

DJBS-N Range of Terminal Boxes

# **Instruction Manual**



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## 1. Introduction

### 1.1 Purpose of This Document

This instruction is a brief summary of important features, connections and safety information and contain all information required for safe use of the equipment. Read the instruction manual carefully prior to installation and commissioning.

The instruction is aimed at persons who mechanically assemble the device, connect it electrically, and start it up.

### 1.2 Name Plate

	<b>IECEX DEK 21.0022X</b> <b>DEKRA 21ATEX0027 X</b>	 <b>DONG-A BESTECH</b>
<input type="checkbox"/> Ex e IIC T6...T4 Gb <input type="checkbox"/> Ex eb[ia Ga] IIC T6...T4 Gb <input type="checkbox"/> Ex ia IIC T6...T4 Ga <input type="checkbox"/> Ex tb IIIC T85...T135 °C Db  <input type="checkbox"/> II 2 G Ex e IIC T6...T4 Gb <input type="checkbox"/> II 2(1) G Ex eb [ia Ga] IIC T6...T4 Gb <input type="checkbox"/> I 1 G Ex ia IIC T6...T4 Ga <input type="checkbox"/> II 2 D Ex tb IIIC T85...T135 °C Db IP66/67 per IEC 60079-0 and IEC 60529		http://www.dongabestecn.com 54, Songnae-daero 518 beon-gil Bucheon-si, Gyeonggi-do 14445 Republic of Korea
<input type="checkbox"/> -50 °C~+40 °C (T6 T85 °C) <input type="checkbox"/> -50 °C~+55 °C (T5 T100 °C) <input type="checkbox"/> -50 °C~+70 °C (T4 T135 °C) <input type="checkbox"/> -50 °C~+80 °C (T4 T135 °C)		TERMINAL BOX DJBS-N-**-***** ****V, ***A, **W SERIAL NO. DAB-JBS-**** DATE : 20yy. mm. dd
Do not open when an explosion atmosphere is present. For entry form/size and selection of cable/cable gland, please refer to the instruction manual.		 <b>0598</b>

### 1.3 Orderings Codes

- Option of model

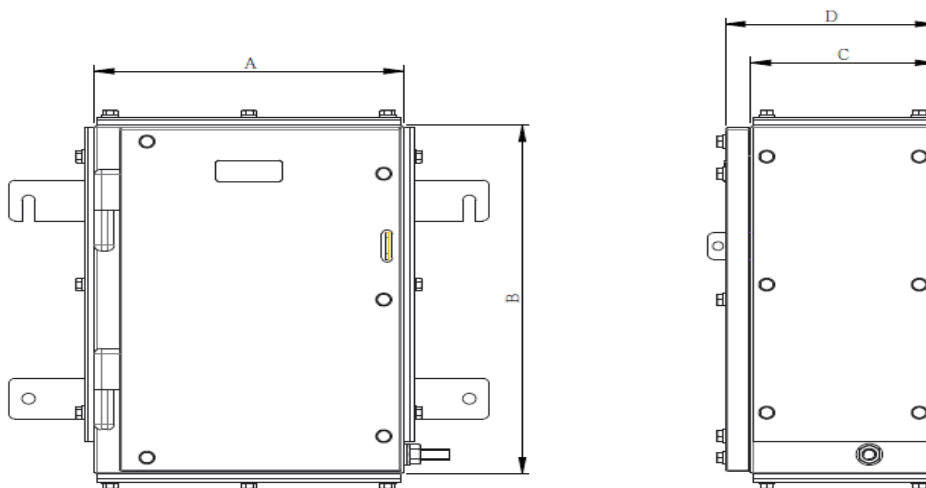
The option of each of the models is follows:

Model Name	Gland Plate <sup>1</sup>	Mounting Plate	Security (Locking Device)	Ground stud	Breather Drain <sup>2</sup>	Cover <sup>3</sup>
DJBS-N-01~14	0: None	N: None	N: None	6: Ø6mm	N : None	B:Bolted lid
	1: One bottom	M: Mounting Plate	S: Security	8: Ø8mm	Y : Yes	H:Hinged door
	3: Two sides and bottom	<sup>1</sup> DJBS-N01, 02 Not Applicable		10: Ø10mm	<sup>2</sup> Only IP66, Ex eb, Ex tb	
	4: All sides				<sup>3</sup> DJB01-N-01~06 : either B or H. DJB07~14 : H only	

[Table 1]

### 1.4 Size of Model

The DJBS-N range has following dimensions per each part no. They are made of either STS 316L(1.4401) or STS 304(1.4301) stainless steel sheet. The size of enclosure and the space available for inserting its components must be determined early on in the process.mm



[Unit : mm]

	DJBS-N-01	DJBS-N-02	DJBS-N-03	DJBS-N-04	DJBS-N-05	DJBS-N-06	DJBS-N-07
A	155	185	235	305	325	375	375
B	155	275	325	305	375	450	510
C	100	140	140	200	200	200	200
D	120	160	160	220	220	220	220

	DJBS-N-08	DJBS-N-09	DJBS-N-10	DJBS-N-11	DJBS-N-12	DJBS-N-13	DJBS-N-14
A	375	510	510	510	510	650	800
B	510	510	510	780	780	950	1250
C	300	200	300	200	300	300	300
D	320	220	320	220	320	320	320

[Table 2]

## 2. Technical Data

### 2.1 Certificates and Explosion protection

Certification	Standards
IECEX	IEC 60079-0 : 2017 (Ed. 7) IEC 60079-7 : 2017 (Ed. 5.1) IEC 60079-11 : 2011 (Ed. 6) IEC 60079-31 : 2013 (Ed. 2)
ATEX	EN IEC 60079-0 : 2018 EN IEC 60079-7 : 2015 + A1 : 2018 EN 60079-11 : 2012 EN 60079-31 : 2014

Type of protection	Ex markings
Increased safety "e" Intrinsic safety "i" Protection by enclosure "t"	Ex e IIC T6...T4 Gb Ex ia IIC T6...T4 Ga Ex eb [ia Ga] IIC T6...T4 Gb Ex tb IIIC T85...T135 °C Db
	II 2 G Ex eb IIC T6...T4 Gb II 1 G Ex ia IIC T6...T4 Ga II 2 (1) G Ex eb [ia Ga] IIC T6...T4 Gb II 2 D Ex tb IIIC T85...T135 °C Db

Ambient Temperature	T Class(Gas)	tb(Dust)
-50 °C ~ + 40 °C	T6	T85 °C
-50 °C ~ + 55 °C	T5	T100 °C
-50 °C ~ + 70 °C	T4	T135 °C
-50 °C ~ + 80 °C	T4	T135 °C

## 2.2 Ratings

Voltage	Max. 1100V AC/DC(depend on terminal blocks)
Current	Max. 375A(depend on terminal blocks)
Ingress protection	IP66/67 per IEC/EN 60079-0 and IEC/EN 60529
Surface finishing	Glass shot blasting & Passivation
Impact	IK10 (20J) IEC/EN 62262
Conductor Cross Section	2.5 to 300mm <sup>2</sup>
Bolt tightening Torque	4.6 N·m

These values are maximum values. The actual electrical values are determined by the built-in components / terminals.

The manufacturer specifies the rated values in the context of these maximum values and ensures compliance with The maximum surface temperature of the equipment and the permissible operating temperature of the components /terminals.

The actual rated electrical values are indicated on the individual marking plates and in the manufacturer's instructions

## 2.3 Max Power Dissipation (W)

Due to contact resistances at the terminals and the cables installed in the enclosure, heat can be caused. In order to ensure that the maximum temperature of a terminal box are not exceeded, care should be taken that the current load of the circuits installed in the terminal box do not exceed certain values. The maximum permitted number of conductors for individual terminal boxes, depending on the current load and conductor cross section, can be found in the below table.

Type of terminal box	Enclosure size W x H x D [mm]	Maximum Power [W]				Maximum cable length per terminal [mm]
		T6	T5	T4		
		Ta: +40°C	Ta: +55°C	Ta: +70°C	Ta: +80°C	
DJBS-N-01	155 x 155 x 100	7.56	7.56	7.56	7.56	234.1
DJBS-N-02	185 x 275 x 140	13.61	13.61	13.61	13.61	353.1
DJBS-N-03	235 x 325 x 140	19.17	19.17	19.17	14.18	418.2
DJBS-N-04	305 x 305 x 200	24.03	24.03	24.03	18.50	468.6
DJBS-N-05	325 x 375 x 200	27.86	27.86	27.86	21.67	528.3
DJBS-N-06	375 x 450 x 200	35.48	35.48	35.48	27.20	612.4
DJBS-N-07	375 x 510 x 200	39.15	39.15	39.15	29.05	657.3
DJBS-N-08	375 x 510 x 300	43.85	43.85	43.85	33.21	693.8
DJBS-N-09	510 x 510 x 200	46.69	46.69	46.69	35.37	741.9
DJBS-N-10	510 x 510 x 300	48.62	48.62	48.62	36.83	774.4
DJBS-N-11	510 x 780 x 200	58.84	58.84	58.84	44.57	946.9
DJBS-N-12	510 x 780 x 300	60.37	60.37	60.37	45.72	972.5
DJBS-N-13	650 x 950 x 300	75.06	75.06	75.06	57.40	1183.2
DJBS-N-14	800 x 1250 x 300	86.51	86.51	86.51	86.51	1507.9

[Table 3]

The maximum number of terminals which may be fitted into each junction box is calculated using the following formula:

$$\text{Power(W)} = I^2 \times N (R_t + R_c) \text{ Watts}$$

$$\text{Terminal No(N)} = W / (R_t + R_c) \times I^2$$

I = current (Amps)

N = Number of terminals

Rt = Resistance of terminal @ 20 °C (Ohms) \* see table below

Rc = Resistance of one conductor per current bar @ 20 °C (Ohms) when using the maximum diagonal cable length listed the above table

- Option of terminal

The kind of terminal is as follows:

Weidmuller

Type	Voltage V	Current A		Resistance at 20°C mΩ	cross section mm²	Strip Length mm	Terminal Tightening Torque N·m	Certification number	
		Rating	Derating					IECEX	ATEX
WDU 2.5	690	24	15	0.369	2.5	10	0.4-0.8	IECEX ULD 14 0005U	DEMKO 14 ATEX1338U
WDU 4	690	32	19	0.298	4	10	0.5-1.0		
WDU 4 SL	440	32	19	0.300	10	13	0.5-1.0		
WDU 6	690	41	23	0.180	6	12	0.8-1.6		
WDU 10	690	57	30	0.152	10	12	1.2-2.4		
WDU 10 SL	690	55	30	0.280	10	17	1.2-2.4		
WDU 16	690	76	38	0.161	16	16	3.0-4.0		
WDU 35	690	115	56	0.145	35	18	4.5-5.0		
WDU 50N	690	126	56	0.151	50	24	3.5-6.0		
WDU 70N/35	690	184	81	0.142	70	22	9.0-12.0		
WDU 70/95	1100	218	93	0.053	95	30	6.0-12.0		
WDU 95N/120N	880	221	105	0.129	120	27	12.0-20.0		
WDU 120/150	1100	265	117	0.044	150	35	10.0-20.0		
ZDU 2.5	550	22	15	1.33	2.5	10	Tension Clamp Type	IECEX ULD 05 0008U	DEMKO 15 ATEX1467U
ZDU 2.5/3AN	550	22	15	1.33	2.5	10			
ZDU 2.5/4AN	550	22	15	1.33	2.5	10			
ZDU 4	550	28	18	1.00	4	12			
ZDU 4/3 AN	550	28	18	1.00	4	12			
ZDU 4/4 AN	550	28	18	1.00	4	12			
ZDU 6	550	39	21	0.78	6	13			
ZDU 6/3AN	550	39	21	0.78	6	13			
ZDU 10/3AN	690	51	26	0.56	10	18			
ZDU 16	690	68	32	0.42	16	18			
ZDU 16/3AN	550	66	32	0.42	16	18			
ZDU 35	690	110	42	0.26	35	25			
WFF 35	1100	125	56	0.043	35	*N/A			
WFF 35/AH	1100	125	56	0.043	35	*N/A	3.6-6.0		
WFF 70	1100	192	192	0.032	70	*N/A	6.0-12.0		
WFF 70/AH	1100	192	192	0.032	70	*N/A	6.0-12.0		
WFF 120	1100	269	269	0.028	120	*N/A	10.0-20.0		
WFF 120/AH	1100	269	269	0.028	120	*N/A	10.0-20.0		
WFF 185	1100	353	345	0.028	185	*N/A	14.0-31.0		
WFF 185/AH	1100	353	345	0.028	185	*N/A	14.0-31.0		
WFF 300	1100	520	375	0.02	300	*N/A	25.0-60.0		
WFF 300A/H	1100	520	375	0.02	300	*N/A	25.0-60.0		

[Table 4-1]



## Phoenix

Type	Voltage V	Current A		Resistance at 20°C mΩ	cross section mm <sup>2</sup>	Strip Length mm	Terminal Tightening Torque N·m	Certification number	
		Rating	Derating					IECEX	ATEX
ST 2.5	550	20.5	15	1.04	2.5	8...10	Tension Clamp Type	IECEX KEM 06 0051U	KEMA 00 ATEX2052U
ST 2.5 quattro	550	22	15	1.17	2.5	8...10			
ST 2.5-Twin	550	21	15	1.08	2.5	8...10			
ST 4	550	30	19	0.63	4	8...10		IECEX KEM 06 0050U	KEMA 00 ATEX2129U
ST 6	550	36.5	22	0.56	6	12		IECEX KEM 06 0033U	KEMA 01 ATEX2260U
ST 10	550	51	27	0.4	10	18			
ST 16	550	64.5	32	0.34	16	18			
ST 35	690	107.5	43	0.21	35	25	0.5-0.6	IECEX KEM 06 0027U	KEMA 04 ATEX2048U
UT 2.5	690	21	15	0.41	2.5	9			
UT 4	690	30	19	0.26	4	9			
UT 6	690	40	22	0.2	6	10			
UT 10(SL)	690	54	28	0.16	10	10			
UT 16	690	73.5	34	0.16	16	14			
UT 35	690	123	49	0.08	35	18			
UT 2.2 Twin	352	21	15	0.60	2.5	9	0.5~0.6	IECEX KEM 06. 0013U	KEMA 06 ATEX2017U
PT 2.5	550	19	15	0.93	2.5	8...10	Tension clamp Type	IECEX PTB 10 0021U	PTB 09 ATEX1111U
PT 4	550	26	16	0.54	4	10...12		IECEX PTB 10 0046U	PTB 09 ATEX1112U
PT 6	550	36.5	23	0.48	6	10...12		IECEX SEV 13 0005U	SEV 13 ATEX 0159U
PT 10	550	52.5	27	0.43	10	18			
PT 16 N	550	65.5	33	0.31	16	18			

[Table 4-2]

WAGO

Type	Voltage V	Current A		Resistance at 20°C mΩ	Cross Section mm <sup>2</sup>	Strip Length mm	Terminal Tightening Torque N·m	Certification number	
		Rating	Derating					IEC Ex	ATEX
2002-1201/1204	550	22	15	1.6	2.5	10...12	Tension clamp Type	IECEX PTB 03 0004U	PTB 03 ATEX 1162 U
2002-1301/1304	550	22	15	1.6	2.5	10...12			
2002-1401/1404	550	22	15	1.6	2.5	10...12			
2010-1201/1204	550	51	27	0.56	10	17...19		IECEX PTB 06 0003U	PTB 05 ATEX 1070 U
2010-1301/1304	550	50	27	0.56	10	17...19			
2016-1201/1204	550	65	31	0.42	16	18...20		IECEX PTB 05 0015U	PTB 05 ATEX 1031U
2004-1201/1204	550	30	19	1.0	4	10...12		IECEX PTB 05 0033U	PTB 05 ATEX1031U
2006-1201/1204	550	33	22	0.80	6	10...12		IECEX PTB 05 0014U	PTB 05 ATEX1030U
285-407	880	57	27	0.50	10(16)	12...13		IECEX PTB 16 0001U	PTB 98 ATEX3134U
285-992	880	109	47	0.21	35	23			
285-935	880	101	47	0.21	35	25			
285-950	880	134	59	0.13	50	30			
285-995	880	211	74	0.21	95	35			
285-1163	1100	250	98	0.06	185	45...47			
870-909	440	22	15	1.33	2.5	6...7		IECEX PTB 04. 0018U	PTB 03 ATEX1188U
870-919	440	22	15	1.33	2.5	6...7			
870-951	440	18	15	1.33	2.5	6...7			
870-961	440	18	15	1.33	2.5	6...7			

[Table 4-3]

Note

- Please contact maker or supplier when applying other products mentioned other than above products
- The terminal block mounting rail is most appropriate to use the products provided by each terminal block maker, but there is an alternative product provided by Dong-A
- The ambient temperature of the junction box can be changed depending on the operating temperature of the terminal you want to use.
- Do not apply other products (components) other than products (components) mentioned above.
- “Unused terminals shall be tightened.”
- “Only one conductor per on pole of the terminal is allowed.
- When the smaller conductor cross section than the rated cross section specified for the type of terminal listed on the table above is used, the corresponding current is calculated using the following formula:  
 $I_d^2 \times R_m \geq I_c^2 \times R_s$  ??

$I_d$  = Maximum de-rated current (Amp) \* see table [4-1], [4-2], [4-3] above  
 $I_c$  = Corresponding current for smaller conductor than rated conductor size (Amp)  
 $R_m$  = Resistance of maximum rated size conductor @ 20 °C (Ohms) \* see table [4-1], [4-2], [4-3] above  
 $R_s$  = Resistance of smaller conductor than the rated conductor @ 20 °C (Ohms)

- Option of Breather Drain  
Breather drain can be used limitedly for the below product. If you want to use it, please order it.  
The IP grade of Junction Box will become IP66 if below device is installed.

Type	ATEX	IECEX
Range of Breather / Drains for Ex e Enclosures	CML ATEX 3134U	IECEX CML 16.0019U
	II 2 G D	II 2 G D
	Ex eb IIC Gb Ex tb IIIC Db IP 66	Ex eb IIC Gb Ex tb IIIC Db IP 66
	Service TEMP; -60~+100°C	Service TEMP; -60 ~+100°C

### 3. Safety Instruction

#### 3.1 Requirement for safe use

This terminal box left the factory in good working condition. In order to maintain this status and to ensure safe operation of the terminal box, observe these instructions and all the specifications relevant to safety. For correct operation, including the installation manual of Ex components such as Ex terminal and Ex drain plug enclosed in the delivery.

#### 3.2 Use in hazardous area

Persons who install, connect commission, operate, and service the terminal box in a hazardous area must have the following specific qualifications:

- 1) They are authorized, trained or instructed in operating and maintaining equipment and systems according to the safety regulations for electrical circuits and hazardous media.
- 2) They are authorized, trained, or instructed in carrying out work on electrical circuits for hazardous systems.
- 3) They are trained or instructed in maintenance and use of appropriate safety equipment according to the pertinent safety regulations as IEC/EN 60079-14

#### 3.3 Precautions of handling

Observe the following information during installation and operation;

- 1) Product exterior damage can invalidate the explosion protection, it must check before use
- 2) National and local safety regulations
- 3) National and local accident prevention regulations
- 4) National and local assembly and installation regulations
- 5) Generally recognized technical regulations
- 6) Safety notes in these operating instructions
- 7) Characteristic values and rated operating conditions on the rating plates and data plates.

### **3.4 Modification and alterations**

As the terminal boxes are explosion protected equipment, certified for use in hazardous areas Zones 0, 1, 2 and 21, 22 and used to distribute electric energy, any alteration or modification to the device is not permitted.

We shall not accept any liability or warranty obligations for damage resulting from alteration and modification.

### **3.5 Other Options**

In case of additional/different order options, special versions may differ from the description given here.

## **4. Handling and Storage**

### **4.1 Inspection and Handling**

Do not dispose of the packing materials. Each package should be inspected upon receipt for damage that may have occurred due to mishandling during transportation. If the unit is received damaged, notify the carrier or the factory for instructions. Failure to do so may void your warranty.

### **4.2 Storage**

If the device is not scheduled for immediate installation following delivery, the following steps should be observed:

- 1) Following inspection, repackage the unit into its original packaging.
- 2) Select a clean dry site, free of vibration, shock and impact hazards.
- 3) If storage will be extended longer than 30 days, the unit must be stored at temperatures between 0° to 40°C in non-condensing atmosphere with humidity less than 85%.

## 5. Installation

Relevant IEC/EN standards and national regulations for equipment safety laws are binding for setting up and operation in addition to generally recognized technological regulations. The electrical connection to the equipment must only be carried out by qualified personnel (IEC/EN 60079-14).

All screws and nuts on the connection terminals, including those that are not used, should be tightened per specified torques listed the technical specification of the relevant terminal blocks.

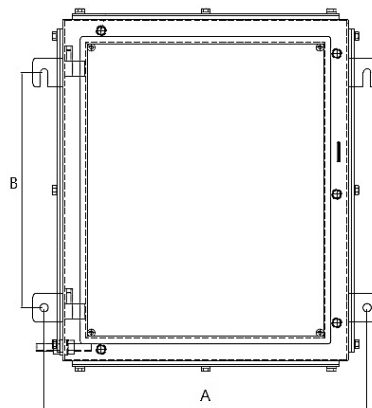
### 5.1 Terminal Arrangement Option

This junction box is basically manufactured by DONG-A Bestech and when all requirements of this manual such as creepage distance, clearance, separation distance as well as type and position of cable entries(page 15 to manual(page 8 to 9) is met, it can be arranged with Ex components such as Ex terminals and Ex drain plug specified in this manual( page 8 to 9) by an end-user (qualified personal per IEC/EN 60079-14)

In the case that the junction box is arranged by an end-user, the arrangement documents (e.g. drawing) of the end-user have to to be confirmed by DONG-A Bestech.

### 5.2 Dimension of holder

The fixing part is made of 3mm thickness plate. The settling can be completed with screw or other fixing stuffs (ex. bolt) into 10 mm diameter hole. **The junction box shall be installed in a wall mounting position only.**

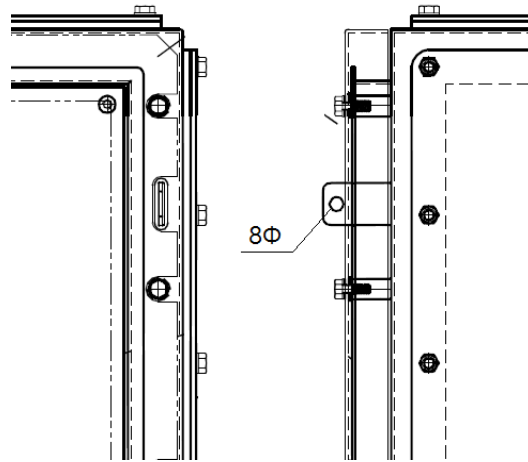


(mm)

	DJBS-N-01	DJBS-N-02	DJBS-N-03	DJBS-N-04	DJBS-N-05	DJBS-N-06	DJBS-N-07	DJBS-N-08	DJBS-N-09	DJBS-N-10	DJBS-N-11	DJBS-N-12	DJBS-N-13	DJBS-N-14
A	205	235	285	355	375	425	425	425	560	560	560	560	700	850
B	X	160	185	165	235	310	370	370	370	370	640	640	810	1110

[Table 5]

**5.3 Security (Locking Device)**



The lock device can be used with Ø8 mm diameter hole.

**5.4 Protective Earth Conductor/Equipotential Bonding Conductor Connection.**

Terminal box has to be grounded in accordance with EN/IEC 60079-0.

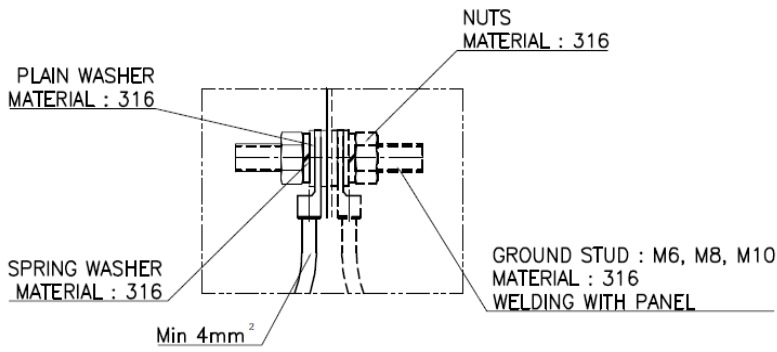
Protective earthing(PE) conductor connection allows for the effective connection of at least on conductor with a cross-sectional area given below table. When connect the PE, use larger cross-sectional area of PE than phase conductors.

Minimum cross-sectional area of PE conductors	
Cross-sectional area of phase conductors, S mm <sup>2</sup>	Minimum cross-sectional area of the corresponding PE conductor, Sp mm <sup>2</sup>
$S \leq 16$	S
$16 < S$	16
$\leq 35$	0.5 S

[Table 6]

Equipotential bonding connection facilities on the outside of electrical equipment provide effective connection of a conductor with a cross-sectional area of at least 4 mm<sup>2</sup>. When this connection facility is also intended to serve as the PE connection, the requirements of above table apply.

An earth conductor shall be mounted so that it is secured against loosening and twisting.



**NOTE A**

If you use any screws to connect the PE/equipotential bonding conductor, refer to the table below for the correct torque settings

Screw size	Torque/Nm
M6	5.0
M8	10.0
M10	16.0

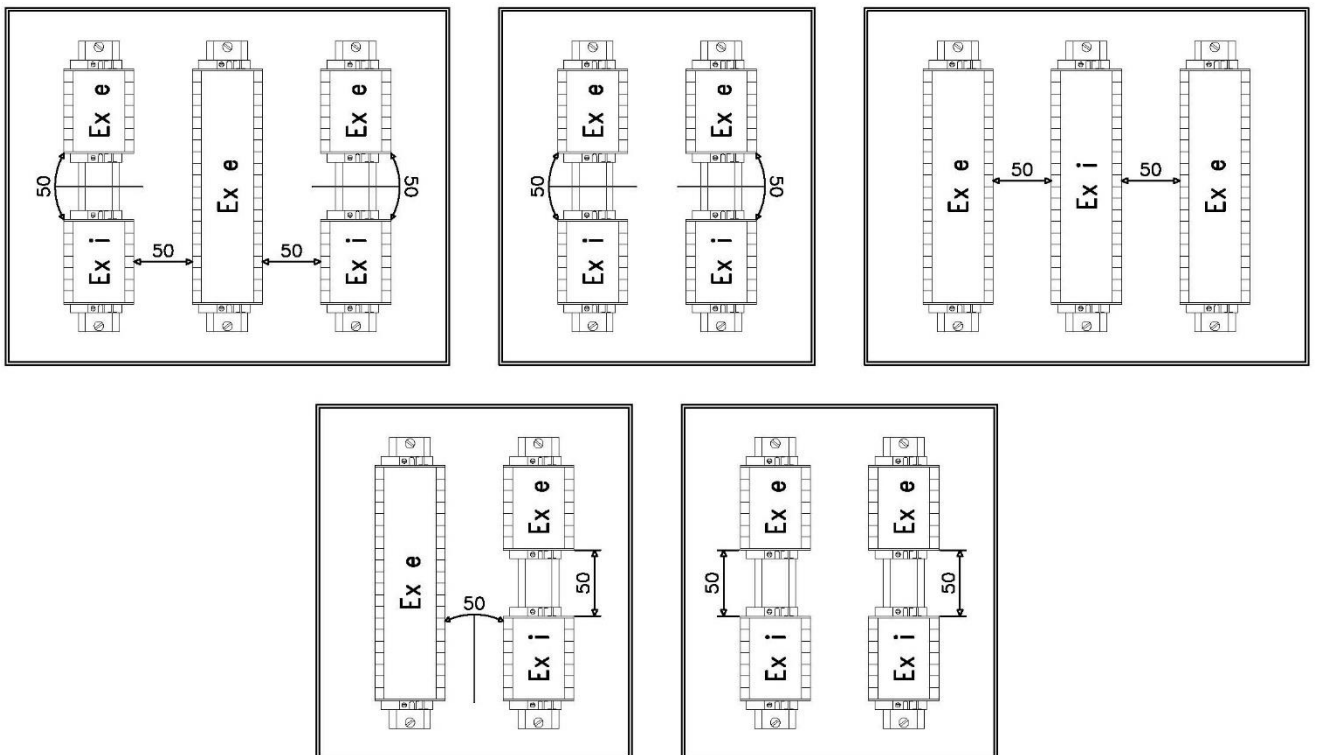
[Earthing Stud]

**5.5 Creepage Distances and Clearances, Spacing**

When this instruction manual is followed, the required clearance and creepage distances between Ex terminals as well as between Ex terminal and the enclosure wall including fasteners are sufficiently met.

When any terminal block is arranged with other terminal series or other terminal size or terminal by other manufacturer within one mounting rail, the required creepage distances and clearances have to be observed and maintained (e.g. using separation wall etc. according to instruction of terminal block.)

**5.6 Distance between connection parts for intrinsically safe circuit and non-intrinsically safe circuit**



**5.7 Clearance and creepage distances of intrinsically safe circuits**

If separated, intrinsically safe circuits have to be considered, the safe distance between the blank, conductive parts of the external connections must be as follows:

- 1) At least 6mm between the separated, intrinsically safe circuits
  - 2) At least 3mm from earthed parts, if a possible connection to earth has not been considered in the safe analysis
- Intrinsically safe circuits must be identified as such. Use light blue only for color coding. This applies in particular to connection fittings (cables and wires) and cable routing.

**5.8 Minimum Routing space**

To ensure that cable routing is orderly and the conductors are securely fastened to the terminal blocks, sufficient spacing must be maintained between the wall of the enclosure and the terminal blocks or terminal block sockets. The minimal spacing is defined as spacing dimension “b”

Minimum clearances for cabling			
Cross section	Minimum Clearance mounting distance “b”		
mm <sup>2</sup>	1 mounting rail	2 mounting rail	3 and more mounting rail or 2 side by side
1.5	20mm	20mm	20mm
2.5	20mm	20mm	20mm
4	20mm	20mm	25mm
6	20mm	25mm	30mm
10	25mm	30mm	40mm
16	30mm	40mm	50mm
25	40mm	50mm	60mm
35	50mm	60mm	70mm
50	60mm	70mm	80mm
70	70mm	80mm	90mm
95	80mm	90mm	100mm
120	90mm	100mm	110mm
150	100mm	110mm	120mm
185	110mm	120mm	130mm
240	120mm	130mm	140mm
300	130mm	140mm	150mm

If you install two or more terminal blocks in parallel, then you must maintain a spacing of 1.5xb between the terminal blocks. If you install terminal blocks on mounting rails which are located on the bottom of the enclosure so that cables cannot be routed underneath the mounting rails, spacing must at least 2xb.

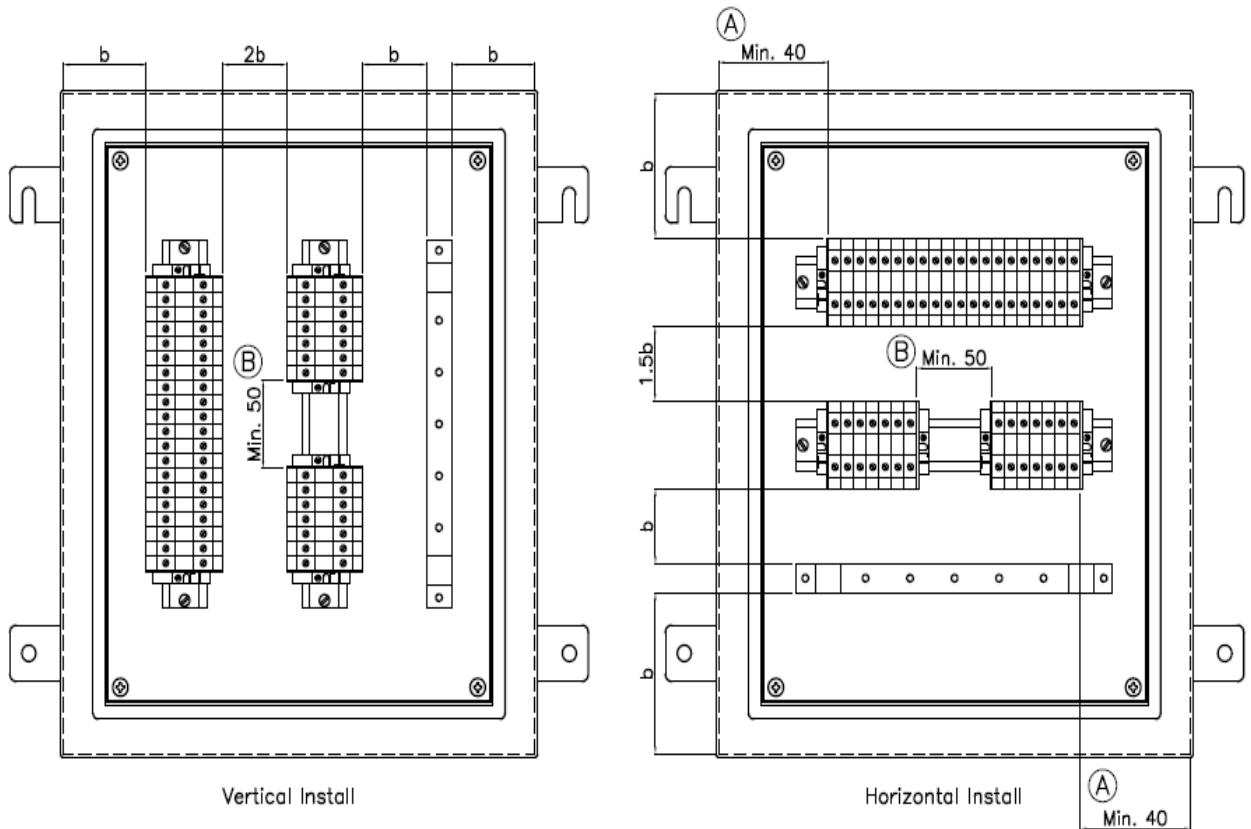


**Ⓐ distances ;**

When installed vertically, the distance between the initial start terminal blocks and the inner end of the enclosures must be at least 40 mm

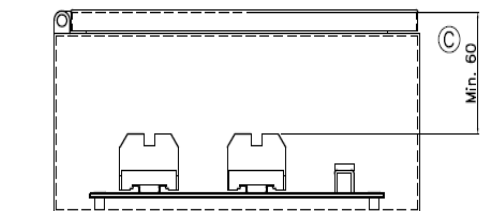
**Ⓑ distances**

The distance between terminal blocks must be at least 50mm in any direction.



**Ⓒ distance ;**

As minimum clearance between the topside of the biggest size of applicable terminal on the junction box inside and cover inside is more than 60mm, there is sufficient vertical clearance to not have to consider



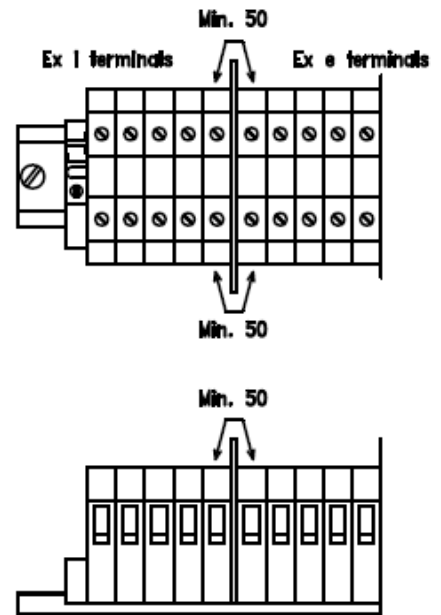
In addition to the above, separation plate is advised to be inserted into the following cases respectively.

The partition used to separate the terminals must provide a minimum distance of 50 mm between the bare conductor parts of the terminals when measured in all directions around them.

- 1) Between different size of terminal blocks
- 2) Between different type of terminal blocks
- 3) Between different makers and different types of terminal blocks

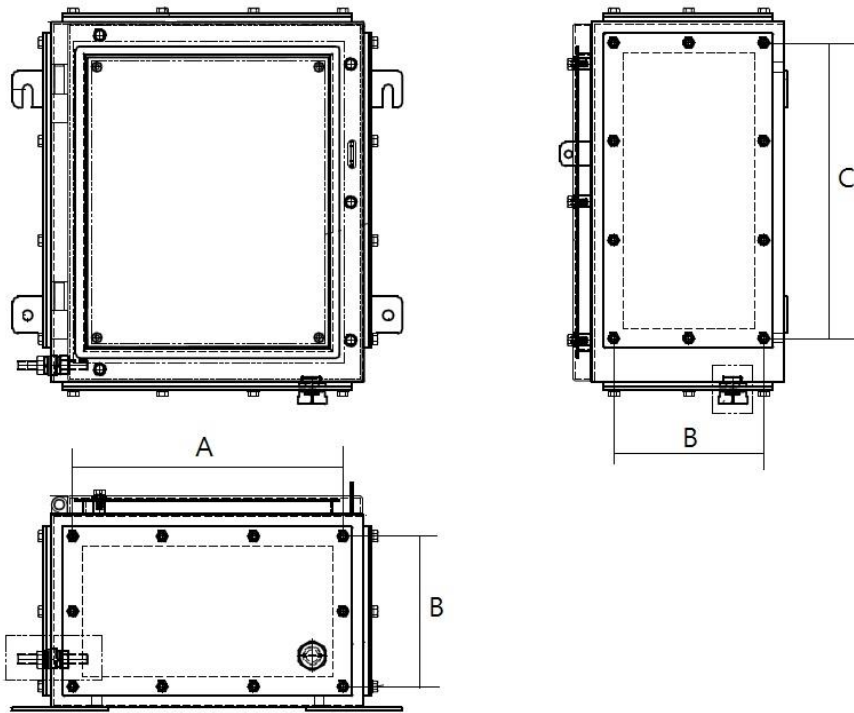
“As accessories, only end bracket and separation plate(wall) provided along with Ex e terminal are provided for the complete installation.

The instruction of Ex e terminal must be followed..



## 6. Connection

### 6.1 Cable and Wire entries



(mm)

	DJBS-N-01	DJBS-N-02	DJBS-N-03	DJBS-N-04	DJBS-N-05	DJBS-N-06	DJBS-N-07	DJBS-N-08	DJBS-N-09	DJBS-N-10	DJBS-N-11	DJBS-N-12	DJBS-N-13	DJBS-N-14
A	X	X	191	261	281	331	331	331	466	466	466	466	606	756
B	X	X	96	156	156	156	156	256	156	256	156	256	256	256
C	X	X	257	237	307	382	440	440	440	440	712	712	882	1182

[Table 8]

Unused holes for cable entries must be sealed with Ex-certified stopping plugs and also other blanking elements and cable glands should be use products which are suitable for IP 66/67 grade.

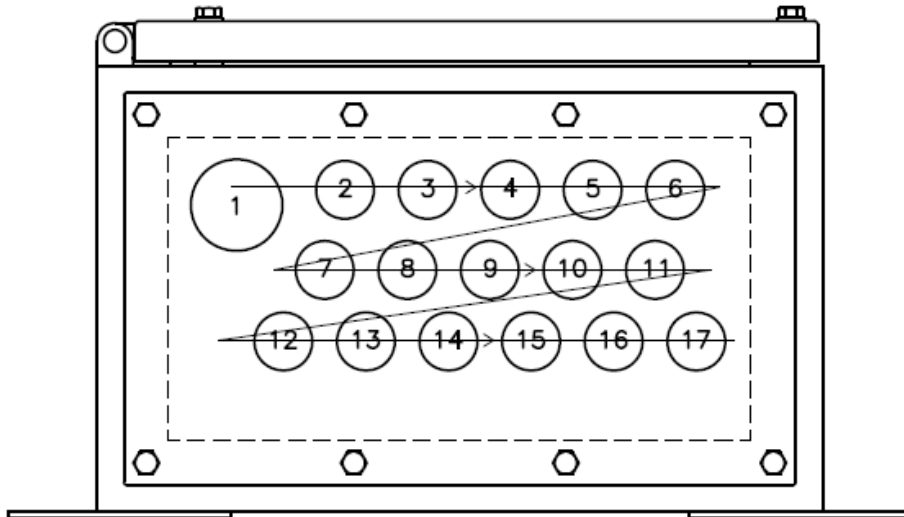
The clearance holes for plain entries shall have a diameter not more than 0.7 mm greater than the nominal diameter of the entry thread gland or fitting. The inside of the enclosure shall be provided with sufficient room to attach a locknut to the gland or fitting.

**Warning :** “ Select cable and cable gland for 40 °C above ambient.

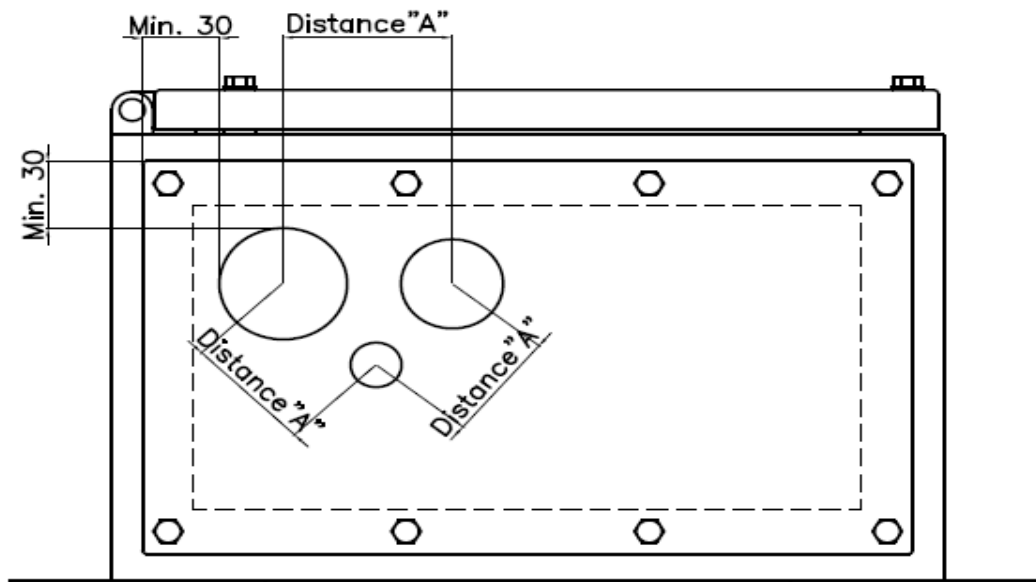
### 6.2 Maximum number of Cable and Wire Entries

#### 1) Cable entry hole arrangement procedure

The cable entry holes are arranged in the same direction as below.



#### 2) Recommended drilling spacing for cable entry hole.



3) Minimum distance “A” table.

	M12	M16	M20	M25	M32	M40	M50	M63	M75
M12	19	22	25	29	35	41	49	60	69
M16	22	24	27	31	37	43	51	62	71
M20	25	27	29	33	39	45	53	64	73
M25	29	31	33	37	43	49	57	68	77
M32	35	37	39	43	46	52	60	71	80
M40	41	43	45	49	52	58	66	77	86
M50	49	51	53	57	60	66	71	82	91
M63	60	62	64	68	71	77	82	90	98
M75	69	71	73	77	80	86	91	98	104

[Table 9]

Entry Hole Size

Metric	Entry Hole Size
M12	∅13
M16	∅17
M20	∅21
M25	∅26
M32	∅33
M40	∅41
M50	∅51
M63	∅64
M75	∅76

The clearance holes for plain entries shall have a diameter not more than 0.7 mm greater than the nominal diameter of the entry thread gland or fitting.

[Table 10]

## 7. Service and Maintenance

**Warning : Do not open when energized**

The IEC/EC standards and national regulations applicable to the maintenance of electrical equipment in explosion hazard areas must be observed(IEC/EN 60079-17).

Repair and maintenance work on the enclosures should be performed only by authorized personnel with the appropriate training.

Maintenance and servicing is performed based on IEC/EN 60079-17. As part of the maintenance, in particular, parts that depend on the ignition safety must be inspected.

This includes, in particular, the seals, the fastening system, cable and wire entries.

If any part of the equipment is damaged, it should be exchanged only with original parts (e.g. sealing gasket/cable glands/ terminals).

The maintenance intervals must be chosen depending on the operating conditions and the operating time.

When maintenance work is performed on intrinsically safe terminal enclosures, care must be taken to ensure that no circuit dependent dangerous remote effects can occur.

For more detail of service and maintenance like parts and labor service, please contact below.

Head Office & Factory : 54, Songnae-daero 518beon-gil, Ojeong-gu, Bucheon-si, Gyeonggi-do,  
14445, Korea, Republic of

TEL: Sales +82-32-675-0081(est, 201), Technical 82-32-575-0081(ext,301), FAX: +32-674-2893

Web : [www.dongabestech.com](http://www.dongabestech.com)

E-Mail : [sgwoo@dongabestech.com](mailto:sgwoo@dongabestech.com)