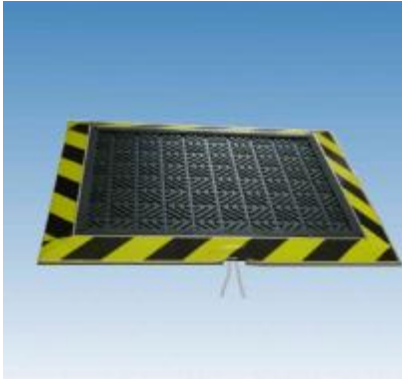


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# Safety Mat Systems



## Pressure Sensitive Safety Mat

- 2-wire and 4-wire fail safe wiring options
- Meets or exceeds current US or CE standards
- Custom sizes and shapes available
- Multiple zone mats
- Safety Category 3 systems available, on request with BG certificate, third party approved by BIA

### Safety Mat Design

Bircher Reglomat safety mats are designed pressure sensitive. Copper clad epoxy plates are encapsulated in a black polyurethane compound. Copper, the selected contact material offers superior corrosion resistance compared to commonly used safety mat contact plates.

### Active Edge

The unique edge design of standard size mats, and mats for multiple mat systems, ensures intrusion detection across mat to mat joints without the use of joining trim – thereby reducing installation time.



### Actuating Force

Bircher Reglomat safety mats meet the actuating force requirements defined in EN 1760-1 and ANSI/RIA 15.06. The mat or mat system shall respond to a force of 30kg or 66 lbs applied to a flat disc of diameter 80 mm or 3.125", placed anywhere on the effective sensing area.

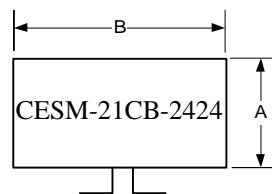
### Custom Mats

Where standard size mats do not fit, customized solutions are available. Bircher Reglomat safety mats can be manufactured in custom sizes to almost any shape with cut-outs, miters and multiple zones.

### Standard Mat Sizes

These sizes are available from stock, dimensions in inch :

24x24, 24x30, 24x36, 24x42, 24x48, 24x60, 24x72, 30x30, 30x36, 30x42, 30x48, 30x60, 30x72, 36x36, 36x42, 36x48, 36x60, 36x72, 42x42, 42x48, 42x60, 42x72, 48x48, 48x60.

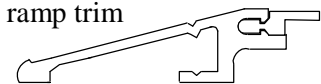


Standard size mats have two 2-conductor leads, both exiting the mat on the longer side.

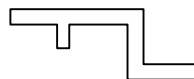
### Securing Trim

Safety mats are secured to the floor to prevent stumbling hazards and easy relocation that could defeat the safety function of a mat system.

ES-S ramp trim



ES-SZ machine side trim



Bircher Reglomat mat trim is made of extruded aluminum. Black and yellow striped tape applied to the ramp trim provides an awareness barrier.



### Controller Function

The Bircher Reglomat series of ESD controllers monitors for changes in the no-load current determined by an 8.2kOhm resistor built into, or externally connected to the sensor. This way, fail safe wiring is achieved using only 2 wires.

With power to the ESD unit, the output relays are energized and closed.

The output relays open with the sensor activated — resulting in a resistance drop towards zero Ohm, or – with a wire failure — resulting in a resistance increase towards indefinite Ohm.

## ESD-3 Safety Mat Controller

- Meets Safety Category 3 with the safety mat, on request available with BG certificate from BIA
- Fail safe wiring with only 2 wires
- DIN rail mount
- Multiple sensor inputs
- Manual, automatic or remote reset options



### Applicable Standards

When properly sized, installed and monitored, Bircher Reglomat safety mat systems will enable users to meet safeguarding requirements up to a category 3 level. Applicable standards : ANSI B11.19-1990, ANSI/RIA 15.06, EN 60204-1 and EN 954-1.

### Safety Distance

Depending on the application and risk assessment, minimum safety distance requirements may apply. Guidelines pertaining to safety distance calculations can be found in ANSI B11.19-1990, ANSI/RIA 15.06-1999 and EN-999 standards.

### Mat Specification

Material	Polyurethane Compound
Color	Black
Weight	approx 4 lbs/sq. ft 20 kg/m <sup>2</sup>
Oper.Temp.	32°F to 125°F 0°C to 50°C
Design	normally open contact
Voltage	max. 24 volt, 0.5A
Lead wires	AWG 20 with twin PVC cover
Actuating F	< 30kg / 66lbs as required by EN 1760-1 and ANSI/RIA 15.06 typical force is 10-23 lbs

### Controller Specification

Isolation	IP 30 (IEC529)
Supply Volt.	24ACDC, 115VAC, 240VAC
Sensor Inp.	2 sensor inputs, each monitors 5 m <sup>2</sup> / 54sq.feet
Oper. Temp.	0°F to 125°F -15°C to 50°C
Safety Outp.	2 outputs rated at 2A/250VAC
Diagnostics	1 output rated at 1A/30VAC
LED's (4)	operation/safety stop/sensor error/ system error
Reaction time	< 50 ms from mat actuation to change of state of the output relay

## Order Information

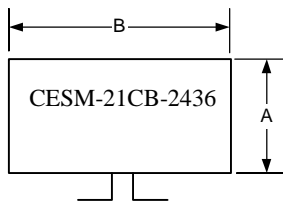
codes. Contact the customer service for additional information on stand-alone mats, mats with built-in resistor or other custom made designs.

### Multiple Mat Systems

A layout drawing should accompany inquiries and orders.

### Standard Size Mats

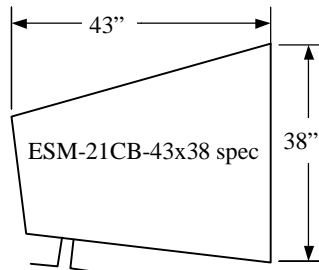
Order code for the below shown mat is CESM-21CB-2436 :



CESM-21 standard size mat with two 12 ft long 2-conductor leads, located in the middle of the long (B) side  
 CB black color with CB pattern top surface  
 2436 A=24" width by B=36" length

### Custom Mats

Custom size or shape mats are usually manufactured with two 2-conductor leads, located at least 2" from a corner, and only on sides that will not be joined against another mat. Drawings are required to avoid dimensional and lead wire location errors.



### Custom Mat Trim

ES-S10 order code for 10ft section of ramp trim, to be cut to size on site  
 ES-S order code for ramp trim, shipped pre-cut to fit mats, requires layout drawing  
 ES-SZ10 order code for 10ft section of machine side trim to be cut to size on site  
 ES-SZ order code for ramp trim shipped pre-cut to fit mats, requires layout drawing

### Standard Mat Ramp Trim

The order code for ES-S ramp trim kits for all four sides of a standard size mat is : ES-S followed by the dimension. For example ES-S2436.

## Safety Mat Controller

**ESD3 - 01 - 24VADC GB**

version \_\_\_\_\_  
 (see table on right)

supply voltage \_\_\_\_\_  
 24VADC  
 115VAC  
 230VAC

label language \_\_\_\_\_  
 D - German  
 E - Spanish  
 F - French  
 GB - English

\* 24 /115 Volt versions in stock

ESD3 version	Reset Options			Aux. & Diagnostic Relay		
	manual, on the unit	automatic	remote	system operative	sensor actuated	wire failure or no voltage
01	X			closed	closed	open
02	X			closed	open	open
03		X		closed	closed	open
04*		X		closed	open	open
05			X	closed	closed	open
06*			X	closed	open	open
07	X			open	closed	closed
08		X		open	closed	closed
09			X	open	closed	closed
01C	X			open	open	closed
03C		X		open	open	closed
05C			X	open	open	closed
<b>Safety Output Relay</b>				closed	open	open

Bircher America offers a complete line of presence and motion sensing devices. For detailed information on Bircher Reglomat sensing bumper and edge systems, or active infrared presence and microwave motion sensors, please contact our office.



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