B) type KCR code GSB1NCKCR	
Closing stopper (B1NC or B1NC-B) type TC1 cod. GSB1NCTC1 (pack 2 pcs)	

Single items to order B1NC-AG in case of “ Do it yourself “ solution

Closing connector with cable (B1NC-AG or B1NC-AGB) type KC1AGC code GSB1NCAGKC1AGC	
Closing connector with resistance (B1NC-AG or B1NC-AGB) type KC1AGR code GSB1NCAGKC1AGR	

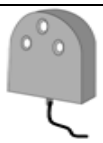
How to order a sensitive edge type B2C or B2C-AG

Always specify the following:
-Type of sensitive edge… (ex. **B2C**)
-Length (mm) of the profile.. (ex. 1000 mm)
-Length of the supply cable (CS standard 3 m)
The outlet cable can be only bottom side.
Type of fastening support (ex. “SAC29” or “SAI29“ or “SAL29“)
The complete order is therefore:
Sensitive edge type B2C L=1000 mm-CS-SAC

For the “ Do it yourself ” solution, order according to the following scheme:

n. 1 package profile TPE type ….. (ex. **B2C** standard roll 25 mt)
n. 1 package connector kits type **KC2** (n. 1 closing/connector with resistance type KC2R + n. 1 closing/connector with electric cable type KC2C)
Type of fastening support (ex. “SAC29” or “SAI29“ or “SAL29“)
n. 1 bottle 10 ml of primer cod. **PR**
n. 1 bottle 10 ml of stick gel cod. **CY**

Single items to order B2C and B2C-AG in case of “ Do it yourself “ solution

Closing connector with cable (B2C) type KC2C code GSB2CKC2C	
Closing connector with resistance 8.2 kohm (B2C) type KC2R code GSB2CKC2R	

How to order a sensitive edge type B0C or B0C-AG

Always specify the following:
-Type of sensitive edge… (ex. **B0C**)
-Length (mm) of the profile.. (ex. 1000 mm)
-Length of the supply cable (CS standard m 3 or C05 m 0,5)
The outlet cable can be only standard (Head outlet).
Type of fastening support type SAC 15
The complete order is therefore:
Sensitive edge type B0C L=1000 mm-C(S-SAC15

For the “ Do it yourself ” solution, order according to the following scheme:

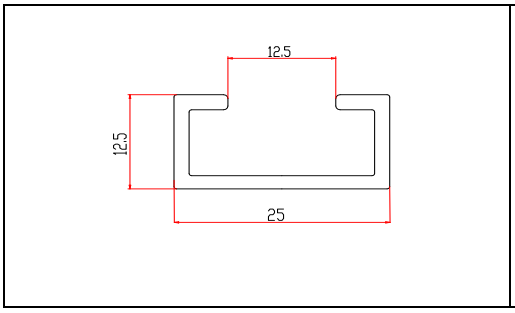
n. 1 package profile TPE type ….. (ex. **B0C** standard roll 100 mt)
n. 1 closing/connector with resistance type B0CKCR
n. 1 closing/connector with electric cable type B0CKCC (cable length m3) or B0CKCC1 (cable length m 0,5).
Type of fastening support SAC15
n. 1 bottle 10 ml of primer cod. **PR**
n. 1 bottle 10 ml of stick gel cod. **CY**

Closing connector with cable (B0C, B0C-AG) type B0CKCC code GSB0CKCC	
Closing connector with resistance 8.2 kohm (B0C, B0C-AG) type B0CKCR code GSB0CKCR	

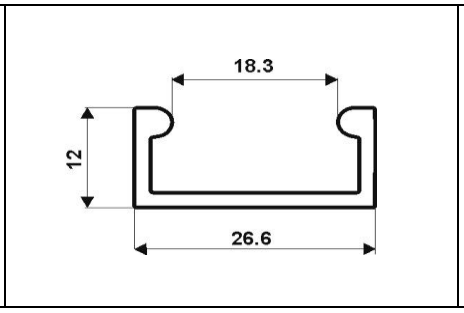
Glue bottle type CY cod. GSBCY	
Primer bottle 10 ml type PR cod. GSBPR	

EDGE FASTENING

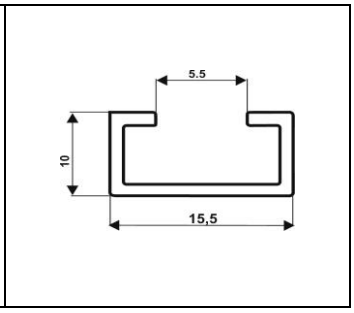
The edge fastening is made assembling the profile onto man aluminium support, to be specified in the order.
Three types of aluminium supports are available:
– support L fastening cod. SAL
– support I fastening cod. SAI



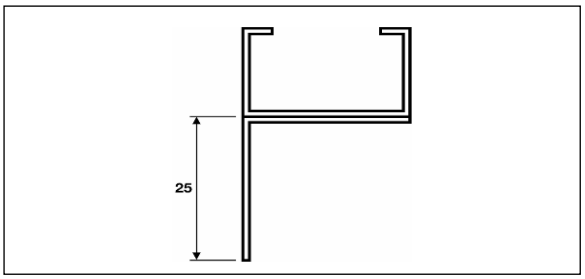
Support fastening Type SAC25 Suitable for edges type B1N,B2,B2N,B1NC-AG,B2C-AG



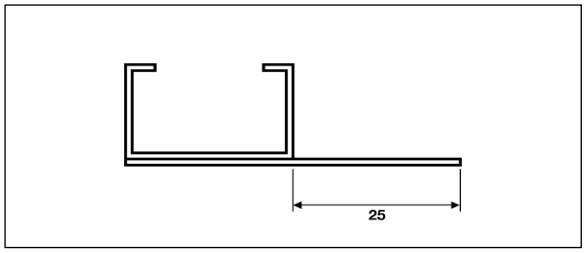
Support fastening Type SAC29 Suitable for edges type B1NC, B2C



Support fastening type SAC15 for edge type B0C-AG



Support fastening " L " type SAL

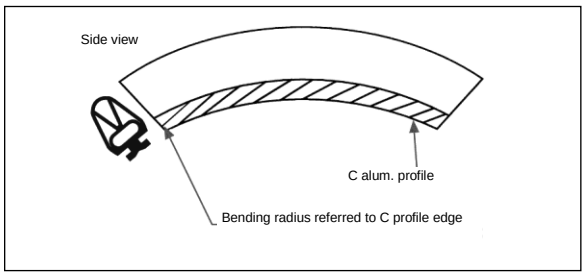


Support fastening " I " type SAI

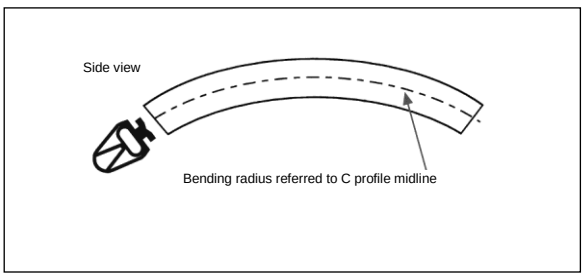
All edges listed in this documentation can be supplied in bent version, with the following radiuses:

-Edge type B1N
Picture A: minimum bending radius 800 mm
Picture B: Not recommended
-Edge type B2, B2N
Pictures A + B: Not recommended
-Edge type B1NC, B1NC-AG, B2C, B2C-AG
Picture A: minimum bending radius 500 mm
Picture B: minimum bending radius 500 mm
-Edge type B0C, B0C-AG
Pictures A + B: Not recommended

All edges listed in this documentation can be supplied in bent version, with the following radiuses:



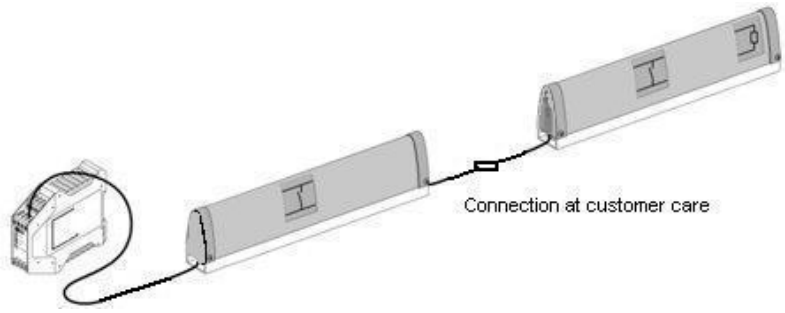
Type A: minimum bending radius



Type B: minimum bending radius

SENSITIVE EDGES

Series connection of two or more sensitive resistive edges 8.2 kohm



For applications with two or more resistive sensor in " series ", for a proper connection must be provided the first sensor with input-output cable and the last of the series with the input cable and resistor (see figure).

In case of solution " **Do it yourself** " for the series connection between more resistive edges see the following accessories:

Example of order for connecting of two sensor:

- For type B1NC:
N.03 Needle connector with cable (B1NC) type KCC code GSB1NCKCC
N.01 Needle connector with resistance (B1NC) type KCR code GSB1NCKCR
N.02 Closing plug (B1NC) type TC1 cod. GSB1NCTC1

- For type B2C
N.03 Needle plug with cable (B2C) type KC2C code GSB2CKC2
N.01 Needle plug with resistance 8.2 kohm (B2C) type KC2R code GSB2CKC2R

- For type B0C
N.03 Needle plug with cable B0CKCC code GSB0CKCC
N.01 Needle plug with resistance 8.2 kohm B0CKCR code GSB0CKCR

CONTROL UNIT/DEVICE TO CONTROL MATS EDGES AND SHOCK ABSORBERS

The control unit is a device to control the function of a sensor (mat, edge or shock absorber) by blade contacts.
The blade contact is a NO contact that closes, causing the opening of the outlet contact of the control unit.
The control unit controls the operation of the sensor and the connection circuit, and allows to transform the NO signal of the blade contact into a NC safety signal.
A control device can control several sensors, but cannot perform the auto-diagnose indicating which sensor is faulty. If more sensors are used, use a control unit every 3-4 sensors.

MODELS AVAILABLE:

GP02/E
GP02R.T – GP02R.T1
GP02R *and GP02R-C Only for edges with electrical resistance 8,2k*Ω

CONTROL UNIT

Description
Emergency stop circuit, used to manage and control a sensor, having two safety relays terminals with forced opening contacts.
The two relays, normally excited, are deenergized in the following conditions:

- No supply
- Operation of mat, edge, shock absorber.
- Internal faults
- Interruption of the internal circuit of mat, edge, shock absorber or connection cables between control unit and sensor (mat, edge, shock absorber).

The devices are supplied with **automatic reset** but they can be transformed into **manual reset.**
If a control unit is used **without rearming** the function must be supplied by the control system of the machine (see std. EN 13849-1).

Operation
Two separate channels detect the voltage at the end of the safety terminals of the mat, and each channel commutes a safety relay with forced opening contacts.

Models GP02/E- GP02R.T(automatic restart**)- GP02R.T1(**manual restart)
The supply voltage is limited by a specific group and the pilot circuit, to avoid short circuit currents while closing the sensor (mat, edge, shock absorber). The control unit controls itself, as well as any other operation.
Inlet terminals are foreseen for:

- Test signal activating/deactivating the circuit of the control device simulating the operation of the sensor and checking the system efficiency.
- Signal of manual reset/ feedback-action.

The two modules are differentiated by the number of outlet contacts: model GP02/E has a NO safety contact, whereas model GP02/E-S2 and GP02R.T has two NO safety contacts.

Model GP02R and GP02R-C *only for edges with electrical resistance 8,2k*Ω
Two symmetric circuits detect the current in the edge, adjusted for a resistance of 8,2 kΩ. When the circuits detect a variation of ± 4 kΩ, caused by a fault or operation of the edge, they desexcite the outlet relays, that open the safety contacts.

TECHNICAL FEATURES

Reference Standards: EN ISO13849-1, EN13856, EN60947-5-1 EN 50205 (type A)		TYPE GP02/E 	TYPE GP02R.T 	TYPE GP02R ***8,2kΩ*** 	TYPE GP02R-C ***8,2kΩ*** 
PL		e			
Category		3			
PFH (1/h)		$4,29*10^{-8}$			
No. of operations/year		35000	50000	5000	5000
Usage categories		DC13(24) – 1,5 A AC1(230) – 3A	AC15(230) – 1,2 A	AC15(230) -4 A	AC15(230) – 3A DC13(24) – 3A
Mission time [years]		20			
Electrical data					
Supply voltage		24 VDC ± 10%			
Current consumption with mat activated (24VDC)		15 mA			
Current consumption with reset module 24VDC)		90 mA			
Internal protection of power supply		YES (1 A)			
Inputs					
Input short-circuit detection		YES			
Input connection interruption detection		YES			
Max length of connection cables		100 m			
Min section of connection cables		$0,35\ mm^2$ ($1mm^2$ L>20m)			
Max resistance of sensor		100 ohm		40 ohm	
Voltage applied to inputs		24 VDC			
Max current (peak value)		200 mA			
Safety outputs					
Number of safety outputs		1 NO	2 NO		
Rated voltage/Max switchable voltage VAC		250/400	230/300		
Rated current		6 A	AC15 230 VAC 1,5A DC13 24VDC 1,2 A		
Material of standard contacts		AgNi	$AgSnO_2$		
Rated supply voltage	V AC50/60hz	-			
	V DC	24			
Rated power AC/DC VA (50 Hz)/W		-/0,7	-/0,25		
Delay to energizing (reset)		25 ms (typical)	12 ms		
Delay to de-energizing (trip)		10 ms (typical)	13 ms		
Protection against over-current		4 A quick-action/2 A delayed			
Mechanical life		10^6	10^7		
Signal outputs					
Number of signal outputs		1			
Max operating voltage	VAC	125			
	VDC	30			
Max current 110VAC		0,2A			
Max current 24VDC		0,5A			
Environmental characteristics					
Operating temperature [°C]		0 / 55	-25 /+50		
Storage temperature [°C]		-20 /+70	-25 /+70		
Max relative humidity		85%			
Degree of protection of terminals		IP20			
Degree of protection of casing		IP30			IP65
Dimensions					
Width [mm]		35	22,5		120
Height [mm]		90	114		75
Depth [mm]		70	99		155
Weight [g]		150	140		410
Material of the casing		ABS	PA66-FR		GW PLAST 75
Installation		ON 35 mm Omega rail			
EC-TYPE CERTIFICATION		RP10DM4SA113	RP11DM4SC12	RP10M4SA107	

CONTROL UNIT WIRELESS SYSTEM (RADIOSAFE) FOR CONDUCTIVE EDGE 8,2 KΩ

IN ACCORDANCE TO THE SAFETY STANDARD EN12978

“TRANSCEIVER” INTERFACE FOR SAFETY EDGES

SAFEPRC4 – 433 MHz “FM”
SAFEPRC8 – 868 MHz “FM”
SAFETY EDGE SIGNAL INPUT NC/8.2kΩ

STATIONARY WIRELESS “TRANSCEIVER” SAFETY SYSTEM

SAFEDECX4 – 433 MHz “FM”
SAFEDECX8 – 868 MHz “FM”
SAFETY DEVICES 8

SAFETY OUTPUTS 3 NC/8.2Kω

MAXIMUM RANGE 30 m
PROTECTION GRADE IP65
OPERATING TEMPERATURE – 20…+55°C

Radiosafe is made up of high technology appliances, protected by robust and practical enclosure with an elevated degree of protection against environment condition.
The transmission via radio between the “transceiver” interface (safety edge interface) and the stationary ”transceiver” eliminates the need for one or more safety edges to be connected to the control unit by wires. This allows a more manageable and secure application of the safety edge directly onto the gate in movement.
Radiosafe is a highly professional safety device that in combination with Gamma System’s safety edges it is conform to the European safety standard ENI12978.
The stationary “transceiver” is able to manage up to 8 security device via radio and is fitted with 3 safety outputs NC/8.2kΩ settable by jumpers. The semi - transparent cover allows to verify the status of the safety device and the level of batteries charge visualized by LEDs.
Each radio controlled safety device can be associated with one of the three safety outputs by a dip-switch.
The 3V Lithium battery is reliable under all weather conditions and furnishes a high level of safety and top performance in all environments.

Note: The choice of operating frequency for the safety edge should be made after taking into consideration the operating frequency of the other units in the installation.
E.g. If the command units are working at a frequency of 433 MHz it is good practice to use a safety radio on the edge that works at a frequency of 868 MHz and vice-versa.

Examination certificate

Istituto Certificazione Europea Prodotti Industriali S.p.A.
organismo notificato n. 0066

CERTIFICATO D'ESAME CE DI TIPO
EC-TYPE EXAMINATION CERTIFICATE

11DM4SC12

■ Nome e indirizzo del detentore del certificato □ Name and address of the certificate owner	GAMMA SYSTEM S.r.l. Via Torino, 24/i 10044 PIANEZZA (TO)
■ Costruttore □ Manufacturer	GAMMA SYSTEM S.r.l. Via Torino, 24/i 10044 PIANEZZA (TO)
■ Genere prodotto ■ Product designation	**Unità di comando per tappeti, bordi e bumpers sensibili alla pressione** Control unit for pressure sensitive devices (mats, edges, bumpers)
■ Serie / Tipo □ Series / Type	GP02R.T
■ Numero e data del rapporto di verifica □ Date and number of test report	RP11DM4SC12 - 31.03.2011
■ Direttiva(e) della Comunità Europea ■ EC - Directive(s)	2006/42/CE / All. IV 21 2006/42/EC / Annex IV 21
■ Risultato dell'esame ■ Examination result	Il modello esaminato nel contesto delle specifiche o dei limiti riportati nel rapporto di verifica di cui sopra risulta conforme ai Requisiti Essenziali di Sicurezza e Salute ad esso applicabili contenuti nella Direttiva Macchine 2006/42/CE, Allegato I. The model examined under the specifications and limits stated in the above test report complies with the related Essential and Safety Requirements listed in the Machinery Directive 2006/42/EC, Annex I.
■ Note ■ Remarks	- Norme utilizzate per la verifica: Standard adopted for examination: EN 1760-1:1997+A1:2009 - EN 1760-2:2001+A1:2009 - EN 1760-3:2004+A1:2009 - EN ISO 13849-1:2008, PL e. - L'apparecchiatura deve essere installata ed utilizzata conformemente al relativo Manuale Istruzioni. The device must be installed and used in conformity with the Instruction Manual information.
■ Condizioni di validità ■ Validity conditions	- Le condizioni di validità della certificazione ICEPI sono indicate ai punti 4 e 5 del contratto per l'attività di certificazione intervenuto fra il Contraente ed ICEPI. ICEPI certification validity terms are listed in clauses 4 and 5 of the certification activity contract between Contractor and ICEPI. - La validità del certificato cessa il 30.03.2016 o anticipatamente in caso di cambiamenti normativi significativi. The certificate has validity until 30.03.2016 or before in case of standard major changes.

Piacenza, 31.03.2011

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(Chief General Manager)
Dott. Ing. Andrea Giulio Esposito

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Certificato ISO 9001:2008 n.5570/0/0/11

Examination certificate

Istituto Certificazione Europea Prodotti Industriali S.p.A.
organismo notificato n. 0066

CERTIFICATO D'ESAME CE DI TIPO
EC-TYPE EXAMINATION CERTIFICATE

10DM4SA107

■ Nome e indirizzo del detentore del certificato □ Name and address of the certificate owner	**GAMMA SYSTEM S.r.l.** **Via Torino, 24/i** **10044 PIANEZZA (TO)**
■ Costruttore □ Manufacturer	**GAMMA SYSTEM S.r.l.** **Via Torino, 24/i** **10044 PIANEZZA (TO)**
■ Genere prodotto ■ Product designation	**Bordo sensibile alla pressione composto da sensore ed unità di comando** **Pressure sensitive edge composed by edge sensor and control unit**
■ Serie / Tipo ■ Series / Type	**Sensore: B1NC** **Sensor: B1NC** **Unità di comando: GP02R - GP02R-C** **Control units: GP02R - GP02R-C**
■ Numero e data del rapporto di verifica □ Date and number of test report	**RP10DM4SA107 - 29.01.2010**
■ Direttiva(e) della Comunità Europea ■ EC - Directive(s)	**2006/42/CE / All. IV 19** **2006/42/EC / Annex IV 19**
■ Risultato dell'esame ■ Examination result	Il modello esaminato nel contesto delle specifiche e dei limiti riportati nel rapporto di verifica di cui sopra risulta conforme ai Requisiti Essenziali di Sicurezza e Salute ad esso applicabili contenuti nella Direttiva Macchine 2006/42/CE, Allegato I. The model examined under the specifications and limits stated in the above test report complies with the related Essential and Safety Requirements listed in the Machinery Directive 2006/42/EC, Annex I.
■ Note ■ Remarks	- Norme utilizzate per la verifica: Standard adopted for examination: EN 1760-2:2001+A1:2009 - EN ISO 13849-1:2008, PL e - EN 12978:2003+A1:2009 - L'apparecchiatura deve essere installata ed utilizzata conformemente al relativo Manuale Istruzioni. The device must be installed and used in conformity with the Instruction Manual information.
■ Condizioni di validità ■ Validity conditions	- Le condizioni di validità della certificazione ICEPI sono indicate ai punti 4 e 5 del contratto per l'attività di certificazione intervenuto tra il Contraente ed ICEPI. ICEPI certification validity terms are stated in clauses 4 and 5 of the certification activity contract between Contractor and ICEPI. - La validità del certificato cessa il 28.01.2015 o anticipatamente in caso di cambiamenti normativi significativi. The certificate has validity until 28.01.2015 or before in case of standard major changes.

Piacenza, 29.01.2010

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Certificato ISO 9001:2008 n.562/A/2010

CONFINDUSTRIA azienda associata

Istituto Certificazione Europea Prodotti Industriali S.p.A.
organismo notificato n. 0066

CERTIFICATO D'ESAME CE DI TIPO
EC-TYPE EXAMINATION CERTIFICATE

11DM4SC16

■ Nome e indirizzo del detentore del certificato □ Name and address of the certificate owner	**GAMMA SYSTEM S.r.l.** **Via Torino, 24/i** **10044 PIANEZZA (TO)**
■ Costruttore □ Manufacturer	**GAMMA SYSTEM S.r.l.** **Via Torino, 24/i** **10044 PIANEZZA (TO)**
■ Genere prodotto ■ Product designation	**Bordo sensibile alla pressione composto da sensore ed unità di comando** **Pressure sensitive edge composed by edge sensor and control unit**
■ Serie / Tipo ■ Series / Type	**Sensore: B2C** **Sensor: B2C** **Unità di comando: GP02R - GP02R-C** **Control units: GP02R - GP02R-C**
■ Numero e data del rapporto di verifica □ Date and number of test report	**RP11DM4SC16 - 31.03.2011**
■ Direttiva(e) della Comunità Europea ■ EC - Directive(s)	**2006/42/CE / All. IV 19** **2006/42/EC / Annex IV 19**
■ Risultato dell'esame ■ Examination result	Il modello esaminato nel contesto delle specifiche e dei limiti riportati nel rapporto di verifica di cui sopra risulta conforme ai Requisiti Essenziali di Sicurezza e Salute ad esso applicabili contenuti nella Direttiva Macchine 2006/42/CE, Allegato I. The model examined under the specifications and limits stated in the above test report complies with the related Essential and Safety Requirements listed in the Machinery Directive 2006/42/EC, Annex I.
■ Note ■ Remarks	- Norme utilizzate per la verifica: Standard adopted for examination: EN 1760-2:2001+A1:2009 - EN ISO 13849-1:2008, PL e - EN 12978:2003+A1:2009 - L'apparecchiatura deve essere installata ed utilizzata conformemente al relativo Manuale Istruzioni. The device must be installed and used in conformity with the Instruction Manual information.
■ Condizioni di validità ■ Validity conditions	- Le condizioni di validità della certificazione ICEPI sono indicate ai punti 4 e 5 del contratto per l'attività di certificazione intervenuto tra il Contraente ed ICEPI. ICEPI certification validity terms are stated in clauses 4 and 5 of the certification activity contract between Contractor and ICEPI. - La validità del certificato cessa il 30.03.2016 o anticipatamente in caso di cambiamenti normativi significativi. The certificate has validity until 30.03.2016 or before in case of standard major changes.

Piacenza, 31.03.2011

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Certificato ISO 9001:2008 n.562/A/2010

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EDITION January 15