



日揚國際事業股份有限公司
JD Auspice Co., Ltd.

JDA-D3VH-325/400 Disconnecting switch





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1. Objective

This Specification Instruction is prepared so that the user and the developer can have the common understanding on the initial provisions upon the operating environment, function and functional requirements of the product, and thus being used as the basis for the development, and to provide the detailed requirement description of the product design.

2. Scope

This Specification Instruction applies to JDA-D3VH-325/400 disconnecting switch.

3. Terms

4. References

5. Basic demand

5.1 Scope of Application

JDA-D3VH-325/400 disconnecting switches are applicable for infrequent making and breaking, to isolate and break the circuit in low-voltage power distribution network with DC1500V and rated working current 325/400. They can provide the function of protecting the broken circuit and overload.

5.2 Operating Environment

JDA-D3VH-325/400 disconnecting switches are applicable for infrequent making and breaking, to isolate and break the circuit in low-voltage power distribution network with DC1500V and rated working current 325/400. They can provide the function of protecting the broken circuit and overload.

Environmental requirements	Description of the specific parameters
Operating ambient temperature	-30°C~+75°C. At the ambient temperature of 70°C, the derating factor for the rated current of the switch according to the form in 9.1.
Altitude	Below 5000m, altitude of 2000m-5000m, the derating factor for the rated current of the switch according to the form in 9.1.
Pollution degree	The product can be disposed in places that are free from explosive media, media corrosive to metal, insulation damaging gas, and conductive dust; the product should be avoided from snow and rain
Protection class	IP20 for the complete appliance, IP66 for handle outside a cabinet



6. Function requirements for the whole appliance

2P/DC 1500V, the lateral operation is supported to meet the installation in small volume;
The handle outside the cabinet can be added with the padlock in OFF position, and can be interlocked with door in ON position;
Two sets may be added for assistance (Normally Open and Normally Close are optional).

7. Technical indexes

7.1 Applicable standards

IEC 60947-1-2011; IEC 60947-3-2015;
UL98B

7.2 Technical Parameters

Parameter name	Description of the specific parameters
Number of poles	2P
Rated current (A)	325/400A
Rated voltage (V)	DC 1500V
Insulation voltage Ui	1500V
Shell frame level current	400A
Rated short circuit making capacity	20kA
Pollution level	Level 3
Short-time withstand	10kA/50ms
Impulse withstandvoltage	12kV
Protection class	IP66 outside the cabinet, and IP20 inside the cabinet
Operation mode	Front operation Lateral operation
Electrical life	500 times
Mechanical life	10000 times (trial for single item)
Utilization category	DC-21B/PV1/2Ie UL98B
Certification	TUV

8. Restrictions

In this project, JDA-D3VH-400 platform is used for development, where the lateral operation module of the mechanism and the arc extinguishing module of the touch system are newly designed, and the main technical difficulty lies in the electrical life of the product and the compliance of the making and breaking.



9. Special requirements

9.1 Environmental requirements

- 1) Altitude: Below 5000m
- 2) Operating ambient temperature: -30°C~+75°C. At the ambient temperature of 70°C and altitude of 2000m-5000m, the derating factor for the rated current and voltage of the switch :

JDA-D3VH-400 Derating factor of ambient temperature		
Ambient temperature	70°C	75°C
Dielectric	4000V	4000V
Rated working current derating factor	1	0.95
Rated working voltage derating factor	1	1

JDA-D3VH-400 Derating factor of altitude						
Altitude	2000m	2500m	3000m	3500m	4000m	5000m
Dielectric	4000V	4000V	4000V	4000V	4000V	3500V
Rated working current derating factor	1	0.96	0.94	0.90	0.88	0.82
Rated working voltage derating factor	1	1	1	1	1	1

- 3) The product can be disposed in places that are free from explosive media, media corrosive to metal, insulation damaging gas, and conductive dust; the product should be avoided from snow and rain.

9.2 Electromagnetic compatibility requirements

N/A

9.3 Protection requirements

IP20 for the complete appliance, and IP65 for handle outside a cabinet.

9.4 Safety regulations

- 1) Do not touch the non-insulated exposed parts of the disconnecting switch when it is connected to a power supply;
- 2) The connecting conductor shall be fastened onto the frame of the power distribution cabinet. The switch shall not undertake the weight of the conductor. Before fastening the conductor, it is required to make the plane of the busbar or cable terminal in parallel to that of the wiring terminal of the switch. After the conductor is connected with the wiring terminal of the switch by using the bolts, the switch shall not undertake any mechanical stress;
- 3) Reliable cabling is required to prevent the terminals from being burnt out due to abnormal heat at the terminals. We recommend using M10 bolts, and the torque should be 22 N.m. Busbar Size: 2 pcs for 32 mm*4mm or the same sectional area of other buabar;
- 4) The position of the switch inside the enclosure and minimum enclosure (with or without



ventilation) size would be 226 by 328 by 166 mm.
 from enclosure edge to pole 63 mm,
 from enclosure edge to terminal blade or connection bar 26.49 mm,
 from cover to mechanism shaft 17.9 mm.

9.5 Internationalization requirements

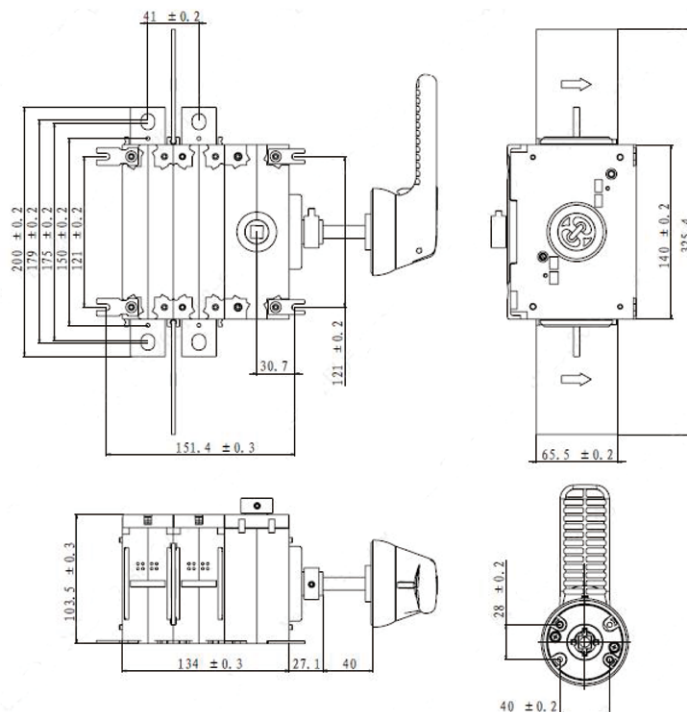
In addition, the energy storage industry with good development mainly happens in North America, Australia, Japan and Korea. Therefore, the product shall pass the UL certification.

10. External interface requirements

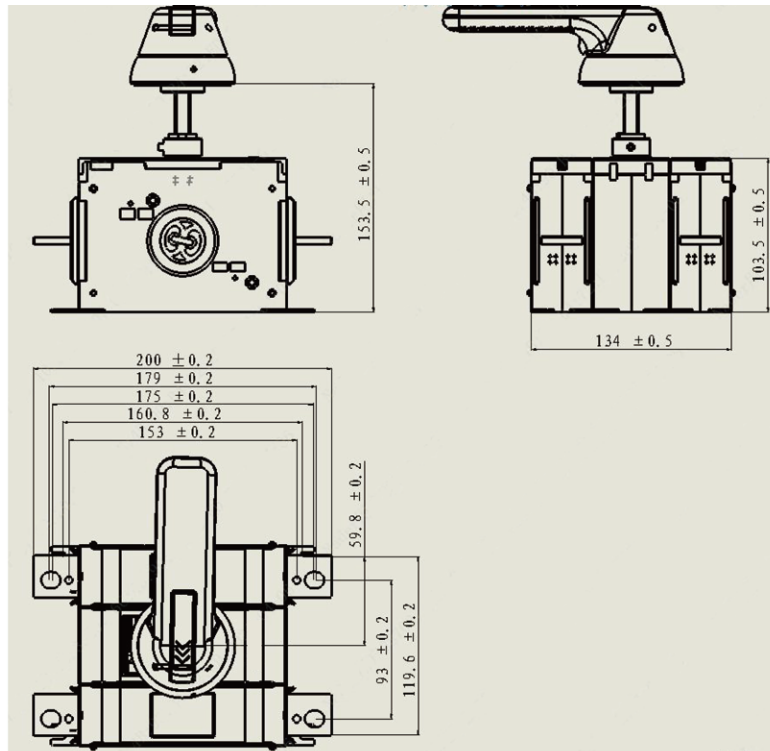
The installation dimensions shall be compatible with 400A counterpart of Socomec, and the outline dimensions are not bigger than that of the benchmark product.

11. Requirements for appearance

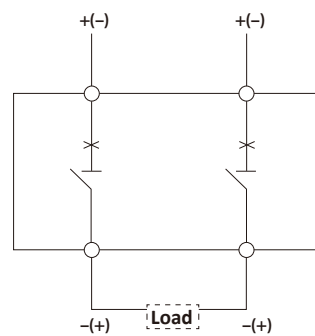
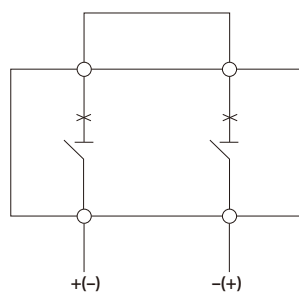
Refer to the outline dimensions of the product in JDA-D3VH-400 Disconnecting Switch
 The switch may be spliced in the left or in the middle:



Left of the mechanism



Middle of the mechanism





12. Installation requirements 9.1 Environmental requirements

Install the product under the environment condition without explosion danger, conductive dust or the possibility of corroding metal and damaging the insulation. The disconnecting switch is fixed by the nails in the installation panel or cabinet.

13. Quality properties

13.1 Maintainability

The product is maintenance-free throughout the life cycle, and the installation and dismantling of the product is same as that of similar products.

13.2 Manufacturability

The products and components of the product are outsourced, and will be assembled in the company. Therefore, necessary tools and equipment are required for assembly and testing.

13.3 Testability

Contact head parameters (opening distance, overtravel, and pressure) can be subject to NDT (non-destructive test).

13.4 Extensibility

Two sets may be added for assistance.

14. Requirements for accessories

N/A

15. Environmental requirements

The product complies with the RoHS standards

16. Certification requirements

CCC/CE/TUV/UL The nameplate is attached on the product cover

17. Packaging requirements

The materials for the package of the product: plastic bag sealing, silica gel desiccant, the box material shall be the double-corrugated paper, and the buffer shall be pearl wool;

Storage environment and period: The product packed in case shall be placed in the storehouse with an environment temperature of $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$ and relative humidity (ambient temperature $+25^{\circ}\text{C}$) of lower than 80% and there is no acid, alkaline or other corrosive gases in the surrounding air. Under the above conditions, the storage period shall not exceed 36 months from the date of manufacture



18. Product Model

The product is named according to “LX3-133 Measures on the administration of models for low-voltage electrical appliance products” of the company.

18.1 Certification model

JDA-D3VH-325/400

18.2 Model interpretation

JDA-D3VH-□/□


1 2 3 4 5 6

No.	Code name	Code description
1	Enterprise code	Brand code
2	Product code	D Disconnecting switch
3	Design code	3V
4	Design code	H High parameter
5	Rated current (A)	In: 325/400
6	Number of poles	2: 2P



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