

# SA-P

- Zone 1, 2, 21, 22
- Polyester junction boxes
- Choice of 9 sizes
- With antistatic property
- IK10 mechanical strength
- IP66



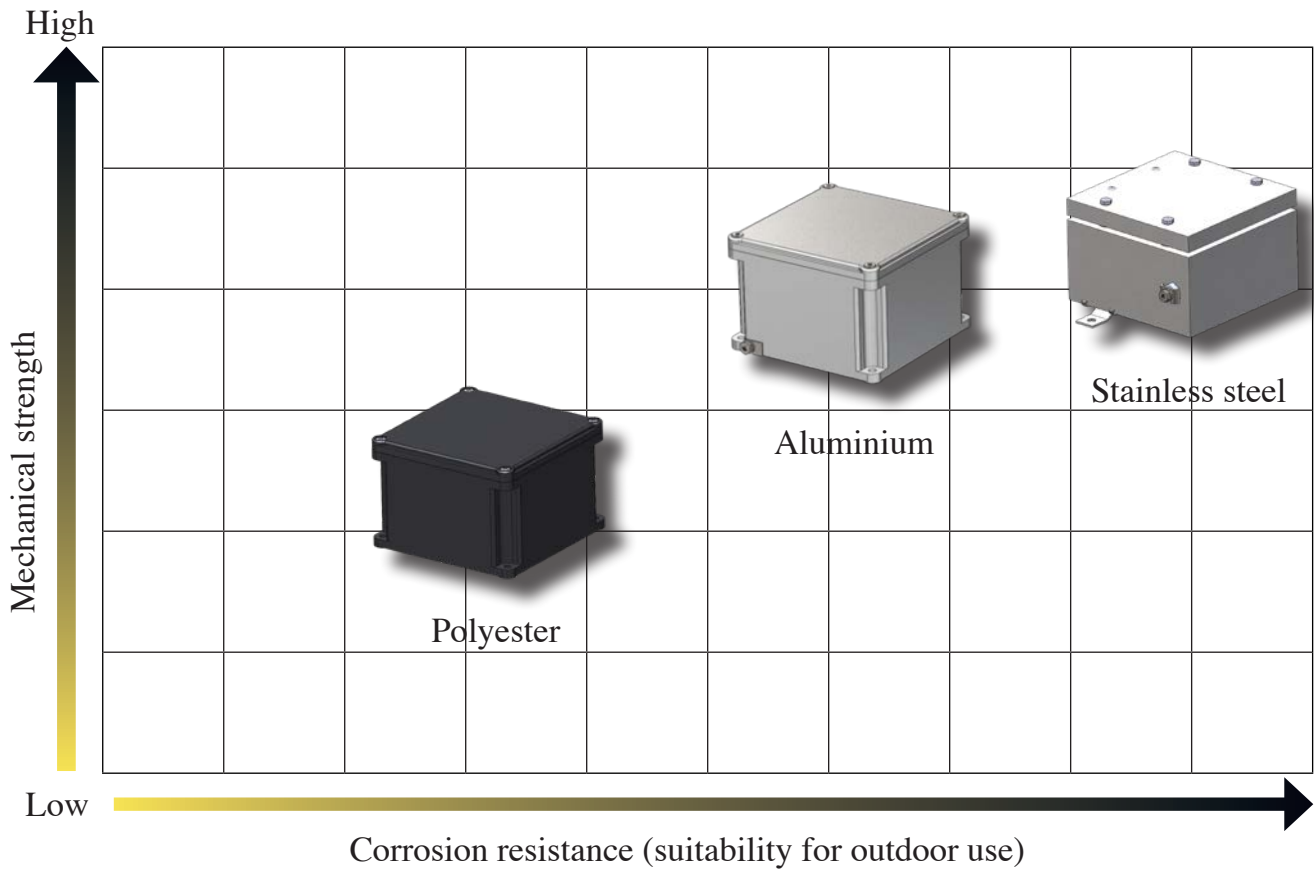
# SA-P series junction boxes: criteria for choosing the right product

When it comes to deciding on an increased safety enclosure, there is a whole series of essential data to be taken into account if you are to make the right choice: the mechanical strength of the materials, corrosion resistance, the IP protection rating and IK impact protection rating in the case of enclosures for watertight/ industrial use.

## Mechanical strength

Properties	Unit	Stainless steel	Aluminium	Polyester
Density	g/cm <sup>3</sup>	8,0	2,65	1,7
Tensile strength	Mpa	500-700	80-110	130
Elongation	%	60-40	4-10	2
Modulus of elasticity	Gpa	193	79	11
Yield strength	Mpa	≥ 200	80-165	-
Coeff. of thermal expansion (20-100°C)	10 <sup>-6</sup> K <sup>-1</sup>	16	21	-
Resistivity	Ωm	7,5x10 <sup>-7</sup>	4,8x10 <sup>-8</sup>	-
Electrical conductivity	Ω <sup>-1</sup> m <sup>-1</sup>	1,33x10 <sup>6</sup>	2,08x10 <sup>7</sup>	-

The graph below gives an overview of what use the various materials are suitable for based on the mechanical stress and harshness of the environmental conditions likely to be encountered.



# Protection ratings

## IP PROTECTION RATINGS (IEC 529, EN 60529-4, CEI 70-1 ed. 11/92)

The table gives protection ratings in accordance with standard CEI 70-1 ed. 11/92. Ratings are identified by the acronym IP followed by 2 digits, to which 2 letters may be added, indicating the degree to which persons are protected against access or other properties. There is some variation in the application of ratings 7 and 8 relating to the ingress of liquids, with these ratings not always meaning that the item is suitable for lower levels (whereas IP rating x4 also covers the lower levels).

## IMPACT PROTECTION RATINGS

This classification shows the acceptable level of strength, when evaluating a product's safety, and is mainly employed in relation to testing on electromechanical products.

1ST DIGIT PROTECTION AGAINST SOLID OBJECTS		2ND DIGIT PROTECTION AGAINST MOISTURE		PROTECTION AGAINST EXTERNAL MECHANICAL IMPACT *	
<b>0</b>	Not protected	<b>0</b>	Not protected	<b>IK00</b>	Not protected
<b>1</b>	Protected against solid objects greater than 50mm in Ø	<b>1</b>	Protected against vertically falling drops of water	<b>IK01</b>	0.25 kg 5.6 cm Protected against impact energy of 0.15J
<b>2</b>	Protected against solid objects greater than 12mm in Ø	<b>2</b>	Protected against rain when tilted up to 15°	<b>IK03</b>	0.25 kg 14 cm Protected against impact energy of 0.35J
<b>3</b>	Protected against solid objects greater than 2.5mm in Ø	<b>3</b>	Protected against rain when tilted up to 60°	<b>IK05</b>	0.25 kg 28 cm Protected against impact energy of 0.7J
<b>4</b>	Protected against solid objects greater than 1mm in Ø	<b>4</b>	Protected against splashing water	<b>IK06</b>	0.25 kg 40 cm Protected against impact energy of 1J
<b>5</b>	Protected against dust	<b>5</b>	Protected against jets of water from all directions	<b>IK07</b>	0.5 kg 40 cm Protected against impact energy of 2J
<b>6</b>	Totally protected against the ingress of dust	<b>6</b>	Protected against heavy seas	<b>IK08</b>	1.7 kg 30 cm Protected against impact energy of 5J
<b>ADDITIONAL LETTER**</b>		<b>7</b>	Protected against the effects of immersion	<b>IK09</b>	5 kg 20 cm Protected against impact energy of 10J
<b>A</b>	Protected against access with the back of the hand	<b>8</b>	Protected against the effects of continuous immersion	<b>IK10</b>	5 kg 40 cm Protected against impact energy of 20J
<b>B</b>	Protected against access with a finger				
<b>C</b>	Protected against access with a tool				
<b>D</b>	Protected against access with a wire				

### OPTIONAL LETTER

**H** High-voltage device

**M** Tested against the harmful effects of water ingress with the equipment running

**S** Tested against the harmful effects of water ingress with the equipment not running

**W** Suitable for use in specified atmospheric conditions

\* As per IEC EN 50102: 1996-05; IEC EN 60078-2-7-5: 1998-09.

\*\* Optional letter describing protection against access by persons. Only used if protection against access to hazardous parts is greater than that indicated by the first digit, or if only protection against access to hazardous parts is given and an X is used in place of the first digit.

## SA-...P series Polyester junction boxes (Ex e) and (Ex i)

SA...P series junction boxes are made from fibreglass-reinforced polyester. Because they are highly resistant to contamination from fuel oils and mechanical shock, in addition to being lightweight and practical, they can be installed in all industrial plants, especially those where there is a potential risk of explosion and/or fire due to the presence of combustible gases or dust, classified as Zone 1, 2, 21 and 22. The enclosures have special holes made in the base for easy wall mounting. The lid features a silicone gasket that is resistant to low and high temperatures and comes complete with AISI 304 stainless steel screws, which are arranged around the outside of the lid to ensure a tight seal with the IP66 rating. SA...P series enclosures are mainly used as junction boxes/ for routing cables for analogue or digital signals and/or for control and monitoring associated with equipment such as motors, fans, pumps and/or for giving physical readings such as flow rate, level, pressure, temperature, current, etc.. Terminal strips can be arranged inside the enclosure in various different configurations. The Cortem sales team will be able to advise you what enclosure best meets your needs based on: maximum number of terminals, number of holes per side, minimum distance involved and maximum power dissipation, ensuring everything is within the limits allowed by the certificate. 'Ex e' control, monitoring and signalling devices can be mounted on the lid in various different configurations based on your requirements and within the limits allowed by the certificate.

Cortem Group labels its products with a non-removable adhesive label featuring a hologram and an alphanumerical univocal code, as a safety measure against the illegal sale of fakes so that all the products are guaranteed as original. Non-compliance with the International standards entails serious risks for the environment, especially for those working daily on the plants.



### TYPE AND APPLICATION

Choosing an appropriate container is a key step in the project development process, making it essential to approach the decision systematically, evaluating all variables methodically: where our equipment is being installed, the environmental conditions on site, what degree of protection it must have, what space is available and how it is due to be set up. Once you have processed all this information, you should be able to determine which product best suits the design requirements in question.

### ENVIRONMENTAL CONDITIONS

The first factor to consider is what environmental conditions the equipment is going to be installed in, whether it will be indoors or outside, and what environments it is required to operate in: pharmaceutical, chemical, petrochemical, food, shipbuilding, agricultural industries...

### DIMENSIONS

The size of the space available for inserting the enclosure and its components must be determined early on in the process.

### DESIGN

Taking into account the technical aspect, product design and appearance is also important in ensuring the equipment to be installed in the enclosure is integrated seamlessly. A Cortem team of experts is on hand every day to address your questions and come up with the best solutions.

Cortem enclosures have passed:

- IP protection testing;
- IK strength testing;
- salt mist testing for corrosion resistance;
- heat resistance testing;
- low temperature resistance testing.

### Application sectors:



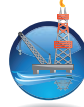
Oil refineries



Chemical and  
petrochemical  
plants



Onshore  
plants



Offshore  
plants



Low  
temperatures



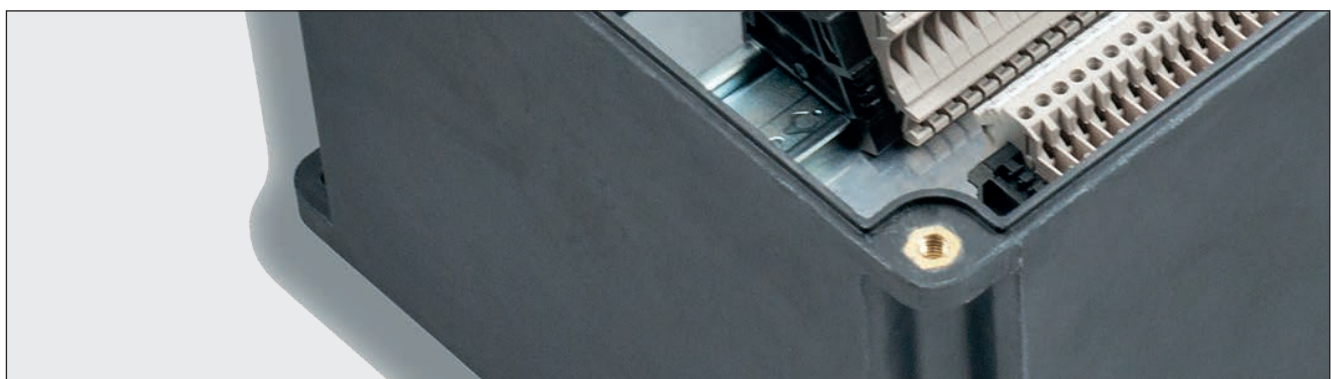
Fuel  
depots



Ships and  
shipbuilding









Wastewater  
treatment



# SA-...P series Polyester junction boxes (Ex e) and (Ex i)

## CERTIFICATION DATA FOR ENCLOSURES WITH TERMINALS

<b>Classification:</b>	Group II	Category 2GD		
<b>Installation:</b> EN 60079.14	zone 1 - zone 2 (Gas)	zone 21 - zone 22 (Dust)		
<b>Marking:</b>	CE 0722  II 2GD Ex eb IIC T6/T5/T4 Gb - Ex tb IIIC T75°C/T1 10°C Db IP66			
	CE 0722  II 2GD Ex e ia IIC T6/T5/T4 Gb - Ex ia IIIC T75°C/T1 10°C Db IP66			
	CE 0722  II 2GD Ex eb ia IIC T6/T5/T4 Gb - Ex ia tb IIIC T75°C/T1 10°C Db IP66			
<b>Certification:</b>	ATEX CESI 03 ATEX 333			
	IEC Ex CES 13.0001	All IEC Ex, ECASEx, TR CU and INMETRO certification data can be downloaded from <a href="http://www.cortemgroup.com">www.cortemgroup.com</a>		
	ECASEx AVAILABLE			
	TR CU AVAILABLE			
	INMETRO DNV 15.0119			
<b>Standards:</b>	CENELEC EN 60079-0: 2018, EN 60079-7: 2015, EN 60079-11: 2012, EN 60079-31: 2014 and EUROPEAN DIRECTIVE 2014/34/UE IEC 60079-0: 2017, IEC 60079-7: 2015, IEC 60079-11: 2011, IEC 60079-31: 2013			
 <b>Ambient Temp.:</b>	 See "ambient temperature range" table 			
<b>Degree of protection:</b>	IP66			

### AMBIENT TEMPERATURE RANGE

AMBIENT TEMPERATURE	TEMPERATURE CLASS	MAXIMUM SURFACE TEMPERATURE	MAXIMUM TERMINAL OPERATING TEMPERATURE
-40°C +40°C	T6	T75°C	+80°C
-40°C +55°C	T5	T75°C	+95°C

### HIGH TEMPERATURE RANGE (accordingly with the temperature allowed by the terminals)

AMBIENT TEMPERATURE	TEMPERATURE CLASS	MAXIMUM SURFACE TEMPERATURE	MAXIMUM TERMINAL OPERATING TEMPERATURE
-40°C +65°C**	T5	T75°C	+95°C

\*\* For this temperature range the maximum dissipated power shall be reduced by 25% and the nominal current by 15%

# SA-...P series Polyester junction boxes (Ex e) and (Ex i)

## CERTIFICATION DATA OF ENCLOSURES FOR CONTROL, MONITORING AND SIGNALLING UNITS

<b>Classification:</b>	Group II	Category 2GD		
<b>Installation:</b> EN 60079.14	zone 1 - zone 2 (Gas)	zone 21 - zone 22 (Dust)		
<b>Marking:</b>	CE 0722 (Ex) II2GD - Ex db eb IIC T6/T5 Gb - Ex tb IIIC T85°C/T100°C Db - IP66 CE 0722 (Ex) II2GD - Ex eb IIC T6/T5 Gb - Ex tb IIIC T85°C/T100°C Db - IP66 (When on the box is installed only ammeter or voltmeter type B-0140)			
<b>Certification:</b>	ATEX CESI 03 ATEX 115 X			
	IEC Ex CES 11.0032 X	All IEC Ex, ECASEx, TR CU and INMETRO certification data can be downloaded from <a href="http://www.cortemgroup.com">www.cortemgroup.com</a>		
	ECASEx AVAILABLE			
	TR CU AVAILABLE			
	INMETRO DNV 15.0125			
<b>Standards:</b>	CENELEC EN 60079-0: 2018, EN 60079-1: 2014, EN 60079-7: 2015, EN 60079-11: 2012, EN 60079-18: 2015, EN 60079-31: 2014, EN 60529: 1991 and EUROPEAN DIRECTIVE 2014/34/UE IEC 60079-0: 2017, IEC 60079-1: 2014, IEC 60079-7: 2015, IEC 60079-11: 2011, IEC 60079-18: 2014, IEC 60079-31:2013, IEC 60529: 2001			
<b>Ambient Temp.:</b>	-40°C +40°C	With temperature class T6 and maximum surface temperature T85°C.		
	-40°C +55°C	With temperature class T5 and maximum surface temperature T100°C.		
<b>Degree of protection:</b>	IP66			

## CERTIFICATION DATA OF ENCLOSURES WITH EQUIPMENT (FIELD BUS, PROXIMATOR, HEATER...)

<b>Classification:</b>	Group II	Category 2GD		
<b>Installation:</b> EN 60079.14	zone 1 - zone 2 (Gas)	zone 21 - zone 22 (Dust)		
<b>Marking:</b>	CE 0722 (Ex) II2GD - Ex eb IIC T6/T5 Gb - Ex tb IIIC T85°C/T100°C Db - IP66 CE 0722 (Ex) II2(1)GD - Ex eb ib mb [ia Ga] IIC T4 Gb - Ex tb [ia Da] IIIC T85°C Db IP66			
<b>Certification:</b>	ATEX CML 16 ATEX 3163X			
	IEC Ex CML 16.0074X	All IEC Ex certification data can be downloaded from <a href="http://www.cortemgroup.com">www.cortemgroup.com</a>		
<b>Standards:</b>	CENELEC EN 60079-0: 2018, EN 60079-7: 2015, EN 60079-28: 2015, EN 60079-31: 2014 and EUROPEAN DIRECTIVE 2014/34/UE IEC 60079-0: 2017, IEC 60079-7: 2015, IEC 60079-28: 2015, IEC 60079-31:2013			
<b>Ambient Temp.:</b>	-40°C +65°C	The temperature classes and the maximum surface temperature must be selected according to the installed components. See the certificate.		
<b>Degree of protection:</b>	IP66			

## SA-...P series Polyester junction boxes (Ex e) and (Ex i)



### GENERAL MECHANICAL PROPERTIES

<b>Body and lid:</b>	Made from polyester resin in black with antistatic properties
<b>Impact protection rating:</b>	IK10
<b>Gasket:</b>	Acid, hydrocarbon and high temperature-resistant silicone, located between body and lid
<b>Mounting:</b>	Polyester feet for M6 screws
<b>Certification label:</b>	Aluminium plate riveted into lid
<b>Bolts and screws:</b>	Stainless steel captive variety

### ACCESSORIES AVAILABLE ON REQUEST/ SPECIAL REQUESTS

Possible drilling of the enclosure bottom A maximum of one hole in the center is allowed, 1" NPT o ISO M32x1,5.

Internal anti-condensation coating RAL 2004 (pure orange)

External polyester coating in different colour (specify the RAL number)

Breather valve; Drain valve

Internal mounting plate: stainless steel (code B...-229)

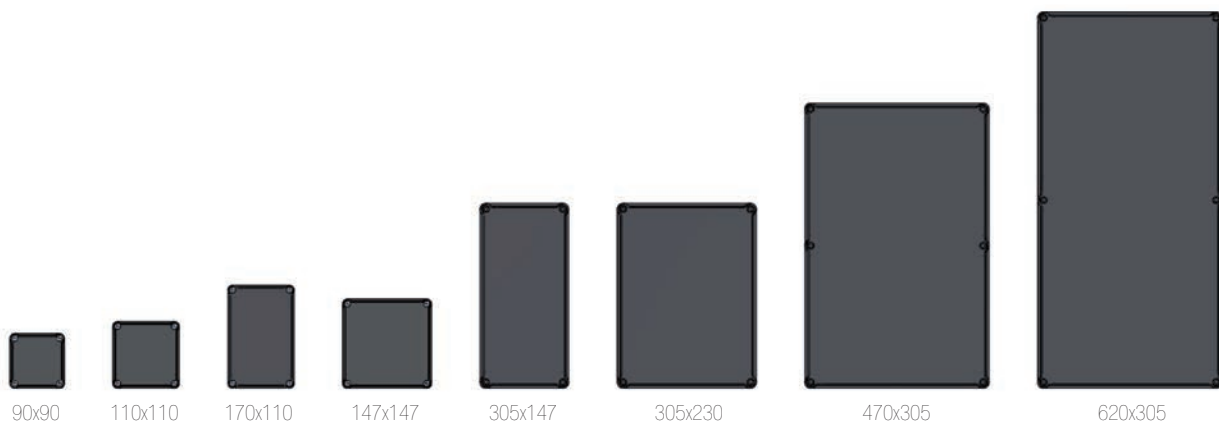
Earth screws in stainless steel

Terminal block mounting rails (code OBO2060/S)

ATEX-CERTIFIED TERMINALS: terminals must be chosen from the list of approved manufacturers: Cabur, Phoenix, ABB Entrelec, Wago, Weidmuller. When supplied as an Ex i enclosure (for low-voltage instruments), it comes with suitably identified blue terminals.

**Only use cable glands that meet ATEX, IECEx directive requirements. Use gaskets and lock nuts on entries to ensure IP66 protection.**

### OVERVIEW OF SIZES

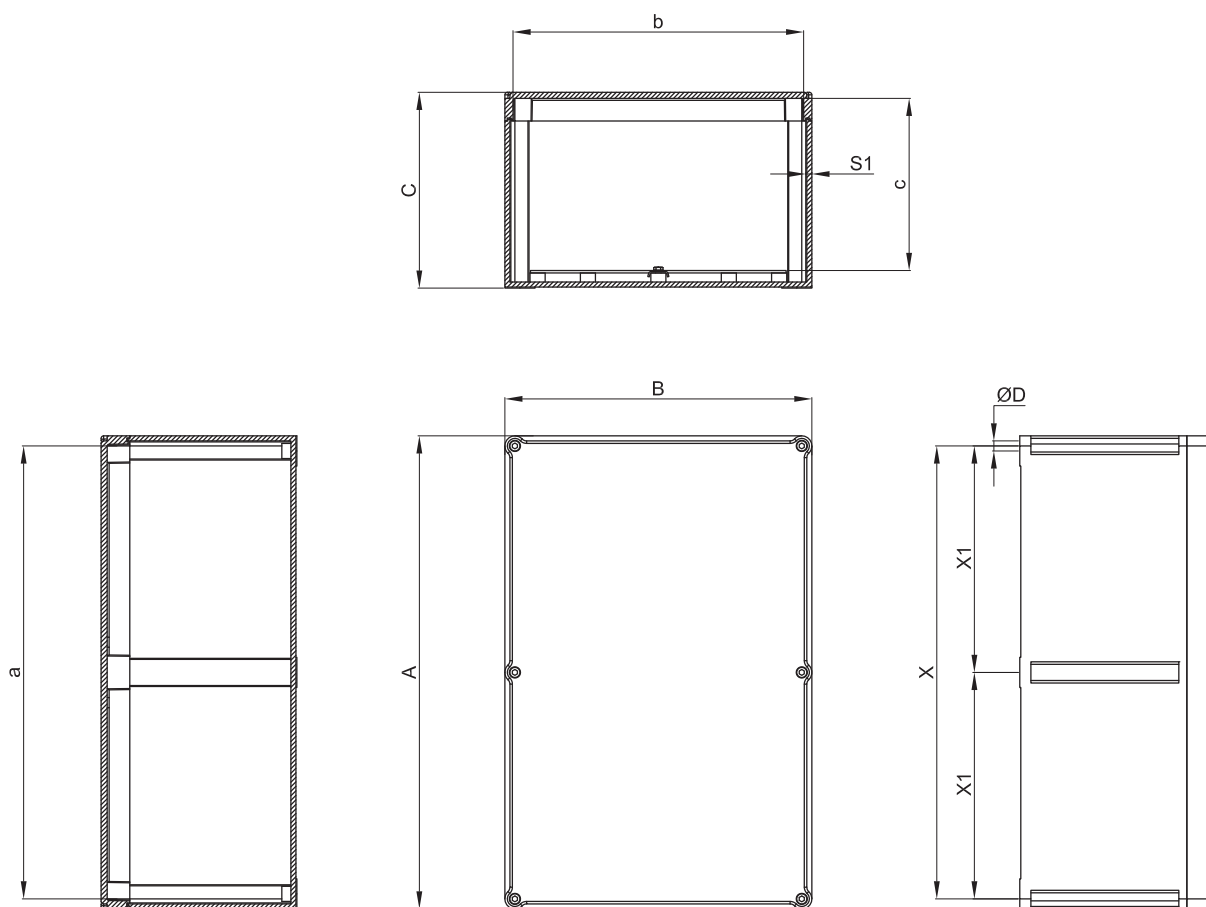


# SA-...P series Polyester junction boxes (Ex e) and (Ex i)

## ENCLOSURE SELECTION CHART

Code	Outside dimensions			Inside dimensions				Mounting				Weight kg
	A	B	C	a	b	c	S1	X	Y	X1	ØD	
SA090907/P	90	90	73	84	84	52	3	74	74	-	6.5	0.30
SA111108/P	110	110	83	104	104	65	3	94	94	-	6.5	0.40
SA171108/P	170	110	83	164	104	65	3	154	94	-	6.5	0.80
SA141410/P	147	147	100	135	135	79	3	131	131	-	6.5	1.00
SA301410/P	305	147	110	296	138	90	4.5	285	127	-	6.5	1.90
SA302310/P	305	230	110	296	221	90	4.5	285	210	-	6.5	2.50
SA302318/P	305	230	190	296	221	165	4.5	285	210	-	6.5	3.10
SA473018/P	470	305	195	460	295	175	5	450	285	225	6.5	4.70
SA623018/P	620	305	185	608	293	160	5	560	285	260-300	8	6.30

### DIMENSIONAL DRAWING



Dimensions in mm



# SA-...P series Polyester junction boxes (Ex e) and (Ex i)

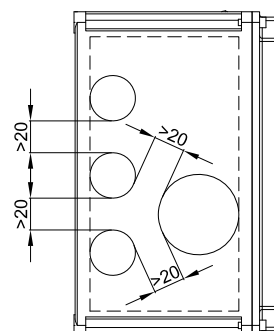
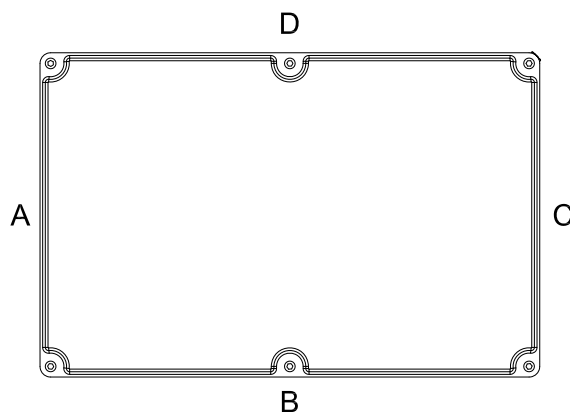
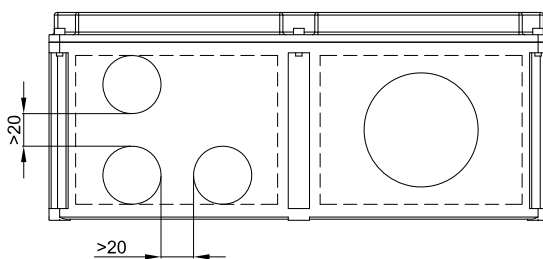
THREAD COMPARISON CHART

D	1	2	3	4	5	6	7	8
Thread diameter	20x1.5	25x1.5	32x1.5	40x1.5	50x1.5	63x1.5	75x1.5	85x2
Through hole	Ø20.5	Ø25.5	Ø32.5	Ø40.5	Ø50.5	Ø63.5	Ø75.5	Ø85.5

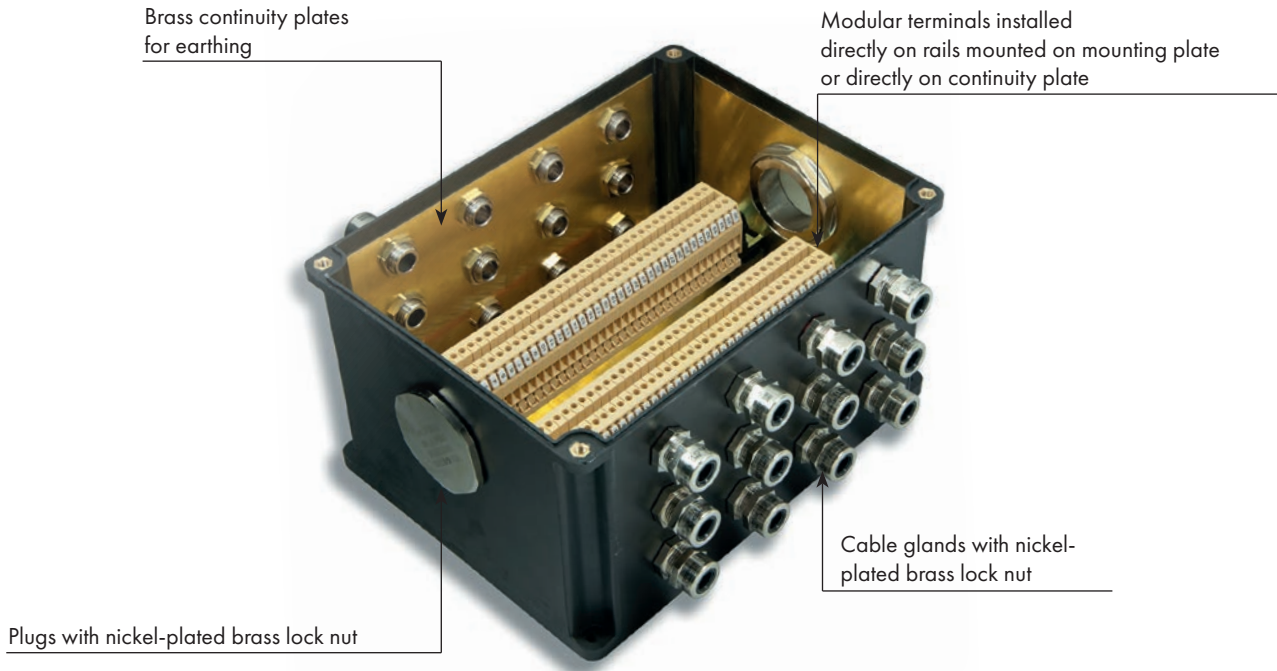


As required by the current standard, holes can be drilled by Cortem or by authorized partners who hold a production notification in accordance with ATEX Directive .

TYPE OF ENCLOSURE	HOLE DRILLING IN BODY																	
	Sides A and C									Sides B and D								
	Drilling area mm	MAXIMUM QUANTITY PER HOLE TYPE								Drilling area mm	MAXIMUM QUANTITY PER HOLE TYPE							
1		2	3	4	5	6	7	8	1		2	3	4	5	6	7	8	
SA090907/P	48x45	1	1	-	-	-	-	-	-	48x45	Square box							
SA111108/P	58x55	2	2	1	1	1	-	-	-	58x55	Square box							
SA171108/P	68x55	2	2	1	1	1	-	-	-	128x55	5	3	2	2	2	-	-	-
SA141410/P	100x65	6	3	2	1	1	1	-	-	100x65	Square box							
SA301410/P	100x65	6	3	2	1	1	1	-	-	255x65	12	11	5	4	4	3	-	-
SA302310/P	180x65	8	7	5	3	2	2	-	-	260x65	12	11	5	4	4	3	-	-
SA302318/P	180x140	16	14	9	8	5	4	2	2	258x140	24	22	14	11	8	6	3	2
SA473018/P	258x140	24	18	14	8	8	6	3	2	380x140	36	24	18	12	12	8	6	2
SA623018/P	248x117	18	15	10	8	6	3	2	2	434x117	32	26	16	14	12	6	4	4



## SA-...P series Features of junction boxes with terminals



These enclosures are customized based on size, on the number of terminals or cables they are due to accommodate, or taking into account the number of cable entries and cabling requirements inside a system. Hence we can produce tailor-made solutions as long as you provide us with the appropriate parameters required at the quote request stage, such as the number of cable glands, unions or sealing fittings to be installed, so that we can determine the most suitable size of enclosure. All terminals can be fitted with your requested accessories and mounted on special rails that are fastened to the enclosure's internal mounting plates. Terminal strips can be arranged in various ways, as specified by the customer and always within the limits allowed by the certificate. The options are vertical, horizontal, in a number of rows, or on different levels using suitable spacers.

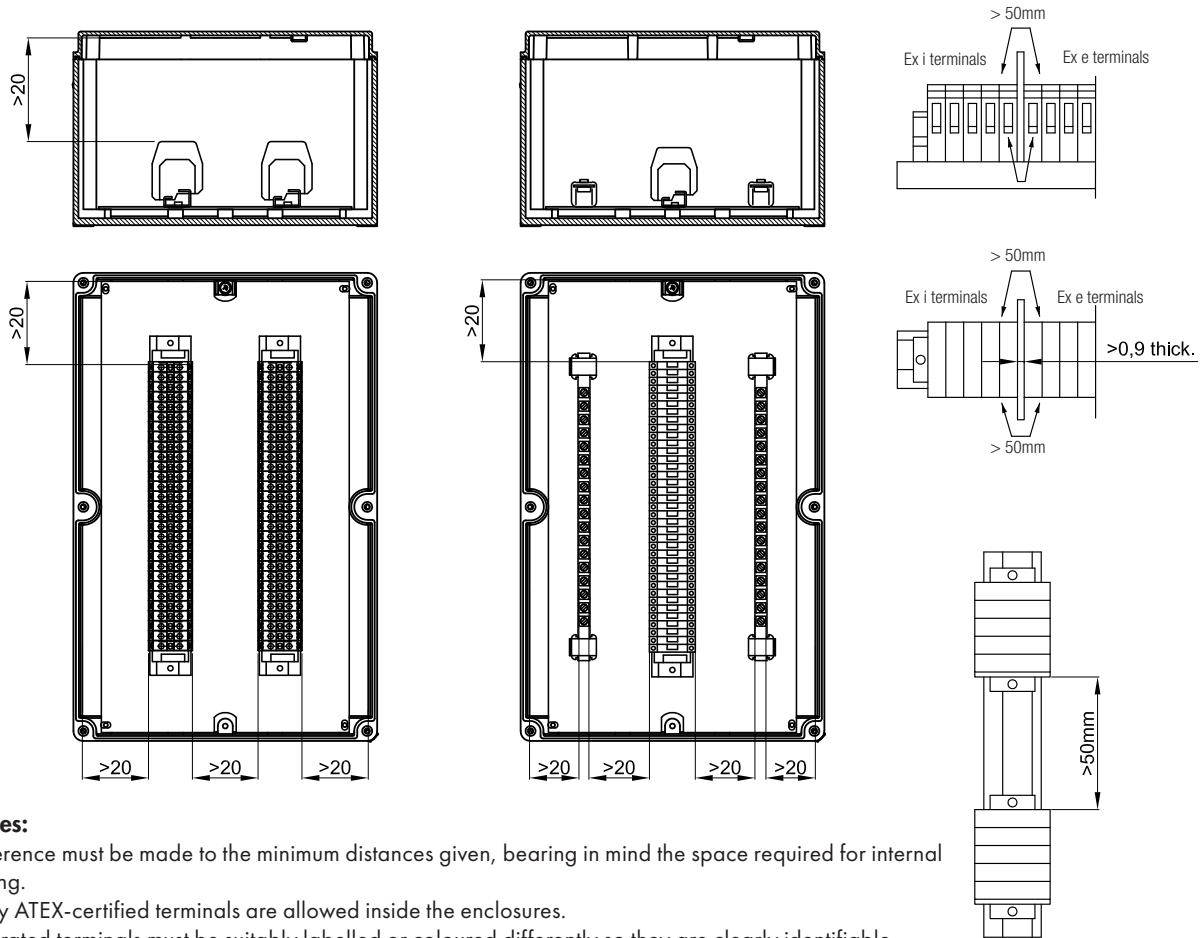
### ELECTRICAL FEATURES

	Standard applications	Signal circuits applications	
		T6/T75°C max. Tamb +60°C	T4/T100°C max. Tamb +85°C
<b>Rated voltage:</b>	1000 Vac/dc	-	-
<b>Rated current:</b>	312 A	1 A for exec. <b>Ex eb</b> 100 mA for exec. <b>Ex ia</b>	10 A for exec. <b>Ex eb</b> 100 mA for exec. <b>Ex ia</b>
<b>Rated frequency:</b>	50/60 Hz	-	-
<b>Terminal section:</b>	1.5 ÷ 300 mm <sup>2</sup>	-	-

Marking	Terminal type	Description
<b>Ex II 2GD Ex eb IIC T... Gb - Ex tb IIIC T... Db IP66</b>	Ex e terminals only	Enclosures containing increased safety terminals to standard EN 60079-7
<b>Ex II 2GD Ex eb ia IIC T... Gb - Ex tb ia IIIC T... Db IP66</b>	Ex e and Ex i terminals	Enclosures containing increased safety terminals and intrinsic safety terminals to standards EN 60079-7 and EN 60079-11
<b>Ex II 2GD Ex ia IIC T... Gb - Ex ia IIIC T... Db IP66</b>	Ex i terminals only	Enclosures containing intrinsic safety terminals to standard EN 60079-11; enclosures are still category 2

# SA-...P series Features of junction boxes with terminals

## Examples of terminal strips with minimum installation distances



### Notes:

Reference must be made to the minimum distances given, bearing in mind the space required for internal wiring.

Only ATEX-certified terminals are allowed inside the enclosures.

Ex i rated terminals must be suitably labelled or coloured differently so they are clearly identifiable.

Ex i cable entries must be suitably identified with either labelling or blue markings on cable glands or the enclosure's sides.

TYPE OF ENCLOSURE	MAXIMUM NUMBER OF TERMINALS HOUSED						
	TERMINAL CROSS-SECTIONAL AREA						
	1.5	2.5	4	6	10	16	25
SA090907/P	9	7	6	5			
SA111108/P	13	10	8	7	5		
SA171108/P	27	21	17	14	11	9	
SA141410/P	22	16	14	11	9	7	
SA301410/P	57	44	37	30	24	20	15
SA302310/P	2x58	2x44	2x37	2x30	2x24	2x20	2x15
SA302318/P	2x58	2x44	2x37	2x30	2x24	2x20	2x15
SA473018/P	2x97	2x74	2x63	2x51	2x41	2x34	2x25
SA623018/P	2x133	2x101	2x86	2x70	2x56	2x46	2x35

Eg. 2x22= 2 rows of 22 terminals (total 44 terminals). The maximum number of standard terminals refers to the mounting of CABUR terminals. The data in the table are given as a rough guide only based solely on the size of the enclosures and the space taken up by the terminals.

## SA...P series Features of junction boxes with terminals

The permissible maximum power dissipation, in order to retain a T6 temperature class with an ambient temperature up to +40°C or T5 class with an ambient temperature of 55°C, is not to exceed the values given in the tables below.

For an ambient temperature of +60°C, maximum power dissipation must be reduced by 25%, and rated current reduced by 15%. The maximum current values for terminal strips used for low-voltage circuits (signalling units) with a T6 temperature class and maximum ambient temperature of +60°C or T4 and maximum ambient temperature +65°C and +85°C, are as follows:

+60°C T6 -> max 1A Ex e, max 100mA Ex ia

+85°C T4 -> max 10A Ex e, max 100mA Ex ia

The values given in the tables on the coming pages refer to the maximum number of conductors allowed for a conductor with a given cross-sectional area and a given maximum current. All incoming wires and active internal links (made by wires) count as wires. Earth connections (i.e. passive connections) do not count.

When DIN/Omega rails are installed on the internal mounting plate (instead of using the relevant mounting plate fastening holes), the number of terminals may be slightly less than the number given in the tables.

Other types of terminals can be used up to the space limit of the box. Whatever the case, all terminals used shall be ATEX and/or IEC Ex certified. Size 35mm<sup>2</sup> terminals can be used for conductors with a cross-sectional area of 25mm<sup>2</sup>.

The maximum number of terminals and maximum number of rows given in the tables is an indicative value: you must take into account the cable entries on the sides of the boxes. The internal overall dimensions of cable glands/lock nuts and the overall dimensions of conductors must be taken into consideration to allow for wiring.

In some cases, it may be necessary to reduce the number of terminals or the number of rows.

Example of how to calculate the maximum number of conductors.

Referring to table SA141410/P: 6 conductors with 6mm<sup>2</sup> cross-section with 26A continuous current is the limit of this box.

Consequently, box SA141410/P is suitable for containing 3 x 6mm<sup>2</sup> terminals (2 conductors for each terminal) with a max. current of 26A.

There is space for 11 x 6mm<sup>2</sup> terminals in the box. The remaining 8 terminals (11-3) can be added and used for low-current circuits indicated in area "1" of the table (in this case max. 8-10A).

Combined mounting for electrical circuits with different sized cables is possible provided the values given are used proportionally. For example:

Nominal X-sect. area (mm <sup>2</sup> )	Current (A)	Quantity	Capacity
2,5	8	16 (di 46)	34,8%
4	11	12 (di 36)	33,3%
10	26	4 (di 13)	30,8%
Totale			98,9% <100%

Table showing maximum power dissipation and current for ambient temperature +40°C and +55°C

Enclosure	P [W]	Maximum current [A] per conductor cross-sectional area in mm <sup>2</sup>						
		1.5	2.5	4	6	10	16	25
SA090907/P	5.6	11	15	21	26	37	49	67
SA111108/P	7.5	11	15	21	26	37	49	67
SA171108/P	8.8	11	15	21	26	37	49	67
SA141410/P	7.8	11	15	21	26	37	49	67
SA301410/P	15	11	15	21	26	37	49	67
SA302310/P	16	11	15	21	26	37	49	67
SA302318/P	17.5	11	15	21	26	37	49	67
SA473018/P	42	11	15	21	26	37	49	67
SA623018/P	52	11	15	21	26	37	49	67

Table showing maximum power dissipation and current for ambient temperature +60°C

Enclosure	P [W]	Maximum current [A] per conductor cross-sectional area in mm <sup>2</sup>						
		1.5	2.5	4	6	10	16	25
SA090907/P	4.2	9	12	17	22	31	41	57
SA111108/P	5.6	9	12	17	22	31	41	57
SA171108/P	6.6	9	12	17	22	31	41	57
SA141410/P	5.8	9	12	17	22	31	41	57
SA301410/P	11.2	9	12	17	22	31	41	57
SA302310/P	12	9	12	17	22	31	41	57
SA302318/P	13.1	9	12	17	22	31	41	57
SA473018/P	31.5	9	12	17	22	31	41	57
SA623018/P	39	9	12	17	22	31	41	57

# SA-...P series Features of junction boxes with terminals

Instructions for determining which enclosure is best suited based on the planned number of conductors and terminals.

: In this section of the table that has not been filled in, once you have followed the instructions and complied with the values given for the enclosure's internal wiring, you can add as many terminals as you want up to the space limit of the box.

: Any wiring that falls within this section of the table that has not been filled in is not covered by the certificate.

"C. No." row: the values given refer to the maximum number of CABUR terminals physically allowed inside the relevant enclosure. These values are expressed as the product of the rows multiplied by the number of terminals on each row.

"W. No." row: the same as above, but this time referring to Weidmuller terminals.

The terminal brands are mentioned just to give an idea of the quantity of terminals that can be housed inside the enclosure.

The other values given in the cells along the table's diagonal define the maximum number of conductors allowed, based on their cross-sectional area and maximum current.

## Tables showing maximum number of conductors

$$(N^\circ \text{ of terminals} = \frac{n^\circ \text{ of conductors}}{2})$$

SA090907/P

Current (A)	Cross-sectional area in mm <sup>2</sup>						
	1.5	2.5	4	6	10	16	25
1							
8	17						
10	11						
11	9	15					
15		8	11				
21			6	7	10		
26				5	7	9	
37					3	4	6
49						3	3
67							2
C. No.							
W. No.	11	7	6	5			

Maximum power dissipation with T6 temperature class must not exceed 5.6W

SA111108/P

Current (A)	Cross-sectional area in mm <sup>2</sup>						
	1.5	2.5	4	6	10	16	25
1							
8	19	32					
10	12	20	29				
11	10	17	24				
15		9	13	17			
21			6	9	12		
26				6	8	11	
37					4	5	7
49						3	4
67							2
C. No.							
W. No.	16	11	9	7	5		

Maximum power dissipation with T6 temperature class must not exceed 7.5W

SA141410/P

Current (A)	Cross-sectional area in mm <sup>2</sup>						
	1.5	2.5	4	6	10	16	25
1							
8	19	32					
10	12	20	29				
11	10	17	24	32			
15		9	13	17	25		
21			7	9	13	18	23
26				6	8	11	15
37					4	6	7
49						3	4
67							2
C. No.		16	14	11	9	7	5
W. No.	26	18	15	11	9	7	5

Maximum power dissipation with T6 temperature class must not exceed 7.8W

SA171108/P

Current (A)	Cross-sectional area in mm <sup>2</sup>						
	1.5	2.5	4	6	10	16	25
1							
8	21	35					
10	14	23	32				
11	11	19	27	36			
15		10	14	19	28	38	
21			7	10	14	19	26
26				6	9	13	17
37					5	6	8
49						4	5
67							3
C. No.							
W. No.	32	22	19	14	11	9	

Maximum power dissipation with T6 temperature class must not exceed 8.8W

SA301410/P

Current (A)	Cross-sectional area in mm <sup>2</sup>						
	1.5	2.5	4	6	10	16	25
1							
8	27	46	67				
10	18	29	43	59	90		
11	15	24	36	49	74		
15		13	19	26	40	56	79
21			10	13	20	29	40
26				9	13	19	26
37					7	9	13
49						5	7
67							4
C. No.		43	37	30	24	20	14
W. No.	69	48	40	30	24	20	14

Maximum power dissipation with T6 temperature class must not exceed 15W

SA302310/P

Current (A)	Cross-sectional area in mm <sup>2</sup>						
	1.5	2.5	4	6	10	16	25
1							
8	27	46	68	94	142		
10	18	29	43	60	91		
11	15	24	36	50	75	107	
15		13	19	27	41	58	81
21			10	14	21	29	41
26				9	13	19	27
37					7	9	13
49						5	8
67							4
C. No.		2x44	2x37	2x30	2x24	2x20	15
W. No.	2x70	2x48	2x40	2x30	2x24	2x20	15

Maximum power dissipation with T6 temperature class must not exceed 16W

SA302318/P

Current (A)	Cross-sectional area in mm <sup>2</sup>						
	1.5	2.5	4	6	10	16	25
1							
8	30	49	73	102	155		
10	19	32	47	65	99		
11	16	26	39	54	82	118	166
15		14	21	29	44	63	89
21			11	15	23	32	45
26				10	15	21	30
37					7	10	15
49						6	8
67							4
C. No.		2x44	2x37	2x30	2x24	2x20	15
W. No.	2x70	2x48	2x40	2x30	2x24	2x20	15

Maximum power dissipation with T6 temperature class must not exceed 17.5W

SA473018/P

Current (A)	Cross-sectional area in mm <sup>2</sup>						
	1.5	2.5	4	6	10	16	25
1							
8	51	84	128	181	282		
10	32	54	82	116	180		
11	27	45	68	96	149	219	317
15		24	36	51	80	118	170
21			19	26	41	60	87
26				17	27	39	57
37					13	19	28
49						11	16
67							9
C. No.		2x74	2x62	2x51	2x40	2x33	2x25
W. No.	2x116	2x81	2x68	2x51	2x40	2x33	2x25

Maximum power dissipation with T6 temperature class must not exceed 42W

SA623018/P

Current (A)	Cross-sectional area in mm <sup>2</sup>						
	1.5	2.5	4	6	10	16	25
1							
8	59	98	150	215	338		
10	38	63	96	137	216		
11	31	52	80	113	179	265	388
15		28	43	61	96	143	208
21			22	31	49	73	106
26				20	32	47	69
37					16	23	34
49						13	20
67							10
C. No.		2x101	2x85	2x69	2x55	2x46	2x34
W. No.	2x159	2x111	2x93	2x69	2x55	2x46	2x34

Maximum power dissipation with T6 temperature class must not exceed 52W

# SA-...P series Features of junction boxes with terminals

## Codes of terminals used to determine maximum number of terminals

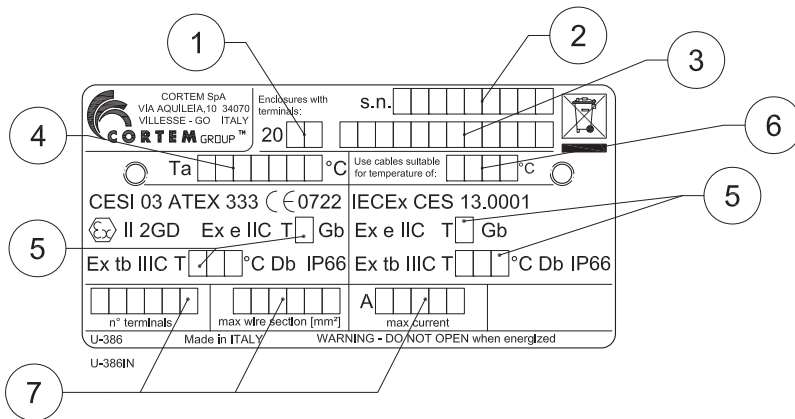
The other values given in the cells along the table's diagonal define the maximum number of conductors allowed, based on their cross-sectional area and maximum current.

<b>Sq mm</b>	<b>1.5</b>	<b>2.5</b>	<b>4</b>	<b>6</b>	<b>10</b>	<b>16</b>	<b>25</b>	<b>35</b>
<b>Cabur</b>		CBD 2	CBD 4	CBD 6	CBD 10	CBD 16	CBD 35	
<b>Weidmuller</b>	WDU 1.5	WDU 2.5	WDU 4	WDU 6	WDU 10	WDU 16	WDU 35	

<b>Sq mm</b>	<b>50</b>	<b>70</b>	<b>95</b>	<b>120</b>	<b>150</b>	<b>185</b>	<b>240</b>	<b>300</b>
<b>Cabur</b>	CBD 50	CBD 70	GPM95/CC	GPM150/CC		GPM240/CC		
<b>Weidmuller</b>	WDU 50	WDU 70	WDU 70/95	WDU 120/150		WDU 240		

### ATEX - IECEx label for terminal enclosures



#### Data filled in:

1. year of manufacture
2. serial number
3. product code
4. ambient temperature
5. temperature class and maximum surface
6. temperature of cables
7. electrical specs per certificate

### DON'T FORGET TO ORDER THE ACCESSORIES

**Example:** Enclosure type SA302310/P + Internal mounting plate B32-229 + Cable glands, unions + other...see key

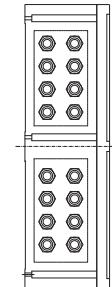
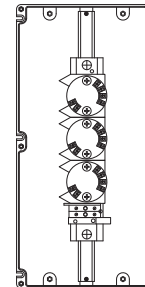
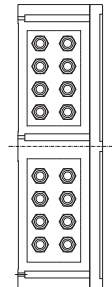
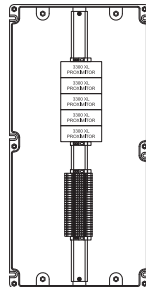
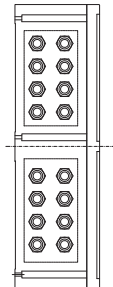
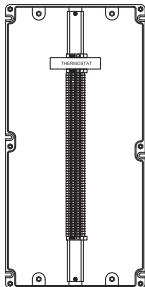
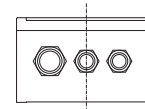
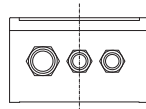
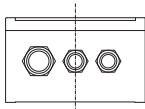


Enclosure	Plate Code	Plate Code	
		Long side	Short side
SA090907/P	B-388	B-455	
SA111108/P	B-389	B-456	
SA141410/P	B-390	B-457	
SA171108/P	B-391	B-458	B-456
SA301410/P	B-392	B-459	B-457
SA302310/P	B-393	B-459	B-460
SA302318/P	B-394	B-461	B-462
SA473018/P	B-395	(2x) B-462	B-461
SA623018/P	-	(2x) B-463	B-463



# SA, SAG... series Features of junction boxes with equipment

## JUNCTION BOXES WITH EQUIPMENT (FIELDBUS, PROXIMITOR, HEATER...)



Example of junction box with thermostat

Example of junction box with proximator

Example of junction box with transmitter

Equipment that can be installed in the junction boxes in accordance with the CML 16 ATEX 3163X or IECEx CML 16.0074X certificate are described in the following table:

Part	Number of certificate	Marking
Series 3300XI Proximator	IECEX BAS 04.0055X	Ex ia IIC
Splice Cassette type 8186	PTB 10 ATEX 2015U IECEX PTB 10.0060U	Ex op pr IIC
Enclosure Heater (TEF Series)	NEMKO 11 ATEX 1098X IECEX NEM 11.0005X	Ex e IIC; Ex e mb IIC
Heater, type SL.. THERM D.. T..	PTB 02 ATEX 1116X IECEX PTB 07.0055X	Ex db IIC; Ex tb IIIC
Heater, type CP.. THERM D.. T..	PTB 02 ATEX 1041X IECEX PTB 07.0052X	Ex db IIC; Ex tb IIIC
Fieldbus Segment protector type R-SP-E	PTB 04 ATEX 2100X IECEX PTB 05.0010X	Ex e mb IIC; Ex eb mb IIC
Temperature Trasmitter Model IPAQ C202X	KIVA 15 ATEX 0033X IECEX KIWA 15.0015X	Ex ia IIC
Temperature Trasmitter Model IPAQ C520X	KIVA 14 ATEX 0003X IECEX KIWA 14.0001X	Ex ia IIC
Fieldbus Barrier type R4D0-FB-IA	BVS 13 ATEX E 121X IECEX BVS 13.0119X	Ex e ib mb [ia Ga] IIC T4 Gb Ex e ib mb [ia IIIC Da] IIC T4 Gb
Heating Resistor type CREx 020	LCIE 01 ATEX 6073X IECEX LCI 07.0020X	Ex d IIC; Ex tb IIIC
Regulating Thermostat type REX	LCIE 01 ATEX 6074 IECEX LCI 07.0021	Ex d IIC; Ex tb IIIC
Interconnection block for fieldbus type F240 to F273	KEMA 03 ATEX 1555X IECEX LCI 11.0068X	Ex ia IIC
Fieldbus XE Megablock and Terminator	KEMA 05 ATEX 2006 IECEX DEK 16.0036X	Ex eb mb IIC

**Attention: please contact our sales office for further information.**

## SA-...P series Features of junction boxes with terminals

ILLUSTRATION	DESCRIPTION	MODEL	DIMENSIONS		CODE	KEY
			A	B		
	Internal mounting plates	SA090907/P	82	48	<b>B09-229</b>	 
		SA111108/P	100	68	<b>B11-229</b>	
		SA141410/P	137	105	<b>B14-229</b>	
	Thickness 2.5mm Aluminium	SA171108/P	159	67	<b>B17-229</b>	
		SA301410/P	285	97	<b>B31-229</b>	
	Galvanized steel (B...-229AC)	SA302310/P SA302318/P	285	180	<b>B32-229</b>	
		SA473018/P	453	254	<b>B43-229</b>	
Stainless steel (B...-229IN)	SA623018/P	603	249	<b>B64-229</b>		
ILLUSTRATION	DESCRIPTION	MODEL	FEATURES		CODE	KEY
	Breather and drain valve	Thread diameter ISO 7-R 3/8"	Material: stainless steel		<b>ECD-210S</b>	 
	Breather valve	ISO M20x1,5	Material: stainless steel		<b>ECDE-B1B</b>	 
		ISO M25x1,5			<b>ECDE-B2B</b>	
	Breather and drain valve	ISO M20x1,5			<b>ECDE-D1B</b>	
		ISO M25x1,5			<b>ECDE-D2B</b>	
	Hinges (2 per enclosure)	Low lid enclosures	SA090907/P SA111108/P SA141410/P SA171108/P	Material: stainless steel	<b>B-0105</b>	 
		High lid enclosures	SA301410/P SA302310_18/P SA473018/P SA623018/P		<b>B-0106</b>	
	Through earth connection	M8	Material: stainless steel		<b>K-0307/1</b>	 
		M6			<b>K-0307/2</b>	
	Entry blanking plugs				<b>PLG...</b>	 
	Cable glands complete with O-rings and unions	For models and codes, visit <a href="http://www.cortemgroup.com">www.cortemgroup.com</a>			<b>NAV... NEV...</b>	 
	Adapters and reducers				<b>RE...</b>	 
	Lid-mounted control and signalling devices	For control and signalling device models and codes, see control and monitoring device chapter			<b>M-0... (Ex de)</b>	 
	Brass continuity plates for earthing	For models and codes, see chart given earlier			<b>B-...</b>	 



# SA-...P series Polyester junction boxes (Ex e) and (Ex i)



Zone 1,2,21,22.  
Degree of protection IP66.  
Polyester body and lid.  
Silicone gasket.  
Stainless steel bolts and screws.  
Impact protection IK10.

## Ordering details

Standard polyester enclosure: **SA090907/P**

Width/Depth/Height: **90/90/73mm**

## Certification data for enclosures with terminals

Group II Category 2GD

Zone 1- Zone 2 (Gas) Zone 21 - Zone 22 (Dust)

II 2GD Ex eb IIC T.. Gb - Ex tb IIIC T.. Db IP66

II 2GD Ex ia IIC T.. Gb - Ex ia IIIC T.. Db IP66

II 2GD Ex eb ia IIC T.. Gb - Ex tb ia IIIC T.. Db IP66

Ambient temperature: -40°C +55°C (+40°C)

Certification:

CESI 03 ATEX 333 (ATEX)

IEC Ex CES 13.0001 (IECEX)

Russian (TR CU)

Braslian (INMETRO)

## Accessories

Internal mounting plate:	CODE
2.5mm-thick aluminium:	<b>B09-229</b>
2.5mm-thick galvanized steel:	<b>B09-229AC</b>
2.5mm-thick stainless steel:	<b>B09-229IN</b>
Hinges (two each type):	<b>B-0105</b>
Breather and drain valve:	<b>ECD-210S</b>

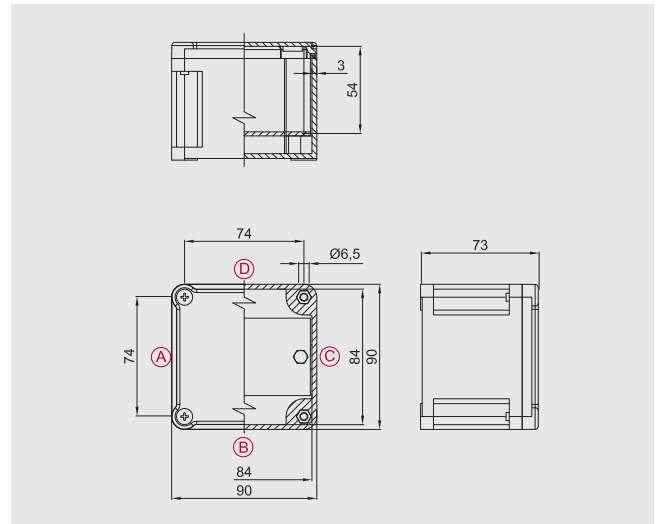
Other:

1 mm-thick brass continuity plates

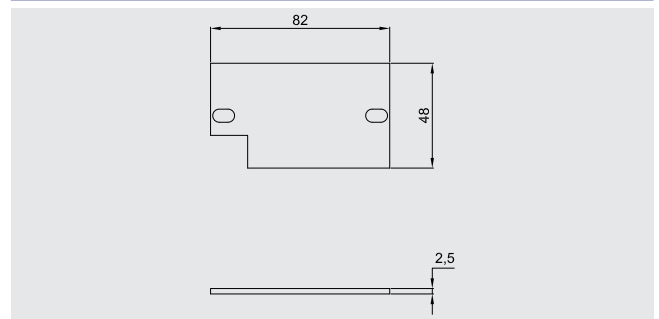
Terminals

Cable glands

Through earth screw



## Internal mounting plate dimensions



## Max. number of terminals

X-SECT.	QTY.
1.5 mm <sup>2</sup>	1x9
2.5 mm <sup>2</sup>	1x7
4 mm <sup>2</sup>	1x6
6 mm <sup>2</sup>	1x5
10 mm <sup>2</sup>	-
16 mm <sup>2</sup>	-
25 mm <sup>2</sup>	-



Eg. 2x22= 2 rows of 22 terminals (total 44 terminals). The maximum number of standard terminals refers to the mounting of CABUR terminals.

The data in the table are given as a rough guide only based solely on the size of the enclosures and the space taken up by the terminals.

## Number of cable glands

Hole type	A/C	B/D
M16	1	1
M20	1	1
M25	1	1
M32	-	-
M40	-	-
M50	-	-
M63	-	-



As required by the current standard, holes can be drilled by Cortem or by authorized partners who hold a production notification in accordance with ATEX Directive .

Research conducted using Cortem's new NAV and NEV series cable glands.

# SA-...P series Polyester junction boxes (Ex e) and (Ex i)



Zone 1,2,21,22.  
Degree of protection IP66.  
Polyester body and lid.  
Silicone gasket.  
Stainless steel bolts and screws.  
Impact protection IK10.

## Ordering details

Standard polyester enclosure: **SA111108/P**

Width/Depth/Height: **110/110/83mm**

## Certification data for enclosures with terminals

Group II Category 2GD

Zone 1- Zone 2 (Gas) Zone 21 - Zone 22 (Dust)

II 2GD Ex eb IIC T.. Gb - Ex tb IIIC T.. Db IP66

II 2GD Ex ia IIC T.. Gb - Ex ia IIIC T.. Db IP66

II 2GD Ex eb ia IIC T.. Gb - Ex tb ia IIIC T.. Db IP66

Ambient temperature: -40°C +55°C (+40°C)

Certification:

CESI 03 ATEX 333 (ATEX)

IEC Ex CES 13.0001 (IECEX)

Russian (TR CU)

Brasilian (INMETRO)

## Accessories

Internal mounting plate:	CODE
2.5mm-thick aluminium:	<b>B11-229</b>
2.5mm-thick galvanized steel:	<b>B11-229AC</b>
2.5mm-thick stainless steel:	<b>B11-229IN</b>
Hinges (two each type):	<b>B-0105</b>
Breather and drain valve:	<b>ECD-210S</b>

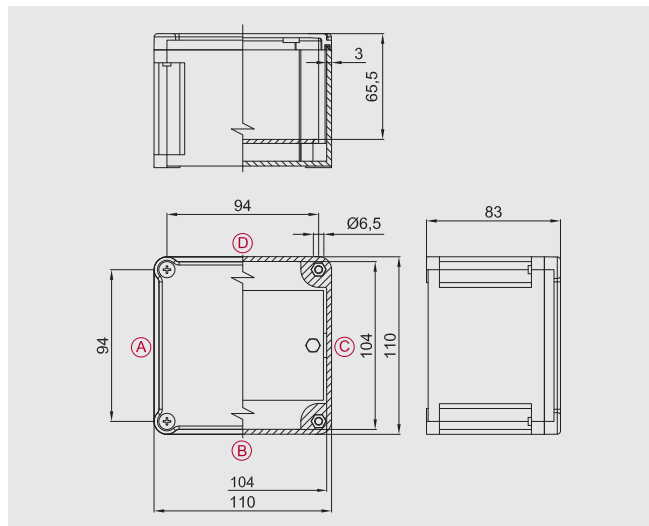
Other:

1mm-thick brass continuity plates

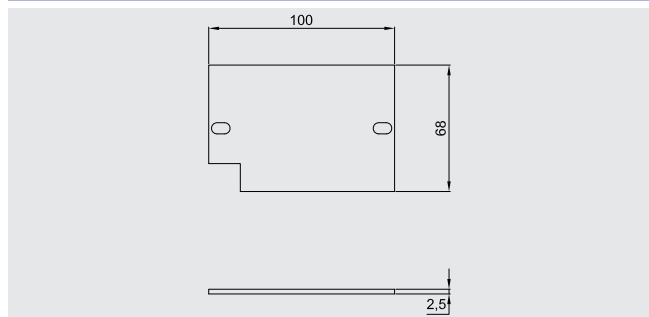
Terminals

Cable glands

Through earth screw



## Internal mounting plate dimensions



## Max. number of terminals

X-SECT.	QTY.
1.5 mm <sup>2</sup>	1x13
2.5 mm <sup>2</sup>	1x10
4 mm <sup>2</sup>	1x8
6 mm <sup>2</sup>	1x7
10 mm <sup>2</sup>	1x5
16 mm <sup>2</sup>	-
25 mm <sup>2</sup>	-



Eg. 2x22= 2 rows of 22 terminals (total 44 terminals). The maximum number of standard terminals refers to the mounting of CABUR terminals.

The data in the table are given as a rough guide only based solely on the size of the enclosures and the space taken up by the terminals.

## Number of cable glands

Hole type	A/C	B/D
M16	3	3
M20	2	2
M25	1	1
M32	1	1
M40	-	-
M50	-	-
M63	-	-



As required by the current standard, holes can be drilled by Cortem or by authorized partners who hold a production notification in accordance with ATEX Directive .

Research conducted using Cortem's new NAV and NEV series cable glands.

## SA-...P series Polyester junction boxes (Ex e) and (Ex i)



Zone 1,2,21,22.  
Degree of protection IP66.  
Polyester body and lid.  
Silicone gasket.  
Stainless steel bolts and screws.  
Impact protection IK10.

### Ordering details

Standard polyester enclosure: **SA171108/P**

Width/Depth/Height: **170/110/83mm**

### Certification data for enclosures with terminals

Group II Category 2GD

Zone 1 - Zone 2 (Gas) Zone 21 - Zone 22 (Dust)

II 2GD Ex eb IIC T.. Gb - Ex tb IIIC T.. Db IP66

II 2GD Ex ia IIC T.. Gb - Ex ia IIIC T.. Db IP66

II 2GD Ex eb ia IIC T.. Gb - Ex tb ia IIIC T.. Db IP66

Ambient temperature: -40°C +55°C (+40°C)

Certification:

CESI 03 ATEX 333 (ATEX)

IEC Ex CES 13.0001 (IECEX)

Russian (TR CU)

Brasilian (INMETRO)

### Accessories

Internal mounting plate:	CODE
2.5mm-thick aluminium:	<b>B17-229</b>
2.5mm-thick galvanized steel:	<b>B17-229AC</b>
2.5mm-thick stainless steel:	<b>B17-229IN</b>
Hinges (two each type):	<b>B-0105</b>
Breather and drain valve:	<b>ECD-210S</b>

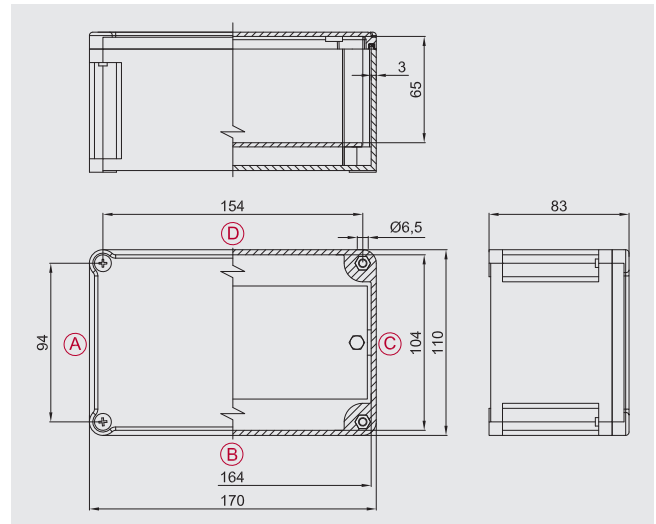
Other:

1 mm-thick brass continuity plates

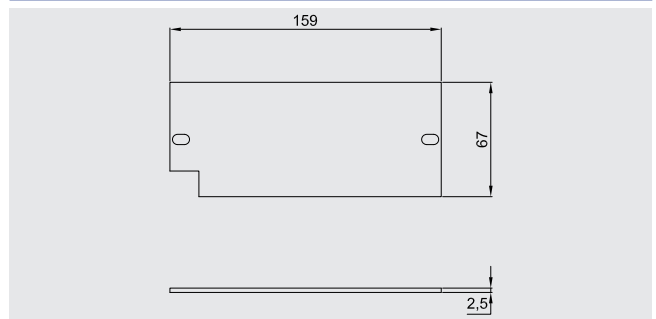
Terminals

Cable glands

Through earth screw



### Internal mounting plate dimensions



### Max. number of terminals

X-SECT.	QTY.
1.5 mm <sup>2</sup>	1x27
2.5 mm <sup>2</sup>	1x21
4 mm <sup>2</sup>	1x17
6 mm <sup>2</sup>	1x14
10 mm <sup>2</sup>	1x11
16 mm <sup>2</sup>	1x9
25 mm <sup>2</sup>	-



Eg. 2x22= 2 rows of 22 terminals (total 44 terminals). The maximum number of standard terminals refers to the mounting of CABUR terminals.

The data in the table are given as a rough guide only based solely on the size of the enclosures and the space taken up by the terminals.

### Number of cable glands

Hole type	A/C	B/D
M16	3	8
M20	2	5
M25	1	3
M32	1	2
M40	-	-
M50	-	-
M63	-	-



As required by the current standard, holes can be drilled by Cortem or by authorized partners who hold a production notification in accordance with ATEX Directive.

Research conducted using Cortem's new NAV and NEV series cable glands.

## SA...P series Polyester junction boxes (Ex e) and (Ex i)



Zone 1,2,21,22.  
Degree of protection IP66.  
Polyester body and lid.  
Silicone gasket.  
Stainless steel bolts and screws.  
Impact protection IK10.

### Ordering details

Standard polyester enclosure: **SA141410/P**

Width/Depth/Height: **147/147/100mm**

### Certification data for enclosures with terminals

Group II Category 2GD

Zone 1- Zone 2 (Gas) Zone 21 - Zone 22 (Dust)

II 2GD Ex eb IIC T.. Gb - Ex tb IIIC T.. Db IP66

II 2GD Ex ia IIC T.. Gb - Ex ia IIIC T.. Db IP66

II 2GD Ex eb ia IIC T.. Gb - Ex tb ia IIIC T.. Db IP66

Ambient temperature: -40°C +55°C (+40°C)

Certification:

CESI 03 ATEX 333 (ATEX)

IEC Ex CES 13.0001 (IECEX)

Russian (TR CU)

Brasilian (INMETRO)

### Accessories

Internal mounting plate:	CODE
2.5mm-thick aluminium:	<b>B14-229</b>
2.5mm-thick galvanized steel:	<b>B14-229AC</b>
2.5mm-thick stainless steel:	<b>B14-229IN</b>
Hinges (two each type):	<b>B-0105</b>
Breather and drain valve:	<b>ECD-210S</b>

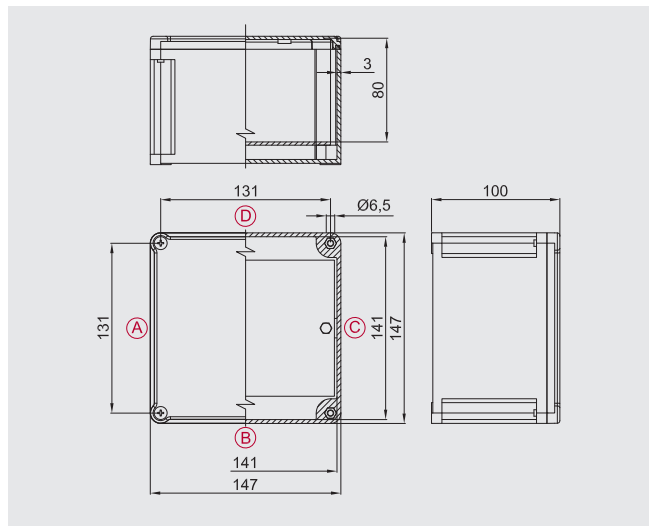
Other:

1mm-thick brass continuity plates

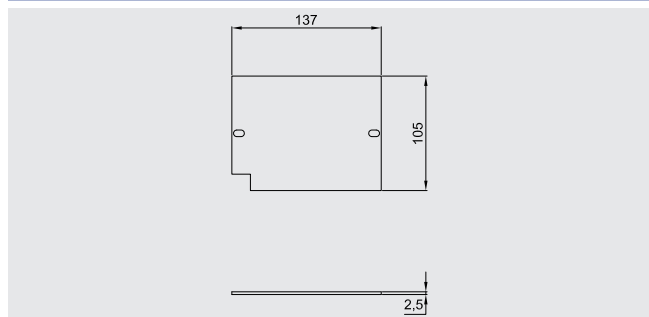
Terminals

Cable glands

Through earth screw



### Internal mounting plate dimensions



### Max. number of terminals

X-SECT.	QTY.
1.5 mm <sup>2</sup>	1x22
2.5 mm <sup>2</sup>	1x16
4 mm <sup>2</sup>	1x14
6 mm <sup>2</sup>	1x11
10 mm <sup>2</sup>	1x9
16 mm <sup>2</sup>	1x7
25 mm <sup>2</sup>	-
70 mm <sup>2</sup>	-
120 mm <sup>2</sup>	-



Eg. 2x22= 2 rows of 22 terminals (total 44 terminals). The maximum number of standard terminals refers to the mounting of CABUR terminals.

The data in the table are given as a rough guide only based solely on the size of the enclosures and the space taken up by the terminals.

### Number of cable glands

Hole type	A/C	B/D
M16	6	6
M20	6	6
M25	3	3
M32	2	2
M40	1	1
M50	-	-
M63	-	-



As required by the current standard, holes can be drilled by Cortem or by authorized partners who hold a production notification in accordance with ATEX Directive .

Research conducted using Cortem's new NAV and NEV series cable glands.

# SA-...P series Polyester junction boxes (Ex e) and (Ex i)



Zone 1,2,21,22.  
Degree of protection IP66.  
Polyester body and lid.  
Silicone gasket.  
Stainless steel bolts and screws.  
Impact protection IK10.

## Ordering details

Standard polyester enclosure: **SA301410/P**

Width/Depth/Height: **305/147/110mm**

## Certification data for enclosures with terminals

Group II Category 2GD

Zone 1 - Zone 2 (Gas) Zone 21 - Zone 22 (Dust)

II 2GD Ex eb IIC T.. Gb - Ex tb IIIC T.. Db IP66

II 2GD Ex ia IIC T.. Gb - Ex ia IIIC T.. Db IP66

II 2GD Ex eb ia IIC T.. Gb - Ex tb ia IIIC T.. Db IP66

Ambient temperature: -40°C +55°C (+40°C)

Certification:

CESI 03 ATEX 333 (ATEX)

IEC Ex CES 13.0001 (IECEX)

Russian (TR CU)

Brasilian (INMETRO)

## Accessories

Internal mounting plate:	CODE
2.5mm-thick aluminium:	<b>B31-229</b>
2.5mm-thick galvanized steel:	<b>B31-229AC</b>
2.5mm-thick stainless steel:	<b>B31-229IN</b>
Hinges (two each type):	<b>B-0106</b>
Breather and drain valve:	<b>ECD-210S</b>

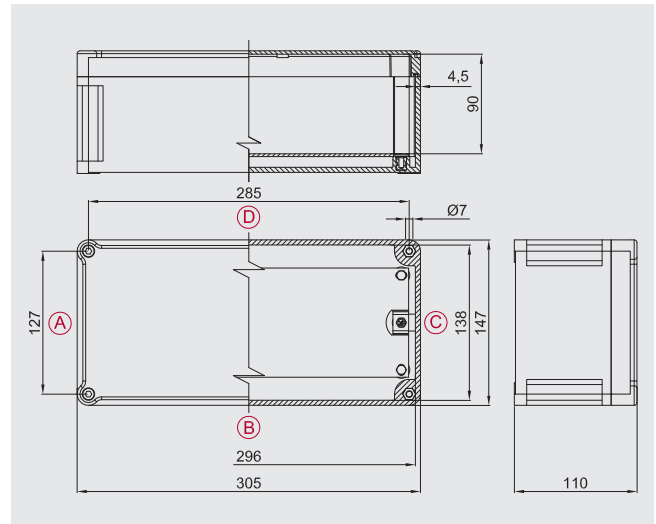
Other:

1 mm-thick brass continuity plates

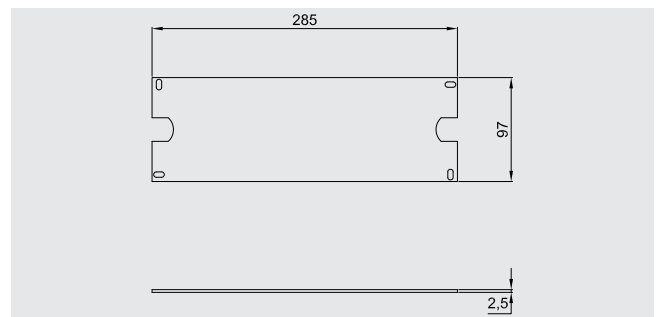
Terminals

Cable glands

Through earth screw



## Internal mounting plate dimensions



## Max. number of terminals

X-SECT.	QTY.
1,5 mm <sup>2</sup>	1x57
2,5 mm <sup>2</sup>	1x44
4 mm <sup>2</sup>	1x37
6 mm <sup>2</sup>	1x30
10 mm <sup>2</sup>	1x24
16 mm <sup>2</sup>	1x20
25 mm <sup>2</sup>	1x15



Eg. 2x22= 2 rows of 22 terminals (total 44 terminals). The maximum number of standard terminals refers to the mounting of CABUR terminals.

The data in the table are given as a rough guide only based solely on the size of the enclosures and the space taken up by the terminals.

## Number of cable glands

Hole type	A/C	B/D
M16	6	14
M20	4	12
M25	3	9
M32	2	5
M40	1	4
M50	1	3
M63	-	-



As required by the current standard, holes can be drilled by Cortem or by authorized partners who hold a production notification in accordance with ATEX Directive .

Research conducted using Cortem's new NAV and NEV series cable glands.

# SA-...P series Polyester junction boxes (Ex e) and (Ex i)



Zone 1,2,21,22.  
Degree of protection IP66.  
Polyester body and lid.  
Silicone gasket.  
Stainless steel bolts and screws.  
Impact protection IK10.

## Ordering details

Standard polyester enclosure: **SA302310/P**

Width/Depth/Height: **305/230/110mm**

## Certification data for enclosures with terminals

Group II Category 2GD

Zone 1- Zone 2 (Gas) Zone 21 - Zone 22 (Dust)

II 2GD Ex eb IIC T.. Gb - Ex tb IIIC T.. Db IP66

II 2GD Ex ia IIC T.. Gb - Ex ia IIIC T.. Db IP66

II 2GD Ex eb ia IIC T.. Gb - Ex tb ia IIIC T.. Db IP66

Ambient temperature: -40°C +55°C (+40°C)

Certification:

CESI 03 ATEX 333 (ATEX)

IEC Ex CES 13.0001 (IECEX)

Russian (TR CU)

Brasilian (INMETRO)

## Accessories

Internal mounting plate:	CODE
2.5mm-thick aluminium:	<b>B32-229</b>
2.5mm-thick galvanized steel:	<b>B32-229AC</b>
2.5mm-thick stainless steel:	<b>B32-229IN</b>
Hinges (two each type):	<b>B-0106</b>
Breather and drain valve:	<b>ECD-210S</b>

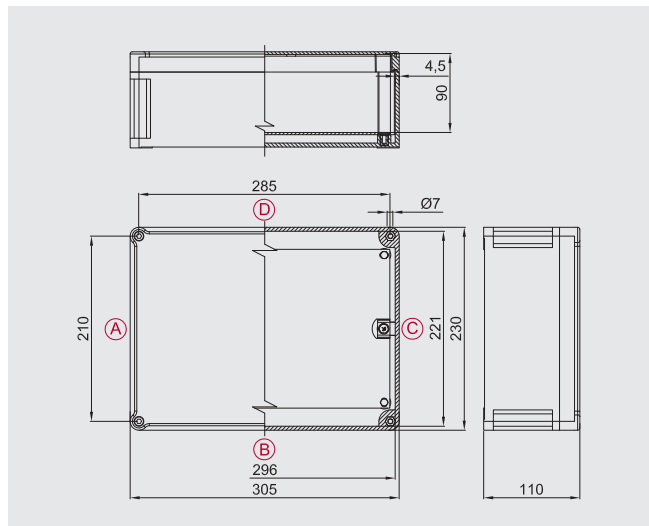
Other:

1mm-thick brass continuity plates

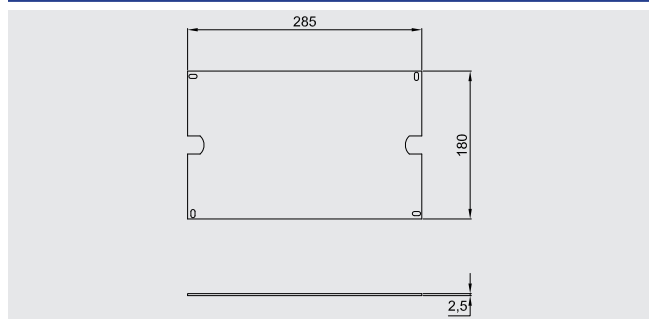
Terminals

Cable glands

Through earth screw



## Internal mounting plate dimensions



## Max. number of terminals

X-SECT.	QTY.
1,5 mm <sup>2</sup>	2x58
2,5 mm <sup>2</sup>	2x44
4 mm <sup>2</sup>	2x37
6 mm <sup>2</sup>	2x30
10 mm <sup>2</sup>	2x24
16 mm <sup>2</sup>	2x20
25 mm <sup>2</sup>	2x15



Eg. 2x22= 2 rows of 22 terminals (total 44 terminals). The maximum number of standard terminals refers to the mounting of CABUR terminals.

The data in the table are given as a rough guide only based solely on the size of the enclosures and the space taken up by the terminals.

## Number of cable glands

Hole type	A/C	B/D
M16	10	14
M20	10	12
M25	4	9
M32	3	5
M40	3	4
M50	-	-
M63	-	-



As required by the current standard, holes can be drilled by Cortem or by authorized partners who hold a production notification in accordance with ATEX Directive .

Research conducted using Cortem's new NAV and NEV series cable glands.

## SA-...P series Polyester junction boxes (Ex e) and (Ex i)



Zone 1,2,21,22.  
Degree of protection IP66.  
Polyester body and lid.  
Silicone gasket.  
Stainless steel bolts and screws.  
Impact protection IK10.

### Ordering details

Standard polyester enclosure: **SA302318/P**

Width/Depth/Height: **305/230/190mm**

### Certification data for enclosures with terminals

Group II Category 2GD

Zone 1 - Zone 2 (Gas) Zone 21 - Zone 22 (Dust)

II 2GD Ex eb IIC T.. Gb - Ex tb IIIC T.. Db IP66

II 2GD Ex ia IIC T.. Gb - Ex ia IIIC T.. Db IP66

II 2GD Ex eb ia IIC T.. Gb - Ex tb ia IIIC T.. Db IP66

Ambient temperature: -40°C +55°C (+40°C)

Certification:

CESI 03 ATEX 333 (ATEX)

IEC Ex CES 13.0001 (IECEX)

Russian (TR CU)

Brasilian (INMETRO)

### Accessories

Internal mounting plate:	CODE
2.5mm-thick aluminium:	<b>B32-229</b>
2.5mm-thick galvanized steel:	<b>B32-229AC</b>
2.5mm-thick stainless steel:	<b>B32-229IN</b>
Hinges (two each type):	<b>B-0106</b>
Breather and drain valve:	<b>ECD-210S</b>

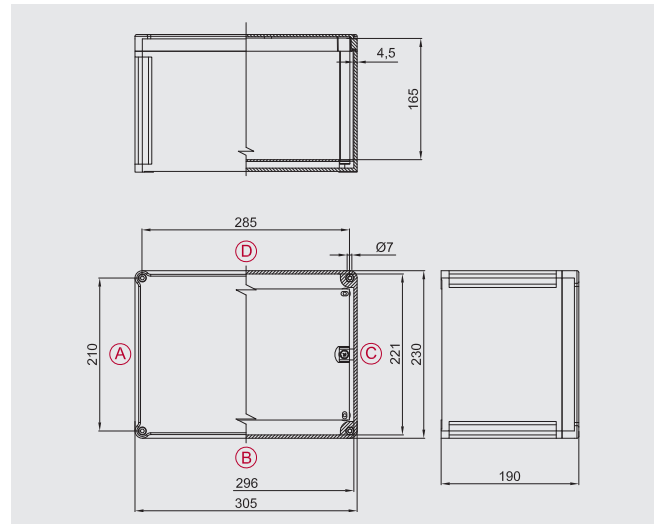
Other:

1 mm-thick brass continuity plates

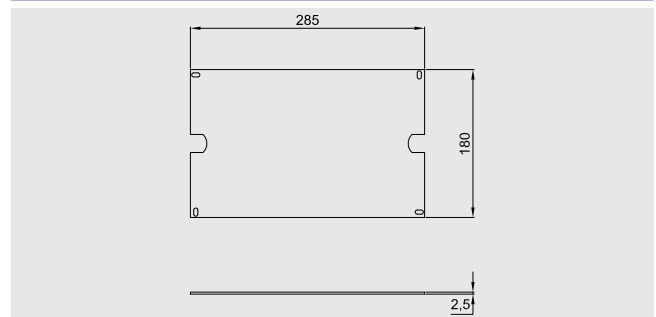
Terminals

Cable glands

Through earth screw



### Internal mounting plate dimensions



### Max. number of terminals

X-SECT.	QTY.
1.5 mm <sup>2</sup>	2x58
2.5 mm <sup>2</sup>	2x44
4 mm <sup>2</sup>	2x37
6 mm <sup>2</sup>	2x30
10 mm <sup>2</sup>	2x24
16 mm <sup>2</sup>	2x20
25 mm <sup>2</sup>	2x15



Eg. 2x22= 2 rows of 22 terminals (total 44 terminals). The maximum number of standard terminals refers to the mounting of CABUR terminals.

The data in the table are given as a rough guide only based solely on the size of the enclosures and the space taken up by the terminals.

### Number of cable glands

Hole type	A/C	B/D
M20	18	24
M25	12	18
M32	9	14
M40	6	8
M50	4	6
M63	2	3



As required by the current standard, holes can be drilled by Cortem or by authorized partners who hold a production notification in accordance with ATEX Directive .

Research conducted using Cortem's new NAV and NEV series cable glands.

# SA-...P series Polyester junction boxes (Ex e) and (Ex i)



Zone 1,2,21,22.  
 Degree of protection IP66.  
 Polyester body and lid.  
 Silicone gasket.  
 Stainless steel bolts and screws.  
 Impact protection IK10.

## Ordering details

Standard polyester enclosure:	<b>SA473018/P</b>
Width/Depth/Height:	<b>470/305/195mm</b>

## Certification data for enclosures with terminals

Group II Category 2GD
Zone 1- Zone 2 (Gas) Zone 21 - Zone 22 (Dust)
II 2GD Ex eb IIC T.. Gb - Ex tb IIIC T.. Db IP66
II 2GD Ex ia IIC T.. Gb - Ex ia IIIC T.. Db IP66
II 2GD Ex eb ia IIC T.. Gb - Ex tb ia IIIC T.. Db IP66
Ambient temperature: -40°C +55°C (+40°C)

Certification:

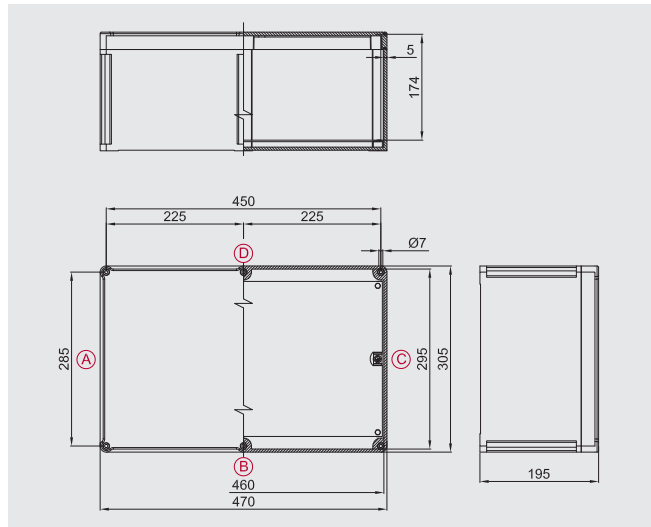
CESI 03 ATEX 333	(ATEX)
IEC Ex CES 13.0001	(IECEX)
Russian	(TR CU)
Brasilian	(INMETRO)

## Accessories

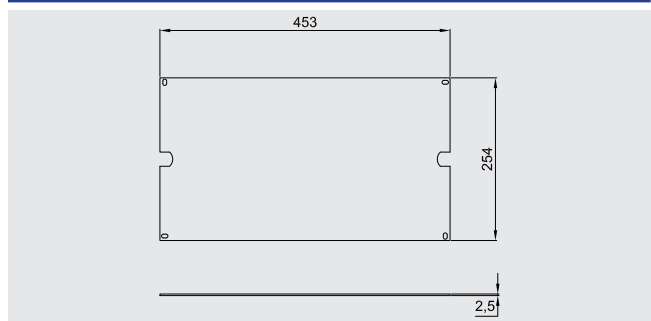
Internal mounting plate:	<b>CODE</b>
2.5mm-thick aluminium:	<b>B43-229</b>
2.5mm-thick galvanized steel:	<b>B43-229AC</b>
2.5mm-thick stainless steel:	<b>B43-229IN</b>
Hinges (two each type):	<b>B-0106</b>
Breather and drain valve:	<b>ECD-210S</b>

Other:

- 1mm-thick brass continuity plates
- Terminals
- Cable glands
- Through earth screw



## Internal mounting plate dimensions



## Max. number of terminals

X-SECT.	QTY.
1.5 mm <sup>2</sup>	2x97
2.5 mm <sup>2</sup>	2x74
4 mm <sup>2</sup>	2x63
6 mm <sup>2</sup>	2x51
10 mm <sup>2</sup>	2x41
16 mm <sup>2</sup>	2x34
25 mm <sup>2</sup>	2x25



Eg. 2x22= 2 rows of 22 terminals (total 44 terminals). The maximum number of standard terminals refers to the mounting of CABUR terminals. The data in the table are given as a rough guide only based solely on the size of the enclosures and the space taken up by the terminals.

## Number of cable glands

Hole type	A/C	B/D
M20	24	36
M25	18	24
M32	14	18
M40	8	12
M50	8	12
M63	3	4



As required by the current standard, holes can be drilled by Cortem or by authorized partners who hold a production notification in accordance with ATEX Directive .

Research conducted using Cortem's new NAV and NEV series cable glands.



## SA-...P series Polyester junction boxes (Ex e) and (Ex i)



Zone 1,2,21,22.  
Degree of protection IP66.  
Polyester body and lid.  
Silicone gasket.  
Stainless steel bolts and screws.  
Impact protection IK10.

### Ordering details

Standard polyester enclosure: **SA623018/P**

Width/Depth/Height: **620/305/185mm**

### Certification data for enclosures with terminals

Group II Category 2GD

Zone 1 - Zone 2 (Gas) Zone 21 - Zone 22 (Dust)

II 2GD Ex eb IIC T.. Gb - Ex tb IIIC T.. Db IP66

II 2GD Ex ia IIC T.. Gb - Ex ia IIIC T.. Db IP66

II 2GD Ex eb ia IIC T.. Gb - Ex tb ia IIIC T.. Db IP66

Ambient temperature: -40°C +55°C (+40°C)

Certification:

CESI 03 ATEX 333 (ATEX)

IEC Ex CES 13.0001 (IECEX)

Russian (TR CU)

Braslian (INMETRO)

### Accessories

Internal mounting plate:	CODE
2.5mm-thick aluminium:	<b>B64-229</b>
2.5mm-thick galvanized steel:	<b>B64-229AC</b>
2.5mm-thick stainless steel:	<b>B64-229IN</b>
Hinges (two each type):	<b>B-0106</b>
Breather and drain valve:	<b>ECD-210S</b>

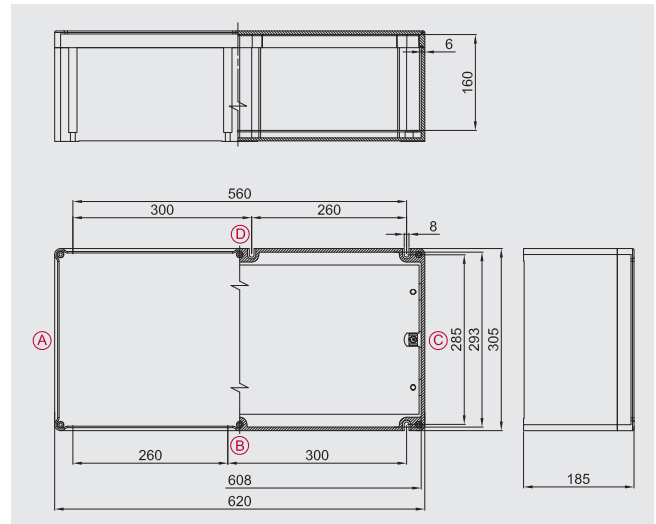
Other:

1 mm-thick brass continuity plates

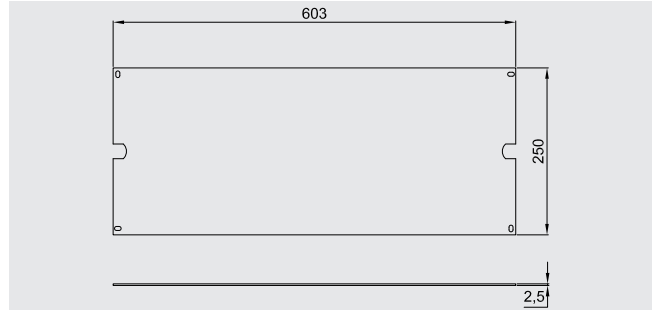
Terminals

Cable glands

Through earth screw



### Internal mounting plate dimensions



### Max. number of terminals

X-SECT.	QTY.
1,5 mm <sup>2</sup>	2x133
2,5 mm <sup>2</sup>	2x101
4 mm <sup>2</sup>	2x86
6 mm <sup>2</sup>	2x70
10 mm <sup>2</sup>	2x56
16 mm <sup>2</sup>	2x46
25 mm <sup>2</sup>	2x35



Eg. 2x22= 2 rows of 22 terminals (total 44 terminals). The maximum number of standard terminals refers to the mounting of CABUR terminals.

The data in the table are given as a rough guide only based solely on the size of the enclosures and the space taken up by the terminals.

### Number of cable glands

Hole type	A/C	B/D
M20	24	48
M25	18	36
M32	14	28
M40	8	16
M50	8	12
M63	3	6



As required by the current standard, holes can be drilled by Cortem or by authorized partners who hold a production notification in accordance with ATEX Directive.

Research conducted using Cortem's new NAV and NEV series cable glands.

# Features of junction boxes for control, monitoring and signalling units

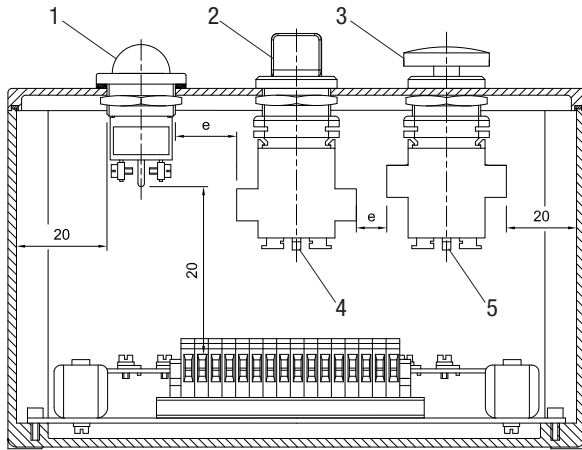


Control, monitoring and signalling units are used to produce control boards that, when positioned near the electrical equipment being controlled, enable the electrical system to operate correctly and guarantee the safety of personnel when maintenance is being performed on the system. Because they are fitted with a Manual/Automatic selector, they allow operators to select the appropriate conditions to enable work to be performed entirely safely. They offer protection and control for electrical equipment and control circuits located in explosion hazard areas and in particularly aggressive environments. They are used to hold electrical equipment, such as switches, indicators, contactors, transformers, analogue and digital components, etc.... with the option of external control by using lid-mounted Cortem control and signalling devices, such as control levers, pushbuttons, indicator lights, etc.... Cortem designs, develops and supplies full cabling for one or more enclosures tailored to your specific requirements, producing panel boards - including even extremely complex solutions - and providing a full inspection and testing service on request.

## ELECTRICAL FEATURES

<b>Rated voltage:</b>	600 V ac/dc
<b>Max. current on contacts:</b>	16 A
<b>Rated frequency:</b>	50 / 60Hz

### MINIMUM DISTANCES BETWEEN CORTEM Ex e CONTACTS (e.g. with reference to CESI 03 ATEX 115 certificate)



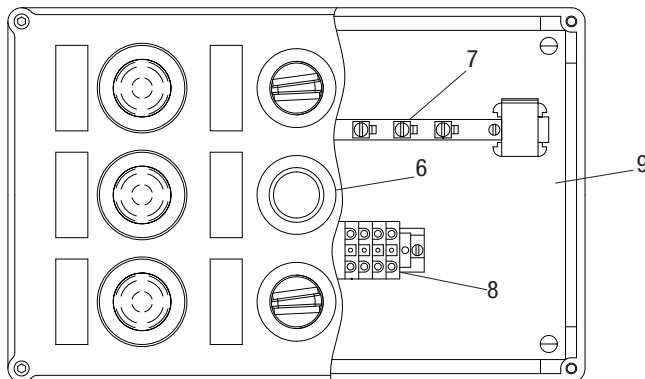
#### Key:

1. indicator light M-0612
2. rotating selector M-0604
3. emergency stop pushbutton M-0605
4. contact block M-0530
5. contact block M-0531
6. pushbutton M-0603
7. earth bar
8. terminals
9. internal mounting plate

#### Notes:

- "e">12mm: standard version.  
Suitable for voltage U<800V
- "e">5mm: special versions.  
Suitable for voltage U<250V

When determining enclosure size, what holes are drilled and what devices can be installed, we also need to take into account the space required for internal wiring and running the cables.

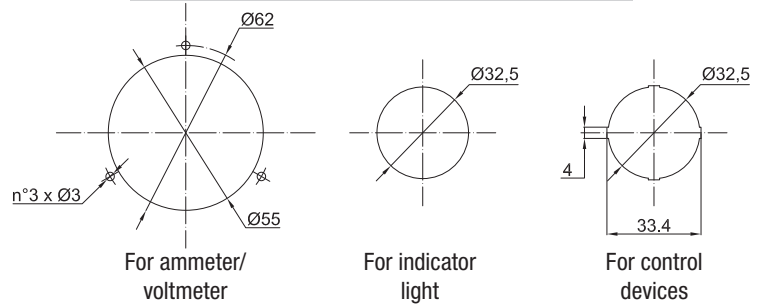


# Features of junction boxes for control, monitoring and signalling units

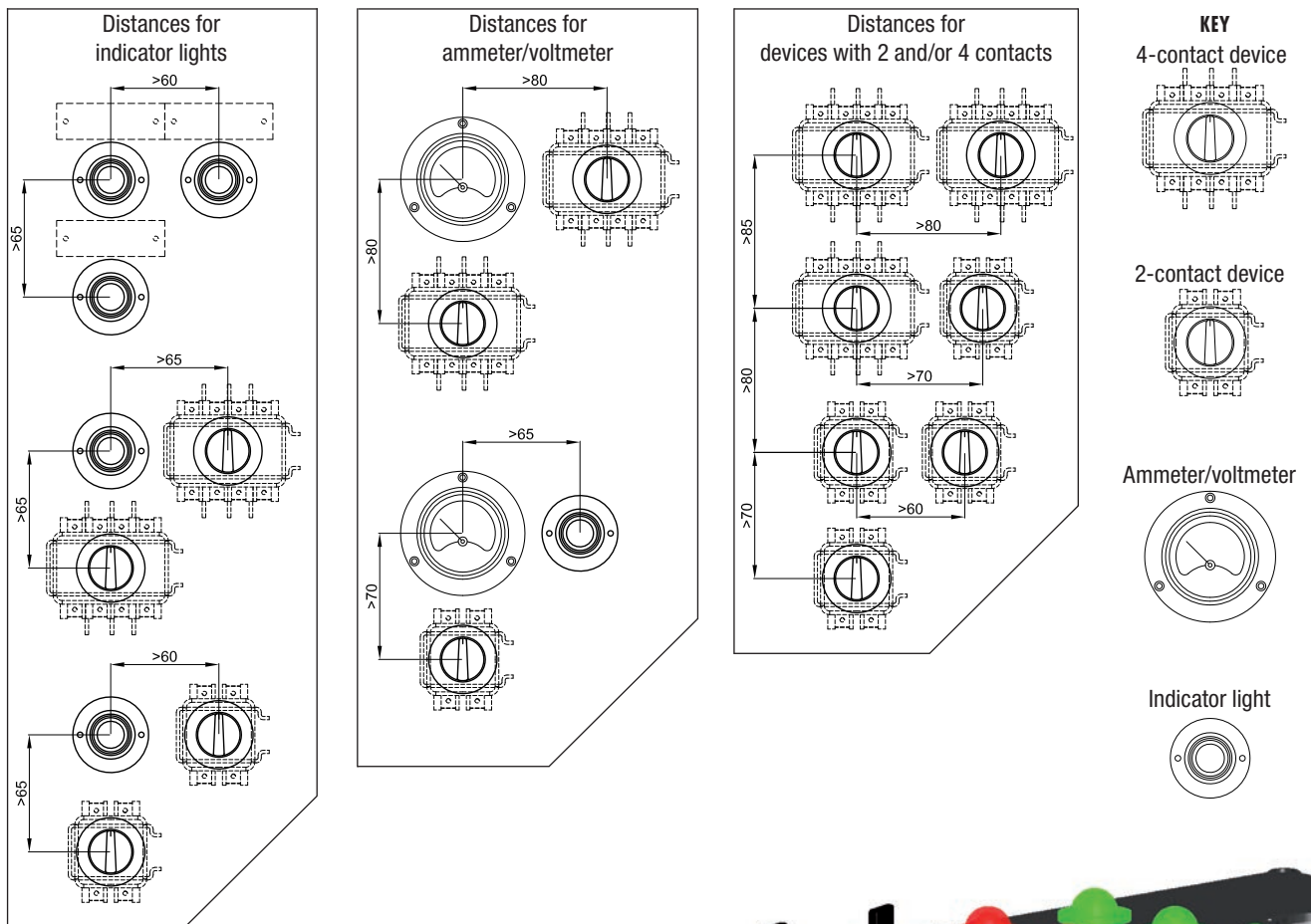
TYPE OF ENCLOSURE	Drilling area mm
SA090907/P	70x70
SA111108/P	90x90
SA171108/P	90x150
SA141410/P	127x127
SA301410/P	127x285
SA302310/P	210x285
SA302318/P	210x285
SA473018/P	285x450
SA623018/P	596x280



TYPE OF HOLES DRILLED



## MINIMUM DISTANCES BETWEEN CORTEM Ex e DEVICES FOR PUSHBUTTON CONTROL STATIONS



### Notes:

Minimum distances between devices worked out for use of standard 60x20 plates.

Option of using up to 4 contacts per device for pushbutton M-0603 and selector M-0604.

Option of using up to 2 contacts per device for emergency stop pushbutton M-0605.

For more information, refer to the Ex e control, monitoring and signalling devices chapter.

