

JBEA Series Pre-Drilled Aluminum Junction Box

Increased Safety

Zones 1 & 2 – 21 & 22
Gas (G) and Dust (D)

Applications

- Terminal junction boxes to facilitate electrical connections in hazardous areas.
- Designed for use in Zone 1 or 2 areas, where flammable gases or vapors are present either continuously or intermittently.
- Ideal for 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, silos and other facilities.

Features

- For use only with Ex certified terminal blocks.
- Stainless steel hardware.
- Yellow laminated plastic label with black lettering.
- Factory drilled and equipped.

Standard Materials

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

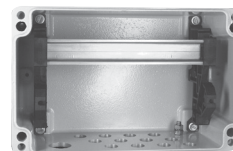
Options

- For use with equipment other than Ex terminal blocks, see ECEA series enclosures and controls.

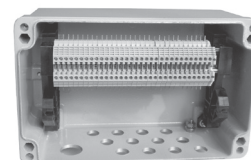
Certifications and Compliances

◆ ATEX or IECEx Certification

- **Certification Type PCe**
 - Gas, Zones 1 and 2:
 - Conforming to ATEX 94/9/CE: Ⓔ II 2 G
 - Type of Protection: Ex e II, Ex eia IIC, Ex eib IIC
 - Temperature class: T6
 - Dust, Zones 21 and 22:
 - Conforming to ATEX 94/9/CE: Ⓔ II 2 D
 - Type of Protection: Ex tD A21
 - Surface Temperature: T80 °C



Without Terminals



Equipped with Terminals

- Ambient Temperature: -55 °C to +60 °C
- CE Declaration of Conformity: 50221
- ATEX Certificate: LCIE 00 ATEX 6047
- Index of Protection according EN/IEC 60529: IP66
- Impact Resistance (shock): IK10

• Certification Type CAe

- Gas, Zones 1 and 2:
 - Conforming to ATEX 94/9/CE: Ⓔ II 2 G
 - Type of Protection: Ex e II, Ex eia IIC, Ex eib IIC
 - Temperature class: T6 for Ta ≤ +40 °C , T5 for ≤ +55 °C
- Dust, Zones 21 and 22:
 - Conforming to ATEX 94/9/CE: Ⓔ II 2 D
 - Type of Protection: Ex tD A21
 - Surface Temperature: T80 °C to T96 °C
- Ambient Temperature: -40 °C to +55 °C
- CE Declaration of Conformity: 50325
- ATEX Certificate: LCIE 02 ATEX 6248X
- IECEx Certificate: IECEx LCI 04.0016X
- Index of Protection according EN/IEC 60529: IP66
- Impact Resistance (shock): IK10

◆ EURASEC Certification

- EURASEC N° TC RU C-FR.Г505.B.00911

Catalog Numbering Guide — JBEA Series Aluminum Junction Box

JBEA	E	A	12	11	09	D1
JB Series ATEX or ATEX/IECEx Certified Junction Box		Material: A - Aluminum		Width Dimensions mm: 11 - 110 20 - 205 38 - 380		Options: (options must be listed alphabetically) As per Drilling Detail Table D1 - 5 x M20 D2 - 4 x M20 + 1 x M25 D3 - 7 x M20 + 1 x M25 D5 - 7 x M20 + 1 x M25 D6 - 12 x M20 + 1 x M32 D7 - 19 x M20 + 1 x M32 D8 - 27 x M20 + 1 x M40 P-- - Unarmored Cable A-- - Armored Cable L-- - Lead Sheath Armored Cable E - Earth Continuity Brass Plate # - Customized Enclosure (Digit number will be assigned at time of order placement)
	Method of Protection: E - Increased Safety I - Intrinsic Safety		Length Dimensions mm: 12 - 120 17 - 170) 21 - 215		Depth Dimensions mm: 09 - 91 13 - 130 19 - 190	

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Factory Drilled Ex e II Aluminum Junction Boxes

Fitted with:
One Yellow laminated plastic label with black lettering.
One horizontal symmetrical zinc plated rail. For use with Ex terminals only (not supplied).
One Internal earth terminal.
One M5 external earth screw.
Cable glands and plugs ordered separately.



Type	Dimensions L x W x D mm	Rail Length Maximum mm	Threaded Holes Per Side				Weight kg	Volume dm ³	Catalog Number
			A	B	C	D			
PCe1	120 x 110 x 95	62	1 x M20	1 x M20	2 x M20	1 x M20	1.0	2.2	JBEA121109D1
PCe2	170 x 110 x 95	112	—	1 x M20	2 x M20 1 x M25	1 x M20	1.3	2.7	JBEA171109D2
PCe3	230 x 110 x 95	172	—	2 x M20	3 x M20 1 x M25	2 x M20	1.6	5.2	JBEA231109D3

Factory Drilled Ex e II Aluminum Junction Boxes for Instrumentation Applications

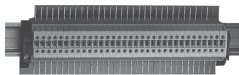
Fitted with:
One Yellow laminated plastic label with black lettering.
Set of two insulated side supports (096115).
One horizontal symmetrical zinc plated rail. For use with Ex terminals only (not supplied).
One M8 external earth crossing terminal.
Cable glands and plugs ordered separately.
Also available for use with copper bar 12 x 2 mm or 12 x 4 mm.



Type	Dimensions L x W x D mm	Cable	Rail Length Maximum mm	Threaded Holes Side C		Weight kg	Volume dm ³	Catalog Number
CAe1	215 x 205 x 130	7 Pairs	221/105	1 x M25	7 x M20	4	13	JBEA212013D5
CAe2	320 x 205 x 130	12 Pairs	403/206	1 x M32	12 x M20	5	23	JBEA322013D6
CAe3	425 x 205 x 130	19 Pairs	590/310	1 x M32	19 x M20	6	33	JBEA422013D7
CAe5	480 x 380 x 190	27 Pairs	599/315	1 x M40	27 x M20	11	53	JBEA483819D8

Factory Assembled Ex Terminal Block for Junction Boxes Shown Above

Screwed/Screwed Terminal Block Fitted with Continuity Shield.



For Junction Boxes	Cable	Terminals 0.5/2.5 mm ² Qty.	Continuity Shield Qty.	Weight kg	Volume dm ³	Catalog Number
215 x 205 x 130	7 Pairs	14	7	0.3	0.5	096039
320 x 205 x 130	12 Pairs	24	12	0.4	1.1	096041
425 x 205 x 130	19 Pairs	38	19	0.5	1.3	096043
480 x 380 x 190	27 Pairs	54	27	0.6	1.7	096044

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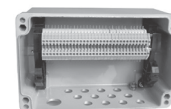
Zones 1 & 2 – 21 & 22
Gas (G) and Dust (D)

Factory Drilled and Equipped with Terminals Ex e II Aluminum Junction Boxes for Instrumentation Applications with Unarmored Cables

Fitted with: Horizontal beige terminal block. Copper bar with cable clamps or continuity shields. Yellow laminated plastic label with black lettering. M16 to M50 threaded entries. Cable glands and plugs ordered separately.



Unarmored cables



Type	Terminal Block 0.5/2.5 mm ² Qty.	Earth Terminal 0.5/2.5 mm ² Qty.	Copper Bar 10 x 3 mm Qty.	Cable Clamp 0.5/2.5 mm ² Qty.	Multi-cable Cable Entry Qty. 1	Single Cable Entries Qty.	Catalog Number
Cable U1000 RO2V — Single Cable Entries M20							
CAe1 07G1.5	7	1	1	5	M20	3	JBEA212013P01
CAe1 12G1.5	12	1	1	8	M25	6	JBEA212013P02
CAe2 19G1.5	19	1	1	11	M25	9	JBEA322013P03
CAe2 24G1.5	24	1	1	14	M32	12	JBEA322013P04
CAe2 27G1.5	27	1	1	15	M32	13	JBEA322013P05
CAe3 37G1.5	37	1	1	20	M32	18	JBEA422013P06
CAe1 07G2.5	7	1	1	5	M20	3	JBEA212013P07
CAe1 12G2.5	12	1	1	8	M25	6	JBEA212013P08
CAe2 19G2.5	19	1	1	11	M32	9	JBEA322013P09
CAe2 24G2.5	24	1	1	14	M32	12	JBEA322013P10
CAe2 27G2.5	27	1	1	15	M32	13	JBEA322013P11
CAe3 37G2.5	37	1	1	20	M40	18	JBEA422013P12
Type	Terminal Block 0.5/2.5 mm ² Qty.	Continuity Shield Qty.			Multi-cable Cable Entry Qty. 1	Single Cable Entries Qty.	Catalog Number
Cable EGSF — Single Cable Entries M16							
CAe1 07IP05	14	7			M20	7	JBEA212013P21
CAe1 07IT05	21	7			M20	7	JBEA212013P22
CAe2 12IP05	24	12			M25	12	JBEA322013P23
CAe2 12IT05	36	12			M25	12	JBEA322013P24
CAe3 19IP05	38	19			M32	19	JBEA422013P25
CAe5 27IP05	54	27			M32	27	JBEA483819P26
CAe1 07IP09	14	7			M25	7	JBEA212013P27
CAe1 07IT09	21	7			M25	7	JBEA212013P28
CAe2 12IP09	24	12			M32	12	JBEA322013P29
CAe2 12IT09	36	12			M32	12	JBEA322013P30
CAe3 19IP09	38	19			M32	19	JBEA422013P31
CAe5 27IP09	54	27			M40	27	JBEA483819P32
Cable EISF — Single Cable Entries M16							
CAe1 07IP05	15	8			M25	7	JBEA212013P41
CAe1 07IT05	22	8			M32	7	JBEA212013P42
CAe2 12IP05	25	13			M32	12	JBEA322013P43
CAe2 12IT05	37	13			M32	12	JBEA322013P44
CAe3 19IP05	39	20			M40	19	JBEA422013P45
CAe5 27IP05	55	28			M40	27	JBEA483819P46
CAe1 07IP09	15	8			M32	7	JBEA212013P47
CAe1 07IT09	22	8			M32	7	JBEA212013P48
CAe2 12IP09	25	13			M40	12	JBEA322013P49
CAe2 12IT09	37	13			M40	12	JBEA322013P50
CAe3 19IP09	29	20			M50	19	JBEA422013P51
CAe5 27IP09	55	28			M50	27	JBEA483819P52

JBEA Series Pre-Drilled Aluminum Junction Box

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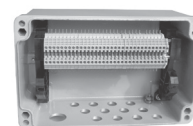
Zones 1 & 2 – 21 & 22
Gas (G) and Dust (D)

Factory Drilled and Equipped with Terminals Ex e II Aluminum Junction Boxes for Instrumentation Applications with Armored Cables

Fitted with: Horizontal beige terminal block. Copper bar with cable clamps or continuity shields. Yellow laminated plastic label with black lettering. Earth continuity brass plate. M8 external earth crossing terminal. M20 to M50 threaded entries. Cable glands and plugs ordered separately.



Armored cables



Type		Terminal Block 0.5/2.5 mm ² Qty.	Earth Terminal 0.5/2.5 mm ² Qty.	Copper Bar 10 x 3 mm Qty.	Cable Clamp 0.5/2.5 mm ² Qty.	Multi-cable Cable Entry Qty. 1	Single Cable Entries Qty.	Catalog Number
Cable U1000 RVFV — Single Cable Entries M20								
CAe1	07G1.5	7	1	1	5	M20	3	JBEA212013A01
CAe1	12G1.5	12	1	1	8	M20	6	JBEA212013A02
CAe2	19G1.5	19	1	1	11	M25	9	JBEA322013A03
CAe2	24G1.5	24	1	1	14	M25	12	JBEA322013A04
CAe2	27G1.5	27	1	1	15	M25	13	JBEA322013A05
CAe3	37G1.5	37	1	1	20	M32	18	JBEA422013A06
CAe1	07G2.5	7	1	1	5	M20	3	JBEA212013A07
CAe1	12G2.5	12	1	1	8	M25	6	JBEA212013A08
CAe2	19G2.5	19	1	1	11	M25	9	JBEA322013A09
CAe2	24G2.5	24	1	1	14	M32	12	JBEA322013A10
CAe2	27G2.5	27	1	1	15	M32	13	JBEA322013A11
CAe3	37G2.5	37	1	1	20	M32	18	JBEA422013A12
Type		Terminal Block 0.5/2.5 mm ² Qty.	Continuity Shield Qty.			Multi-cable Cable Entry Qty. 1	Single Cable Entries Qty.	Catalog Number
Cable EGFA — Single Cable Entries M20								
CAe1	07IP05	14	7			M20	7	JBEA212013A21
CAe1	07IT05	21	7			M20	7	JBEA212013A22
CAe2	12IP05	24	12			M25	12	JBEA322013A23
CAe2	12IT05	36	12			M25	12	JBEA322013A24
CAe3	19IP05	38	19			M25	19	JBEA422013A25
CAe5	27IP05	54	27			M32	27	JBEA483819A26
CAe1	07IP09	14	7			M25	7	JBEA212013A27
CAe1	07IT09	21	7			M25	7	JBEA212013A28
CAe2	12IP09	24	12			M25	12	JBEA322013A29
CAe2	12IT09	36	12			M32	12	JBEA322013A30
CAe3	19IP09	38	19			M32	19	JBEA422013A31
CAe5	27IP09	54	27			M40	27	JBEA483819A32
Cable EIFA — Single Cable Entries M20								
CAe1	07IP05	15	8			M25	7	JBEA212013A41
CAe1	07IT05	22	8			M25	7	JBEA212013A42
CAe2	12IP05	25	13			M32	12	JBEA322013A43
CAe2	12IT05	37	13			M32	12	JBEA322013A44
CAe3	19IP05	39	20			M32	19	JBEA422013A45
CAe5	27IP05	55	28			M40	27	JBEA483819A46
CAe1	07IP09	15	8			M32	7	JBEA212013A47
CAe1	07IT09	22	8			M32	7	JBEA212013A48
CAe2	12IP09	25	13			M40	12	JBEA322013A49
CAe2	12IT09	37	13			M40	12	JBEA322013A50
CAe3	19IP09	39	20			M40	19	JBEA422013A51
CAe5	27IP09	55	28			M50	27	JBEA483819A52

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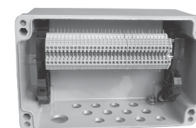
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Factory Drilled and Equipped with Terminals Ex e II Aluminum Junction Boxes for Instrumentation Applications with Lead Sheath Armored Cables

Fitted with: Horizontal beige terminal block. Copper bar with cable clamps or continuity shields. Yellow laminated plastic label with black lettering. Earth continuity brass plate. M8 external earth crossing terminal. M20 to M50 threaded entries. Cable glands and plugs ordered separately.


Armored cables
with lead sheath



Type		Terminal Block 0.5/2.5 mm ² Qty.	Earth Terminal 0.5/2.5 mm ² Qty.	Copper Bar 10 x 3 mm Qty.	Cable Clamp 0.5/2.5 mm ² Qty.	Multi-cable Cable Entry Qty. 1	Single Cable Entries Qty.	Catalog Number
U1000 RGPV – Single Cable Entries M20								
CAe1	07 x 1.5	7	1	1	5	M20	3	JBEA212013L01
CAe1	12 x 1.5	12	1	1	8	M25	6	JBEA212013L02
CAe2	19 x 1.5	19	1	1	11	M25	9	JBEA322013L03
CAe2	24 x 1.5	24	1	1	14	M32	12	JBEA322013L04
CAe2	27 x 1.5	27	1	1	15	M32	13	JBEA322013L05
CAe3	37 x 1.5	37	1	1	20	M32	18	JBEA422013L06
CAe1	07 x 2.5	7	1	1	5	M20	3	JBEA212013L07
CAe1	12 x 2.5	12	1	1	8	M25	6	JBEA212013L08
CAe2	19 x 2.5	19	1	1	11	M32	9	JBEA322013L09
CAe2	24 x 2.5	24	1	1	14	M32	12	JBEA322013L10
CAe2	27 x 2.5	27	1	1	15	M32	13	JBEA322013L11
CAe3	37 x 2.5	37	1	1	20	M40	18	JBEA422013L12
Type		Terminal Block 0.5/2.5 mm ² Qty.	Continuity Shield Qty.			Multi-cable Cable Entry Qty. 1	Single Cable Entries Qty.	Catalog Number
Cable EGPF – Single Cable Entries M20								
CAe1	07IP05	14	7			M20	7	JBEA212013L21
CAe1	07IT05	21	7			M20	7	JBEA212013L22
CAe2	12IP05	24	12			M25	12	JBEA322013L23
CAe2	12IT05	36	12			M25	12	JBEA322013L24
CAe3	19IP05	38	19			M25	19	JBEA422013L25
CAe5	27IP05	54	27			M32	27	JBEA483819L26
CAe1	07IP09	14	7			M25	7	JBEA212013L27
CAe1	07IT09	21	7			M25	7	JBEA212013L28
CAe2	12IP09	24	12			M32	12	JBEA322013L29
CAe2	12IT09	36	12			M32	12	JBEA322013L30
CAe3	19IP09	38	19			M40	19	JBEA422013L31
CAe5	27IP09	54	27			M40	27	JBEA483819L32
Cable EIPF – Single Cable Entries M20								
CAe1	07IP05	15	8			M25	7	JBEA212013L41
CAe1	07IT05	22	8			M32	7	JBEA212013L42
CAe2	12IP05	25	13			M32	12	JBEA322013L43
CAe2	12IT05	37	13			M32	12	JBEA322013L44
CAe3	19IP05	39	20			M40	19	JBEA422013L45
CAe5	27IP05	55	28			M50	27	JBEA483819L46
CAe1	07IP09	15	8			M32	7	JBEA212013L47
CAe1	07IT09	22	8			M32	7	JBEA212013L48
CAe2	12IP09	25	13			M40	12	JBEA322013L49
CAe2	12IT09	37	13			M40	12	JBEA322013L50
CAe3	19IP09	39	20			M50	19	JBEA422013L51
CAe5	27IP09	55	28			M50	27	JBEA483819L52

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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.

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

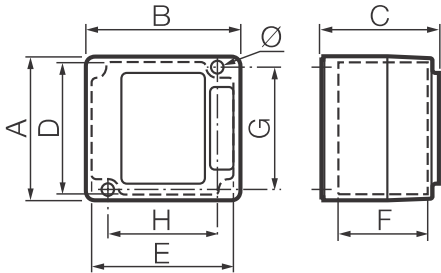
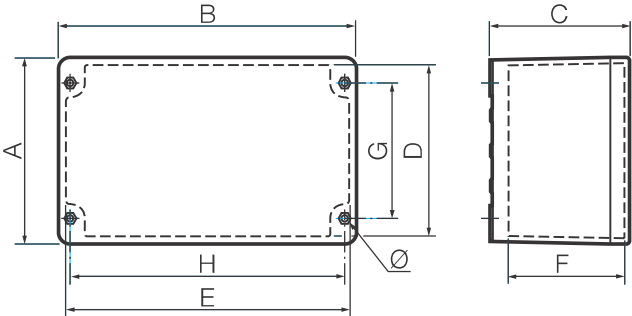
T Rating: T6		PCe1 120 x 110 x 95 mm	Type PCe2 170 x 110 x 95 mm	PCe3 230 x 110 x 95 mm
2.5 mm ²	Quantity	12	22	33
	I Maximum	15 A	13 A	12 A
4 mm ²	Quantity	10	18	28
	I Maximum	20 A	19 A	16 A
6 mm ²	Quantity	7	14	21
	I Maximum	32 A	27 A	24 A
10 mm ²	Quantity	4	6	8
	I Maximum	50 A	50 A	50 A

T Rating: T6 @ Ta 40 °C T5 @ Ta 55° C		CAe1 215 x 205 x 130 mm	Type CAe2 320 x 205 x 130 mm	CAe3 425 x 205 x 130 mm	CAe5 480 x 380 x 190 mm
2.5 mm ²	Quantity	20	21	23	38
	I Maximum	16 A	16 A	16 A	16 A
4 mm ²	Quantity	19	20	23	38
	I Maximum	20 A	20 A	20 A	20 A
6 mm ²	Quantity	12	13	14	23
	I Maximum	32 A	32 A	32 A	32 A
10 mm ²	Quantity	10	11	18	30
	I Maximum	40 A	40 A	32 A	32 A
16 mm ²	Quantity	8	10	13	22
	I Maximum	28 A	27 A	25 A	26 A
25 mm ²	Quantity	8	8	10	20
	I Maximum	67 A	73 A	69 A	60 A
35 mm ²	Quantity	8	8	10	12
	I Maximum	79 A	86 A	80 A	100 A

JBEA Series Pre-Drilled Aluminum Junction Box Dimensions

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Dimensions in Millimeters

PCe1 to PCe3						CAe1 to CAe5				
										
Type	External Dimensions			Internal Dimensions			Fixings			
	A	B	C	D	E	F	G	H	Thick	Ø
PCe1	110	120	95	100	110	70	94	84	20	5
PCe2	110	170	95	100	160	70	94	134	20	5
PCe3	110	230	95	100	220	70	94	194	20	5
CAe1	205	215	130	190	200	105	146	186	10	7
CAe2	205	320	130	190	305	105	146	290	10	7
CAe3	205	425	130	190	410	105	146	398	10	7
CAe5	480	380	190	378	279	132	385	285	13	7