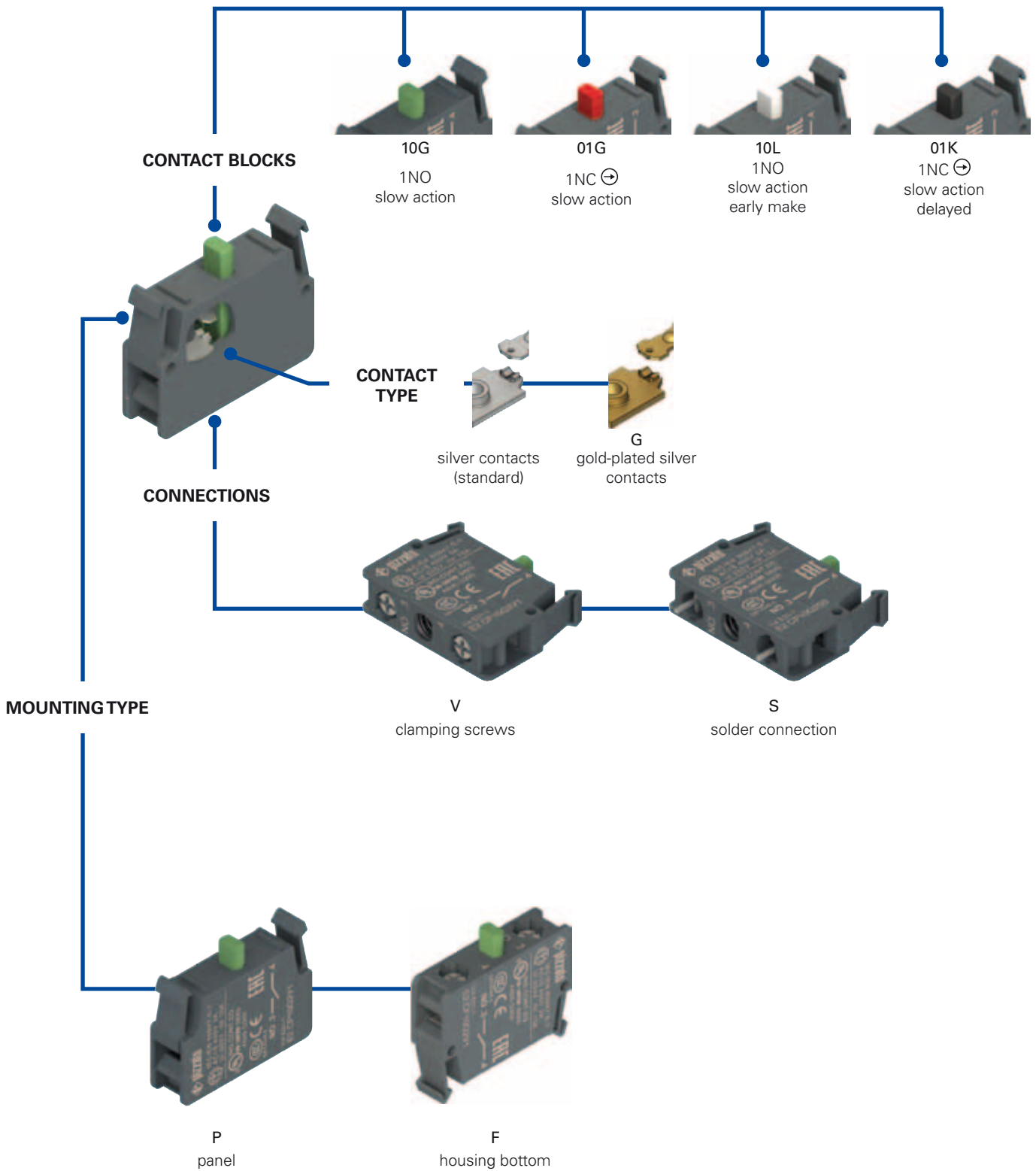
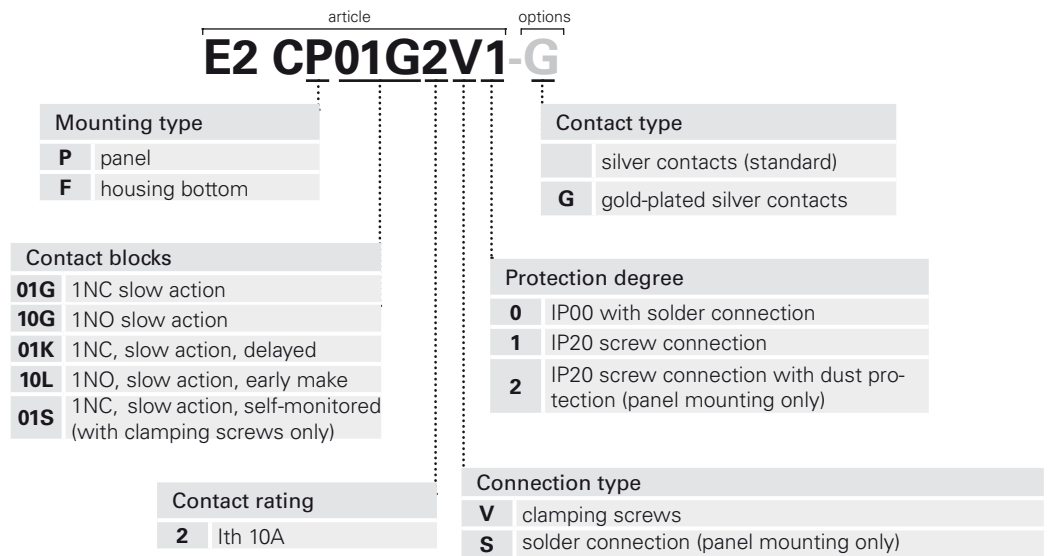
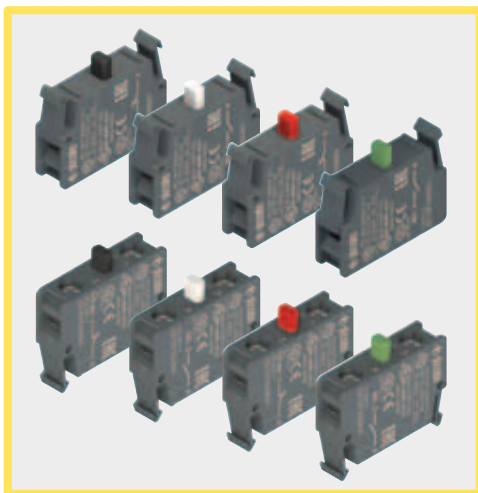


Selection diagram



**Code structure** **Attention!** The feasibility of a code number does not mean the effective availability of a product. Please contact our sales office.





### Main features

- Highly reliable contact block having self-cleaning contacts with quadruple support point
- Versions with gold plated contacts
- Positive opening NC contacts acc. to IEC 60947-5-1

### Markings and quality marks:



IMO approval:	CA02.04805
UL approval:	E131787
CCC approval:	2013010305631156
EAC approval:	RU C-IT ДМ94.В.01024

### Technical data

#### General data

Protection degree acc. to IEC 60529:	IP20 with screw connection IP00 with solder connection
Ambient temperature:	-40°C ... +80°C
Mechanical endurance:	20 million operating cycles <sup>1</sup>
Max. actuation frequency:	3600 operating cycles <sup>1</sup> /hour
Utilization requirements:	see page 124
<small>(1) One operation cycle means two movements, one to close and one to open contacts, as defined in EN 60947-5-1</small>	

#### Contact blocks

Contact commutation force:	1.8 N (NO) / 1.4 N (NC) 1.7 N (NO early make) / 1.4 N (NC delayed)
Actuating force at limit of travel:	3.5 N (NO) / 2.3 N (NC) 3.5 N (NO early make) / 1.9 N (NC delayed)
Positive opening force:	17 N
Actuation speed:	min. 1 mm/s max. 0.5 m/s
Contact material:	Normal: silver contacts (standard) For low current: silver contacts with gold coating 1 µm (on request)
Contact design:	"V shape" self-cleaning contacts with quadruple support point
Cable cross section:	min. 1 x 0.5 mm <sup>2</sup> (1 x AWG 20) max. 2 x 2.5 mm <sup>2</sup> (2 x AWG 14)
Safety parameters:	
B <sub>10d</sub> :	1,000,000 (NO), 40,000,000 (NC)
Tightening torque of the terminal screws:	0.6 ... 0.8 Nm

#### In conformity with standards:

IEC 60947-1, IEC 60947-5-1, IEC 60204-1, EN 60947-1, EN 60947-5-1, EN 60204-1, UL 508, CSA 22-2 no.14.

#### ⚠ Installation for safety applications:

Use only contact blocks marked with the symbol Always connect the safety circuit to the **NC contacts** (normally closed contacts: .1-.2) as stated in standard EN 60947-5-1, encl. K, par. 2.

#### In conformity with the requirements of:

Low Voltage Directive 2006/95/EC, Machinery Directive 2006/42/EC and EMC Directive 2004/108/EC.

#### Positive contact opening in conformity with standards:

IEC 60947-5-1, EN 60947-5-1.

### Electrical data

Thermal current (I <sub>th</sub> ):	10 A
Rated insulation voltage (U <sub>i</sub> ):	500 Vac/dc
Protection against short circuits:	type gG/gL fuse 10 A 500 V
Rated impulse withstand voltage (U <sub>imp</sub> ):	8 kV
Pollution degree:	3

### Utilization category

Alternating current: AC15 (50 ... 60 Hz)					
U <sub>e</sub> (V)	24	48	120	250	400
I <sub>e</sub> (A)	6	6	6	6	3
Direct current: DC13					
U <sub>e</sub> (V)	24	48	125	250	
I <sub>e</sub> (A)	2.5	1.3	0.6	0.3	

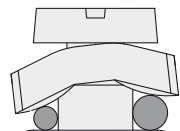
### General data

#### Positive opening



All NC contacts are suitable for safety applications. The NC contacts are positive opening contacts acc. to IEC 60947-5-1

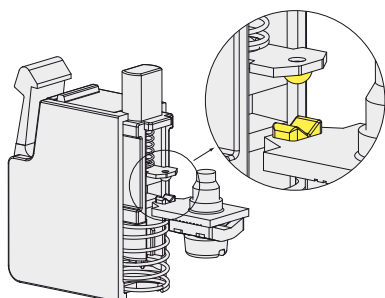
#### Clamping screw plates



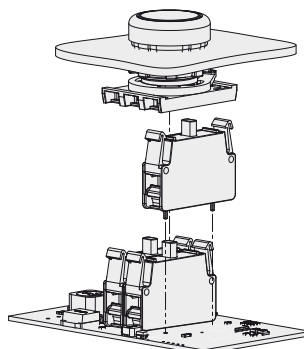
These clamping screw plates of the contact blocks have a particular "roofing tile" structure and are connected loosely to the clamping screw. In this way, during the wires fixing, the clamping screw plate is able to suit to cables of different diameter and tends to tighten the wires toward the screw instead of permitting them to escape towards the outside.

#### High-reliability self-cleaning contacts

"V shape" self-cleaning contacts with quadruple support point. This type of shape, thanks to the presence of the double support point, makes it possible to drastically reduce the probability of contact commutation failure. In addition to this, it improves considerably the reliability in the presence of dust.



#### Solder connection on printed circuit



Versions with panel mounting of the EROUND series contact blocks with solder pin are available. In cases where there is no wiring, but a printed circuit, these contact blocks can be directly welded on the latter.

## Characteristics approved by UL

Utilization categories: A600 pilot duty (720 VA, 120 ... 600 Vac)  
Q300 pilot duty (69 A, 125 ... 250 Vdc)

Notes:  
- Use 60° or 75 °C copper (Cu) conductor, rigid or flexible, wire size AWG 12-20.  
- Terminal tightening torque of 7.1 Lb In (0.8 Nm).

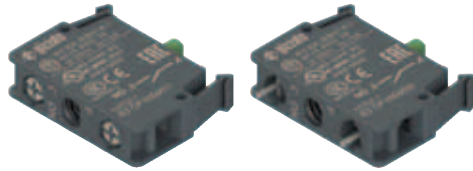
## Characteristics approved by IMQ

Rated insulation voltage (Ui): 500 V  
Conventional free air thermal current (Ith): 10 A  
Thermal current in enclosure (Ithe): 10 A  
Rated impulse withstand voltage (Uimp): 8 kV  
Protection degree of the housing: IP20  
Terminals: screw terminals  
Utilization category: AC15  
Operating voltage (Ue): 400 Vac (50/60 Hz)

Operating current (Ie): 3 A  
Forms of the contact element: X, Y  
Positive opening of contacts on contact blocks 01G, 01K  
In conformity with standards: EN 60947-1, EN 60947-5-1 + A1:2009, fundamental requirements of the Low Voltage Directive 2006/95/EC.

## Selection table for contact blocks

10 pcs. packs



Contact blocks	Panel mounting	
	Screw connection	Solder connection
1NC, slow action	<b>E2 CP01G2V1</b> 	E2 CP01G2S0 
1NO slow action	<b>E2 CP10G2V1</b> 	E2 CP10G2S0 
1NC,  slow action, delayed	<b>E2 CP01K2V1</b> 	E2 CP01K2S0 
1NO, slow action, early make	<b>E2 CP10L2V1</b> 	E2 CP10L2S0 

Contact blocks	Housing bottom mounting
	Screw connection
1NC, slow action	<b>E2 CF01G2V1</b> 
1NO slow action	<b>E2 CF10G2V1</b> 
1NC,  slow action, delayed	<b>E2 CF01K2V1</b> 
1NO, slow action, early make	<b>E2 CF10L2V1</b> 

## Complete units with contact block and mounting adapter



Contacts			Panel mounting Screw connection
pos. 2	pos. 3	pos. 1	
-	1NO	-	<b>E2 AC-XXBC0010</b> E2 1BAC11 + E2 CP10G2V1
-	1NC	-	<b>E2 AC-XXBC0009</b> E2 1BAC11 + E2 CP01G2V1

Other combinations on request.

Contacts			Panel mounting Screw connection
pos. 2	pos. 3	pos. 1	
1NO	-	1NO	<b>E2 AC-XXBC0012</b> E2 1BAC11 + E2 CP10G2V1 + E2 CP10G2V1
1NC	-	1NC	<b>E2 AC-XXBC0011</b> E2 1BAC11 + E2 CP01G2V1 + E2 CP01G2V1
1NC	-	1NO	<b>E2 AC-XXBC0028</b> E2 1BAC11 + E2 CP10G2V1 + E2 CP01G2V1

Other combinations on request.

## Dimensions

All measures in the drawings are in mm

Contact blocks for panel mounting with screw connection	Contact blocks for panel mounting with solder connection	Contact blocks for base mounting with screw connection
	 Ø 1.4 mm holes on PCB	

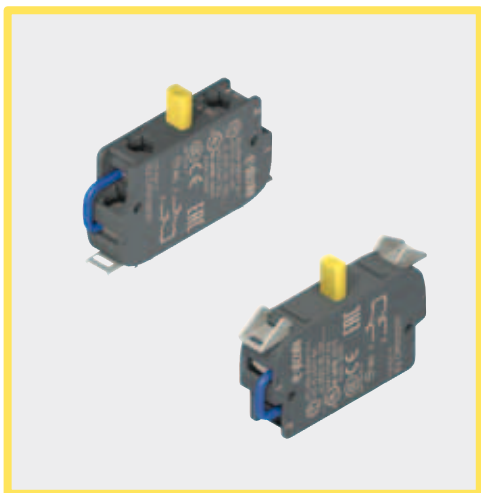
## Dust protection

50 pcs. packs

Article	Description
 VE PR3A70	Transparent dust protection for E2 series contact blocks. Suitable for all panel mounting contact blocks.

Items with code on **green** background are stock items

→ The 2D and 3D files are available at [www.pizzato.com](http://www.pizzato.com)



**Main features**

- Self-monitored contact block. Electrical circuit opening indicates separation from the device
- Versions with gold plated contacts
- Positive opening NC contacts acc. to IEC 60947-5-1

**Markings and quality marks:**



IMO approval:	CA02.04805
UL approval:	E131787
CCC approval:	2013010305631156
EAC approval:	RU C-IT ДМ94.В.01024

**Technical data**

**General data**

Protection degree:	IP20 at terminals acc. to IEC 60529
Ambient temperature:	-40°C ... +80°C
Mechanical endurance:	20 million operating cycles <sup>1</sup>
Max. actuation frequency:	3600 operating cycles <sup>1</sup> /hour
Utilization requirements:	see page 124
<small>(1) One operation cycle means two movements, one to close and one to open contacts, as defined in EN 60947-5-1.</small>	

**Contact blocks**

Contact commutation force:	2.9 N
Actuating force at limit of travel:	5 N
Positive opening force:	17 N
Actuation speed:	min. 1 mm/s max. 0.5 m/s
Contact material:	Normal: silver contacts (standard) For low current: silver contacts with gold coating 1 µm (on request) "V shape" self-cleaning contacts with quadruple support point
Contact design:	min. 1 x 0.34 mm <sup>2</sup> (1 x AWG 22) max. 2 x 1.5 mm <sup>2</sup> (2 x AWG 16)
Cable cross section:	
Safety parameters:	
B <sub>10qd</sub> :	40,000,000 (NC)
Tightening torque of the terminal screws:	0.6 ... 0.8 Nm

**In conformity with standards:**

IEC 60947-1, IEC 60947-5-1, IEC 60204-1, EN 60947-1, EN 60947-5-1, EN 60204-1, UL 508, CSA 22-2 no.14.

**⚠ Installation for safety applications:**

Use only contact blocks marked with the symbol ⊕. Always connect the safety circuit to the **NC contacts** (normally closed contacts: .1-.2) as stated in standard EN 60947-5-1, encl. K, par. 2.

**In conformity with the requirements of:**

Low Voltage Directive 2006/95/EC, Machinery Directive 2006/42/EC and EMC Directive 2004/108/EC.

**Positive contact opening in conformity with standards:**

IEC 60947-5-1, EN 60947-5-1.

**Electrical data**

Thermal current (I <sub>th</sub> ):	10 A
Rated insulation voltage (U <sub>i</sub> ):	250 Vac/dc
Protection against short circuits:	type gG/gL fuse 10 A 500 V
Rated impulse withstand voltage (U <sub>imp</sub> ):	4 kV
Pollution degree:	3

**Utilization category**

Alternating current: AC15 (50 ... 60 Hz)				
U <sub>e</sub> (V)	24	48	120	250
I <sub>e</sub> (A)	6	6	6	6
Direct current: DC13				
U <sub>e</sub> (V)	24	48	125	250
I <sub>e</sub> (A)	2.5	1.3	0.6	0.3

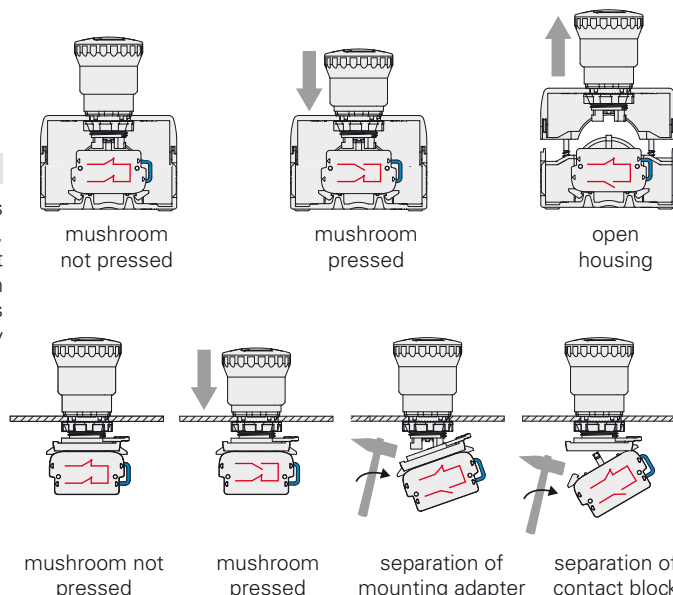
**General data**

**Positive opening**



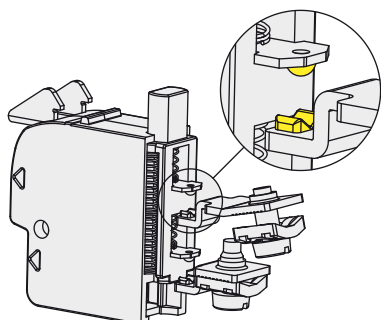
All NC contacts are suitable for safety applications. The NC contacts are positive opening contacts acc. to IEC 60947-5-1

**Operation of self-monitored contact blocks**





**High-reliability self-cleaning contacts**



"V shape" self-cleaning contacts with quadruple support point. This type of shape, thanks to the presence of the double support point, makes it possible to drastically reduce the probability of contact commutation failure. In addition to this, it improves considerably the reliability in the presence of dust.



**Selection table for contact blocks** 5 pcs. packs



Contact blocks	Panel mounting Screw connection
1NC,  slow action, self-monitored	<b>E2 CP01S2V1</b> 2.3 1.1 0 1.1  2.1 5

Contact blocks	Housing bottom mounting Screw connection
1NC,  slow action, self-monitored	<b>E2 CF01S2V1</b> 2.3 1.1 0 1.1  2.1 5

The self-monitored contact block mounted at the housing bottom can only be mounted in the central position under the device. The central position on the bottom of the box is identified with number 3.

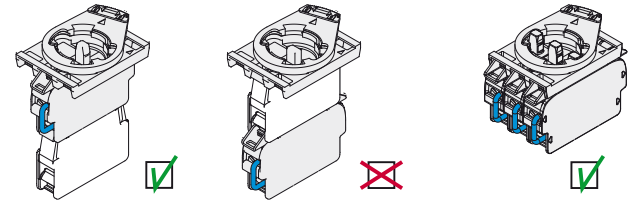
**Complete units with contact block and mounting adapter**



Contacts			Panel mounting Screw connection
pos. 2	pos. 3	pos. 1	
-	1NC  SELF-MONITORED	-	<b>E2 AC-XXBC0139</b> E2 1BAC11 + E2 CP01S2V1

Other combinations on request.

**Installation of several single, double and self-monitored contact blocks**



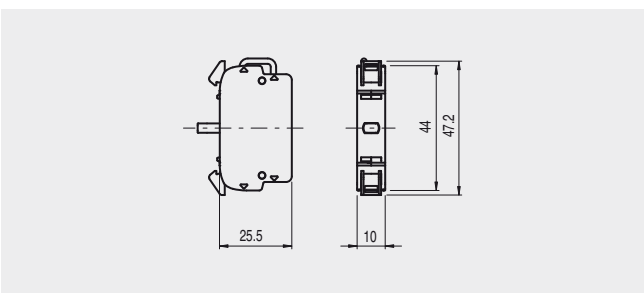
Always install self-monitored contact blocks directly on the mounting adapter.

Do not fix self-monitored contact blocks to standard contact blocks. Forbidden application! Fix no more than

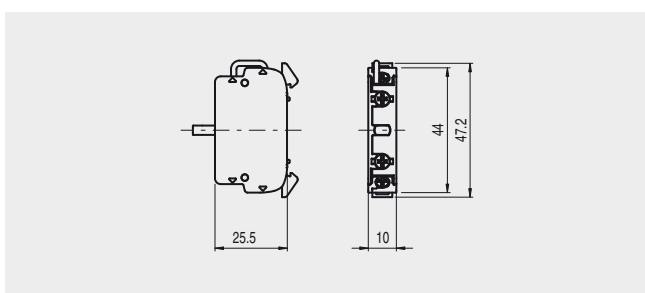
three self-monitored contact blocks per emergency button.

**Dimensions** All measures in the drawings are in mm

**Contact block for panel mounting E2 CP01S...**



**Contact block for base mounting E2 CF01S...**



**Dust protection** 50 pcs. packs

Article	Description
<b>VE PR3A70</b>	Transparent dust protection for E2 series contact blocks. Suitable for all panel mounting contact blocks.

Items with code on **green** background are stock items

→ The 2D and 3D files are available at [www.pizzato.com](http://www.pizzato.com)