

ATX™ JBEA and ECEA Series Aluminum Enclosures

Increased Safety

ATEX/IECEx: Zones 1 and 2 – 21 and 22

Applications

- Designed for use in Zone 1 or 2 areas where flammable gases or vapors are present either continuously or intermittently.
- Ideal for use in wet or corrosive atmospheres.
- Petroleum, chemical, refineries and other industrial process facilities.
- Designed for use in Zone 21 or 22 areas where flammable dusts are present either continuously or intermittently.
- Food processing, dairy, brewing and other commercial facilities.
- JBEA Series:
 - Terminal junction boxes for electrical low voltage and instrumentation connections in hazardous areas.
 - Refer to technical data to define permitted number of terminal blocks and cable entries on selected junction boxes.
- ECEA Series:
 - Enclosure for distribution and control applications can be customized at our workshop to house a large range of components; i.e. control units, switches, breakers, transformers, meters, etc.

Features

- Operating temperature:
 - PCe type: -55 °C to +60 °C (-67 °F to 140 °F)
 - CAe type: -40 °C to +55 °C (-40 °F to 131 °F)
- Rail mounting.
- Refer to technical data to define permitted number and size of terminals and cable entries.

Standard Materials

- Enclosure: gray painted grade marine aluminum alloy
- Hardware: stainless steel

Options

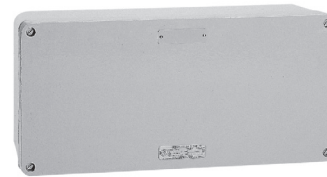
- Nameplates.
- Consult your local sales representative for:
 - Enclosures custom drilled and assembled at our factory.

ATEX/IECEx Certifications and Compliances

- Certification Type: PCe
 - Gas, Zones 1 and 2:
 - Conforming to ATEX 2014/34/EU: Ⓜ II 2 G
 - Type of Protection: Ex e II, Ex ia IIC, Ex ib IIC, Ex de IIC
 - Temperature class: T6 for Ta ≤ +40 °C (+104 °F), T5 for Ta ≤ +60 °C (+140 °F)
 - Dust, Zones 21 and 22:
 - Conforming to ATEX 2014/34/EU: Ⓜ II2 D
 - Type of Protection: Ex tD A21
 - Surface Temperature: T80 °C to T95 °C (T176 °F to T203 °F)
 - Ambient Temperature: -55 °C to +60 °C (-67 °F to +140 °F)
 - ATEX Certificate: LCIE 00 ATEX 6047
 - Index of Protection according EN/IEC 60529: IP66
- Certification Type: CAe
 - Gas, Zones 1 and 2:
 - Conforming to ATEX 2014/34/EU: Ⓜ II 2 G
 - Type of Protection: Ex e II, Ex ia IIC, Ex ib IIC, Ex de IIC
 - Temperature Class: T6 to T2
 - Dust, Zones 21 and 22:
 - Conforming to ATEX 2014/34/EU: Ⓜ II2 D
 - Type of Protection: Ex tD A21
 - Surface Temperature: T80 °C to T290 °C (T176 °F to T554 °F)
 - ATEX Certificate: LCIE 02 ATEX 6248X
 - IECEx Certificate: IECEx LCI 04.0016X
 - Index of Protection according EN/IEC 60529: IP66



PCe Type



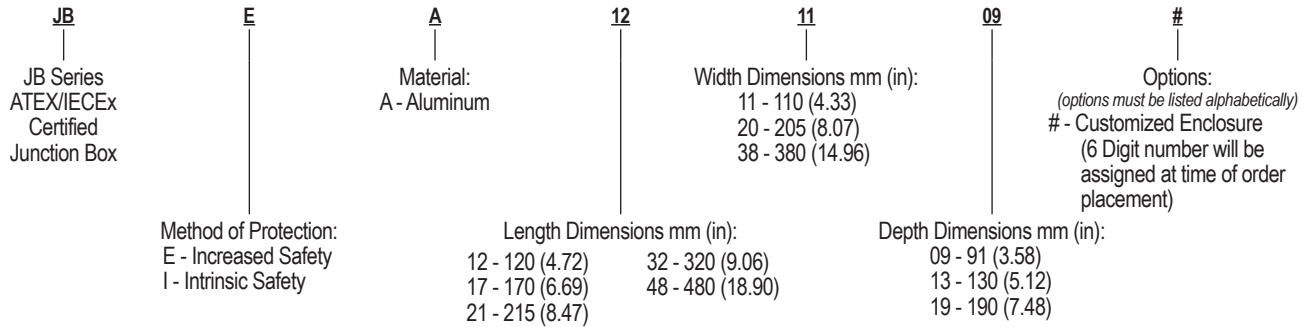
CAe Type

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Catalog Numbering Guide — JBEA Series Aluminum Junction Box



JBEA Series: Ex e II Aluminum Junction Boxes



For use with Ex certified terminals only (not supplied).
Mounting rails supplied.
Yellow laminated plastic label with black lettering.

ECEA Series: Aluminum Enclosure for Distribution and Control Applications




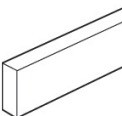

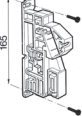
Designed to house a large range of components; i.e. control units, switches, breakers, transformers, meters, etc.
Must be customized at our workshop with the following Catalog Number:
Replace JB with EC, and add last digits and “#” for customized boxes. Example: ECEA 212013 #

Type	Dimensions L x W x D mm (in)	Rail Length Maximum Width mm (in)	Weight kg (lb)	Volume dm³ (in³)	Catalog Number	
					JBEA Series	ECEA Series
PCe1	120.0 x 110.0 x 95.0 (4.72 x 4.33 x 3.74)	94.0 (201.00)	1.0 (2.20)	2.2 (134.25)	JBEA121109	ECEA121109#
PCe2	170.0 x 110.0 x 95.0 (6.69 x 4.33 x 3.74)	144.0 (291.00)	1.3 (2.87)	2.7 (164.76)	JBEA171109	ECEA171109#
PCe3	230.0 x 110.0 x 95.0 (9.10 x 4.33 x 3.74)	204.0 (399.00)	1.6 (3.53)	5.2 (317.32)	JBEA231109	ECEA231109#
CAe1	215.0 x 205.0 x 130.0 (8.47 x 8.07 x 5.12)	191.0 (376.00)	4.0 (8.82)	13.0 (793.30)	JBEA212013	ECEA212013#
CAe2	320.0 x 205.0 x 130.0 (12.60 x 8.07 x 5.12)	293.0 (559.00)	5.0 (11.02)	23.0 (1403.60)	JBEA322013	ECEA322013#
CAe5	480.0 x 380.0 x 190.0 (18.90 x 14.96 x 7.48)	335.0 (635.00)	11.0 (24.25)	53.0 (3234.30)	JBEA483819	ECEA483819#

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Accessories		Enclosure Type	Rail Length mm (in)	Catalog Number	Pack
	Zinc Plated Symmetrical Steel Rail For direct fixing. Set of two 60 mm (2.36") height spacers supplied.	CAe1	191 (7.52)	JBEPDR215	1
		CAe2	293 (11.54)	JBEPDR320	1
	Copper Bar – 12 x 4 mm (0.47 x 0.16") Copper bar not perforated for cable clamps.		Bar Length mm (in)	Catalog Number	Pack
			160 (6.30)	097270	1
			200 (7.87)	097271	1
			310 (12.20)	097272	1
			500 (19.68)	097273	1
	690 (27.17)	097274	1		
	Cable Clamp for Copper Bar – 12 x 4 mm (0.47 x 0.16") 1.5 mm ² to 4 mm ² (0.002 in ² to 0.006 in ²) capacity. 6 mm ² to 16 mm ² (0.009 in ² to 0.025 in ²) capacity.			097203	1
				097204	1
	Insulated Side Support – Set of Two For mounting symmetrical, asymmetrical rails and copper bar 12 x 2 mm (0.47 x 0.08") or 12 x 4 mm (0.47 x 0.16"). See dimensional data page for more details.			096115	1

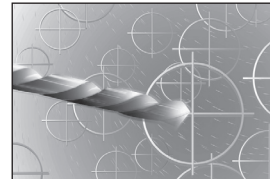
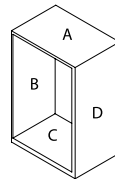
Enclosures and Junction Boxes

JBEA Series for Junction Box Application Only

The size of the junction box needed to meet your requirements can be selected based on the table shown below. We also offer you the possibility to drill and equip, please consult our drilling guide available online at: www.appleton.emerson.com

1. Define maximum cable entries according to number of modules available per side:

Cable Entry Metric Thread	Number of Modules
M20	1
M25	1
M32	1
M40	2
M50	3



Type	Dimensions mm (in)			Number of Modules		Allowable Max. Size	Terminal Dim. H — mm (in)
	Length	Width	Depth	A/C	B/B		
PCe1	120 (4.72)	110 (4.33)	95 (3.74)	2	2	M25	110 (4.33)
PCe2	170 (6.69)	110 (4.33)	95 (3.74)	2	3	M32	110 (4.33)
PCe3	230 (8.46)	110 (4.33)	95 (3.74)	2	4	M32	110 (4.33)
CAe1	215 (8.47)	205 (8.07)	130 (5.12)	11	8	M50	205 (8.07)
CAe2	320 (12.60)	205 (8.07)	130 (5.12)	18	8	M50	205 (8.07)
CAe5	575 (22.64)	380 (14.96)	190 (7.48)	34	25	M50	380 (14.96)

2. Maximum Rail Arrangement According to Physical Dimensions — Maximum Quantity of Horizontal Rails:

Type	Terminal Capacity mm ² (in ²)						
	2.5 (0.0039)	4.0 (0.0062)	6.0 (0.0093)	10.0 (0.0155)	16.0 (0.0248)	35.0 (0.0543)	50.0 (0.0775)
PCe1/2/3	1	1	1	1	0	0	0
CAe1/2	1	1	1	1	1	1	0
CAe5	3	3	2	2	2	1	1

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3. Defining maximum terminal block quantity according to power dissipation:

- Junction boxes used for instrumentation applications have very low current levels, therefore there is no risk of overheating whatever the number of terminals inside the box.
- For applications other than instrumentation, the following tables allow you to define your junction box depending on the number of terminals and the maximum authorized current being carried with feed-through terminals.
- For single feed terminals using cross connection, please consult your local representative for a calculation.

For other terminal block configurations, please consult our drilling guide available online at: www.appleton.emerson.com

		Type		
		CSPe1 120 x 120 x 91 mm (5 x 5 x 4")	CSPe2 120 x 170 x 91 mm (7 x 5 x 4")	CSPe3 120 x 230 x 91 mm (9 x 5 x 4")
T Rating: T6	Quantity	12	22	33
	I Maximum	15 A	13 A	12 A
2.5 mm ² (0.004 in ²)	Quantity	10	18	28
	I Maximum	20 A	19 A	16 A
4.0 mm ² (0.006 in ²)	Quantity	7	14	21
	I Maximum	32 A	27 A	24 A
6.0 mm ² (0.009 in ²)	Quantity	4	6	8
	I Maximum	50 A	50 A	50 A
10.0 mm ² (0.016 in ²)	Quantity			
	I Maximum			

		Type		
		CAe1 200 x 215 x 150 mm (8 x 9 x 6")	CAe2 200 x 320 x 150 mm (8 x 13 x 6")	CAe4 200 x 575 x 150 mm (8 x 23 x 6")
T Rating: T6 @ Ta +40 °C (+104 °F) T5 @ Ta +55° C (+131 °F)	Quantity	20	21	38
	I Maximum	16 A	16 A	16 A
2.5 mm ² (0.004 in ²)	Quantity	19	20	38
	I Maximum	20 A	20 A	20 A
4.0 mm ² (0.006 in ²)	Quantity	12	13	23
	I Maximum	32 A	32 A	32 A
6.0 mm ² (0.009 in ²)	Quantity	10	11	30
	I Maximum	40 A	40 A	32 A
10.0 mm ² (0.016 in ²)	Quantity	8	10	22
	I Maximum	28 A	27 A	26 A
16.0 mm ² (0.024 in ²)	Quantity	8	8	20
	I Maximum	67 A	73 A	60 A
25.0 mm ² (0.039 in ²)	Quantity	8	8	12
	I Maximum	79 A	86 A	100 A
35.0 mm ² (0.054 in ²)	Quantity			
	I Maximum			

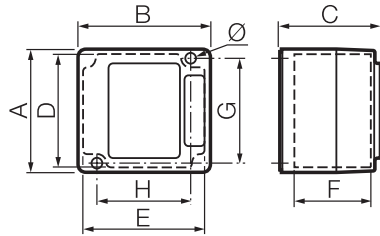
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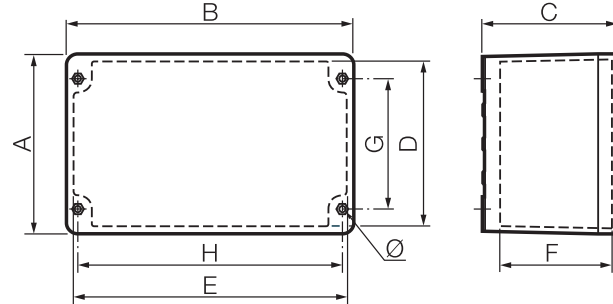
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Dimensions in Millimeters (Inches)

PCe1 to PCe3



CAe1 to CAe5

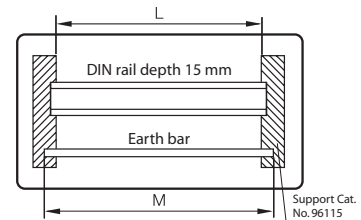
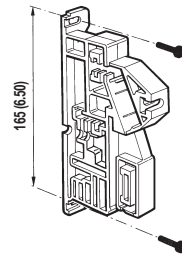


Type	External			Internal			Fixings		Thick	Ø
	A	B	C	D	E	F	G	H		
PCe1	110 (4.33)	120 (4.72)	95 (3.74)	100 (3.94)	110 (4.33)	70 (2.76)	94 (3.70)	84 (3.31)	20 (0.79)	5.0 (0.20)
PCe2	110 (4.33)	170 (6.69)	95 (3.74)	100 (3.94)	160 (6.30)	70 (2.76)	94 (3.70)	134 (5.28)	20 (0.79)	5.0 (0.20)
PCe3	110 (4.33)	230 (9.10)	95 (3.74)	100 (3.94)	220 (8.66)	70 (2.76)	94 (3.70)	194 (7.64)	20 (0.79)	5.0 (0.20)
CAe1	205 (8.07)	215 (8.47)	130 (5.12)	190 (7.48)	200 (7.87)	105 (4.13)	146 (5.75)	186 (7.32)	10 (0.39)	6.5 (0.26)
CAe2	205 (8.07)	320 (12.60)	130 (5.12)	190 (7.48)	305 (12.01)	105 (4.13)	146 (5.75)	290 (11.42)	10 (0.39)	6.5 (0.26)
CAe5	480 (18.90)	380 (14.96)	190 (7.48)	378 (14.88)	279 (10.98)	132 (5.20)	385 (15.16)	285 (11.22)	13 (0.51)	7.0 (0.28)

Insulated Side Support (Rail Holder) 096115

Equipment Capacity

Type	L	M
CAe1	105 (4.13)	129 (5.08)
CAe2	206 (8.11)	234 (9.21)
CAe5	315 (12.40)	345 (13.58)



Support Cat. No. 96115