

Shanghai Liangxin Electrical Co., Ltd.

NDG3A-1000Z/1600Z

Product Specification

(IPD-ENG-DEV-T20 A2 2023-03-14)

Prepared by	Liu Donghui	Date	20240306
Reviewed by	Fan Cong	Date	20240306
Countersigned by	Ding Yingying	Date	20240306
Approved by	Hu Qi	Date	20240306

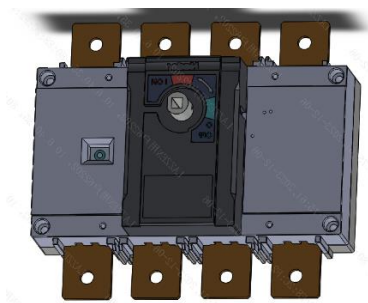
Revision History					
Version	Revision Reason/Content	Implementation Date	Prepared by	Reviewed by	Approved by
0	Add	20231206	Liu Donghui	Fan Cong	Hu Qi
1	Increase the capacity reduction coefficient	20240306	Liu Donghui	Fan Cong	Hu Qi

1 Application Scope and Purpose

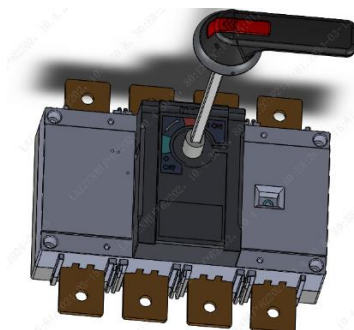
The NDG3A-1000Z/1600Z disconnecter is designed for use in DC power systems operating at a maximum rated voltage of DC1500V and carrying a rated current of 1000A/1600A. It can be used for infrequent switching operations and provide line isolation, It also provides safe isolation for various lowvoltage circuits in the field of energy storage.

2 Picture of the Product

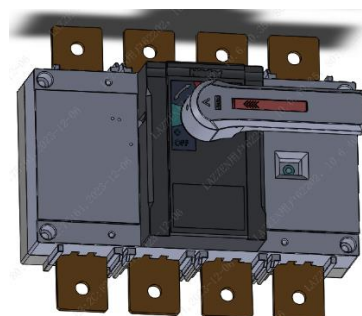
Picture 1
Product ontology



Picture 2
Operate products outside the cabinet



Picture 3
Operate products in the cabinet



Note: The above images are for structural reference only, and the specific appearance is subject to the actual product.

3 Specifications and Models Description

ND G 3A - □ □ □ □
1 2 3 4 5 6 7

SN	SN Description	Code Description
1	Enterprise code	ND: "Nader"
2	Product code	G: Disconnecting switches/disconnectors
3	Design SN	3A
4	Rated current (A)	In: 2000、2500
5	Product type	Z: DC disconnecter
6	Number of poles	2: 2 poles
7	Handle type	P: Handle outside a cabinet. Need to select extra outside handle specifications, such as SB1-200/G3A-800. K: Handle interior a cabinet

4 Main Technical Parameters

4.1 Electrical parameter

Table 1: Main Technical Parameters of Isolator

Product Model	NDG3A-1000Z	NDG3A-1600Z
Applicable Standards	IEC60947-1 / GB/T14048.1, IEC60947-3 / GB/T14048.3	
Certificated	CCC、CE、TUV	
Number of product poles	2	
Rated working voltage Ue (V)	DC1500V	
Rated insulation voltage Ui (V)	1500V	
Rated impulse withstand voltage Uimp (kV)	12	
Rated current In (A)	1000A	1600A
Rated short-time withstand current Icw (kA) 1s	19.2 kA	
Rated limited short-circuit current	85 kA	
Rated frequency	DC-20A/B	
Electrical life(times)	2500	
Operating torque (N.m)	18	
Tightening torque of cable screws(N.m)	10	
Cross-sectional area of a copper busbar(mm²)	3 pcs 100×5	4 pcs 100×5
Installation method	M6 Screw mounting	
Weight (kg)	6	

5 Normal Working Environment

- 5.1 The ambient air temperature range for normal operation is $-40\sim+55^{\circ}\text{C}$, when the ambient air temperature exceeds $+55^{\circ}\text{C}$, the user should negotiate with the manufacturer, the user should negotiate with the manufacturer, refer to table 2.

Table 2 Temperature derating of NDG3A-1000Z, NDG3A-1600Z

环温	65℃	75℃	85℃
工作电流修正系数	1	1	1

- 5.2 Products are suitable for altitude: below 2000 meters; at elevations surpassing 2000 meters, users are advised to enter into consultations with the manufacturer before proceeding with use, refer to table 3.

Table 3 Altitude derating of NDG3A-1000Z, NDG3A-1600Z

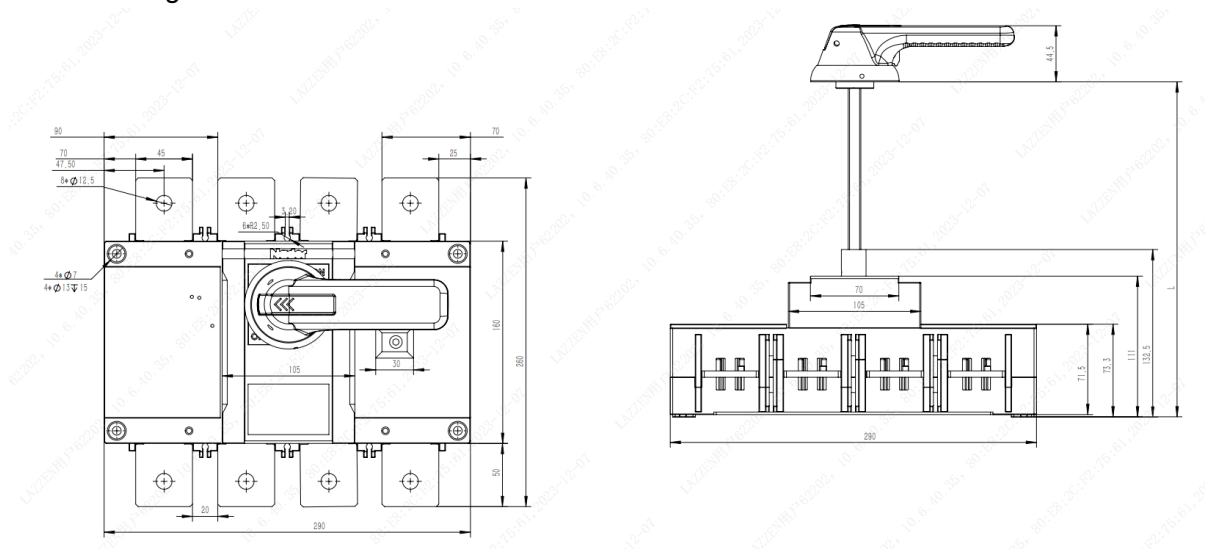
海拔	2000m	3000m	4000m
冲击耐压	12kV	12kV	12kV
工频耐压	3820V	3820V	3820V
工作电压修正系数	1	1	1
工作电流修正系数	1	1	1

- 5.3 The relative humidity at an ambient temperature of +40°C should not exceed 50%. A higher relative humidity is allowed at a lower humidity. For example, 90% at 20°C. Special measures should be taken for occasional condensation due to temperature changes.
- 5.4 In a medium where there is no danger of explosion, and where the medium is free of gases and conductive dust sufficient to corrode metal and destroy insulation; Where there is no rain or snow.
- 5.5 Pollution level
Pollution Level III
- 5.6 Installation category: III and IV
- 5.7 Environmental protection requirements comply with the requirements of RoHS2.0 directives
- 5.8 Class of protection
Machine IP20, Outside handle IP65

6 Outline and Installation Dimensions

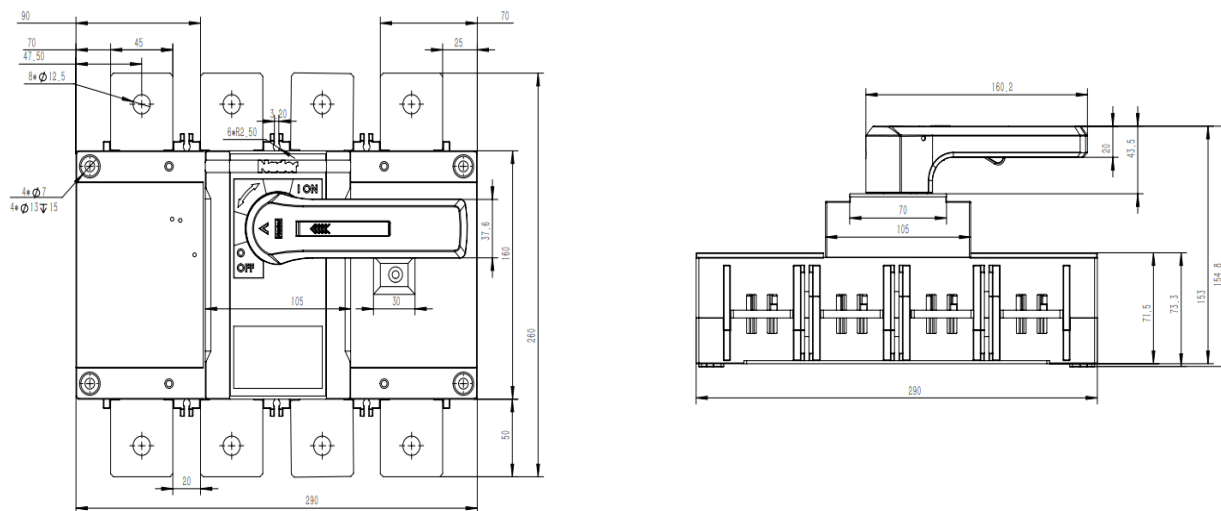
6.1 NDG3A-2000Z/2500Z Product outline and installation size of external handle of bipolar cabinet

External handling handle: SB1-"A"/G3A-800

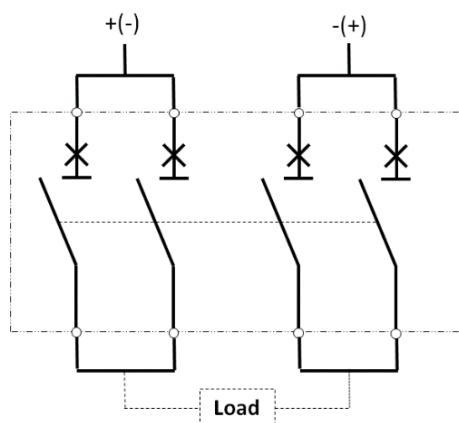


$L = "A" + 65.5$ (unit: mm, A: Square shaft length of handle outside a cabinet)

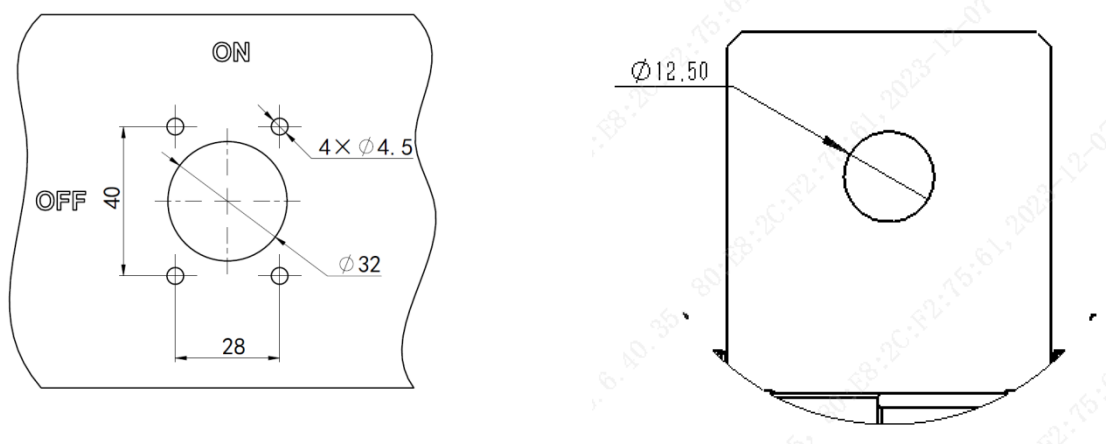
6.2 NDG3A-1000Z/1600Z Product dimensions of handle inside bipolar cabinet



6.3 NDG3A-1000Z/1600Z Wiring methods of bipolar products



6.4 Cabinet door installation opening dimensions: SB1- "A" /G3A-800, wiring bar dimensions

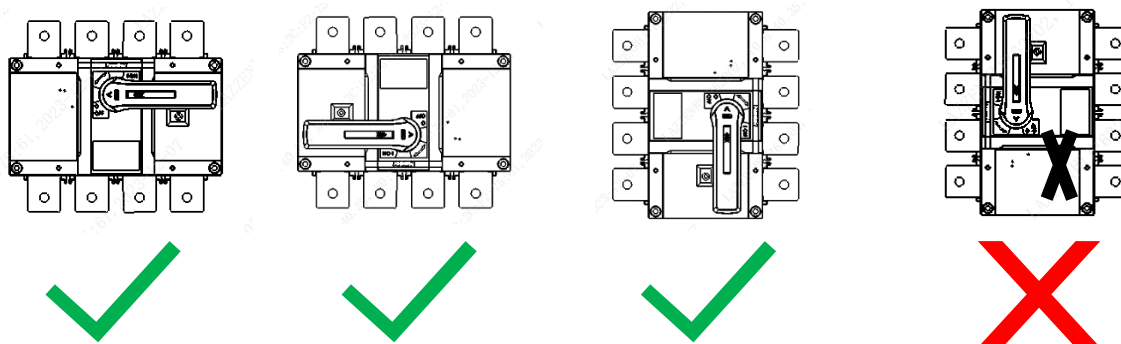


7 Installation Method

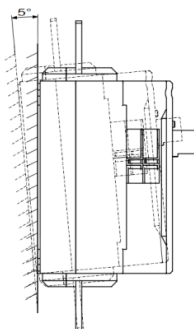
Installation mode: Isolation switch screw installation, handle cabinet door installation

Installation position: Vertical installation and horizontal installation

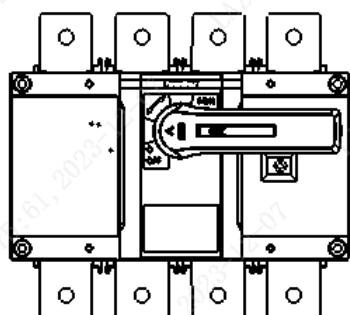
When installed vertically, the contact position inspection window should not face up, as shown in the fourth method below.



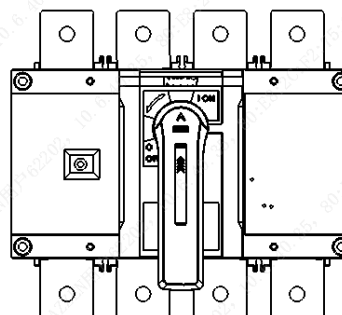
The inclination of the installation vertical plane is not more than 5° , and the installation direction is shown in the following figure.



Status position: This product has two position states, that is, the closing position "I/ON" and the opening position "O/OFF", as shown in the figure below.



Opening position



Closing position

8 Packaging and Storage

8.1 Isolation switch product packaging

Serial number	Specification	Number of poles	Set number
1	NDG3A-1000Z NDG3A-1600Z	2P	1 set/box

8.2 Transportation and storage

In storage should be prevented from being invaded by rain and snow, and should be stored in the air circulation and relative humidity is not greater than 80%, the temperature is not higher than +85 ° C, not lower than -40 ° C warehouse. Store in a warehouse without acidic, alkaline or other corrosive gases in the surrounding air. Under the above conditions, the storage period shall not exceed 3 years from the date of production.

9 Environmental Compliance

Products comply with RoHs2.0.

10 Accessories

10.1 List of accessories

SN	Name	Accessories Installation and Quantity
1	Handle	Mounted on the cabinet door, connected to the body with square shaft
2	Auxiliary contact	Mounted on the front left of the main switch, up to two units

10.2 Optional accessory model explanation

10.2.1 Model interpretation of handle outside a cabinet

Model and significance		
SB 1 - □ / G3A-800 1 2 3 4		
SN	SN Description	Designation
1	Function code	Handle
2	Design SN	1
3	Square Shaft Code	88: Shaft length of 88mm 200: Shaft length of 200mm 275: Shaft length of 275mm 400: Shaft length of 400mm 650: Shaft length of 650mm
4	Suitable switch model	The G3A-800 is suitable for NDG3(A)-315、400、500、630、800、 NDG3A-250H; NDG3A-1000Z、1600Z

10.2.2 Auxiliary contact model interpretation

Model and significance		
F 1 - □ □ /G3-800 1 2 3 4 5		
SN	SN Description	Designation
1	Function code	Auxiliary Contacts
2	Design SN	1
3	Pairs of contacts	11: One NO, One NC
4	Number of auxiliary switches to be installed	A: One for each unit B: Two for each unit
5	Suitable switch model	The G3-80 is suitable for NDG3(A)-500、630、800、1000、1250 NDG3A-1000Z、1600Z

10.1 Accessory Parameters

Auxiliary switch main parameters

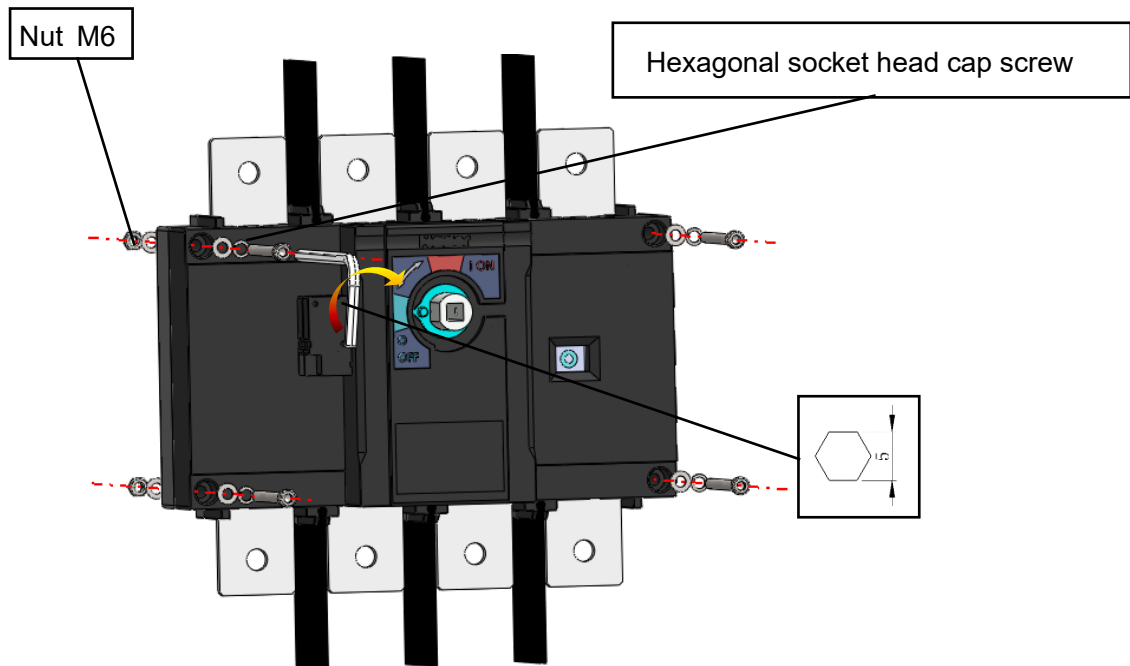
➤ Electrical parameters:

Rated working voltage	AC250V	DC250V	DC125V
Rated working current	16A	0.3A	0.6 A

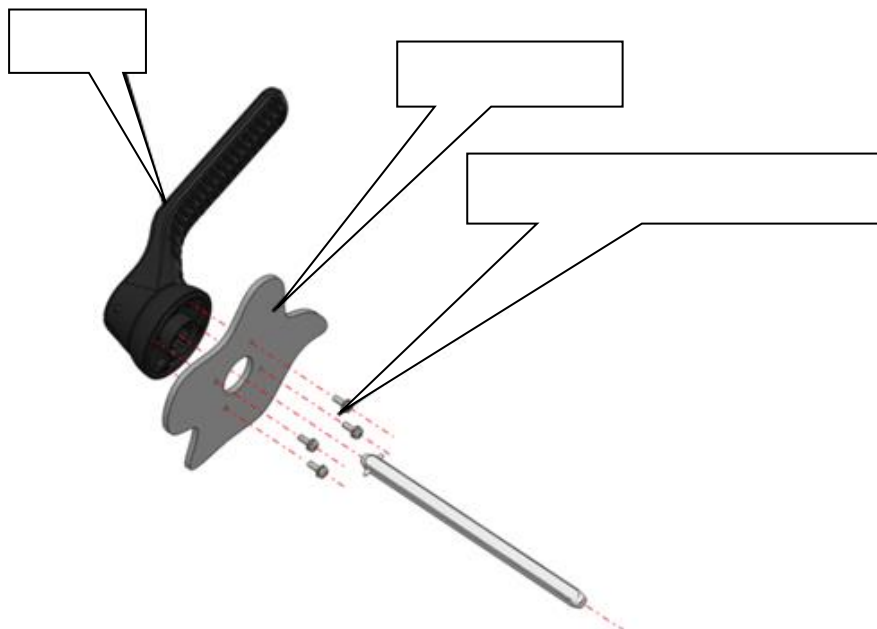
- Rated insulation voltage : AC1000V
- Agreed thermal current: Ith: 16A
- Rated frequency: 50/60Hz
- Minimum load: DC30V 0.1A
- Usage category: AC-15, DC-13
- Protection class: IP20
- Electrical life: 20000 times
- Standard certification: GB/T 14048.5
- Comply with ROHS 2.0

10.2 Accessory mounting method

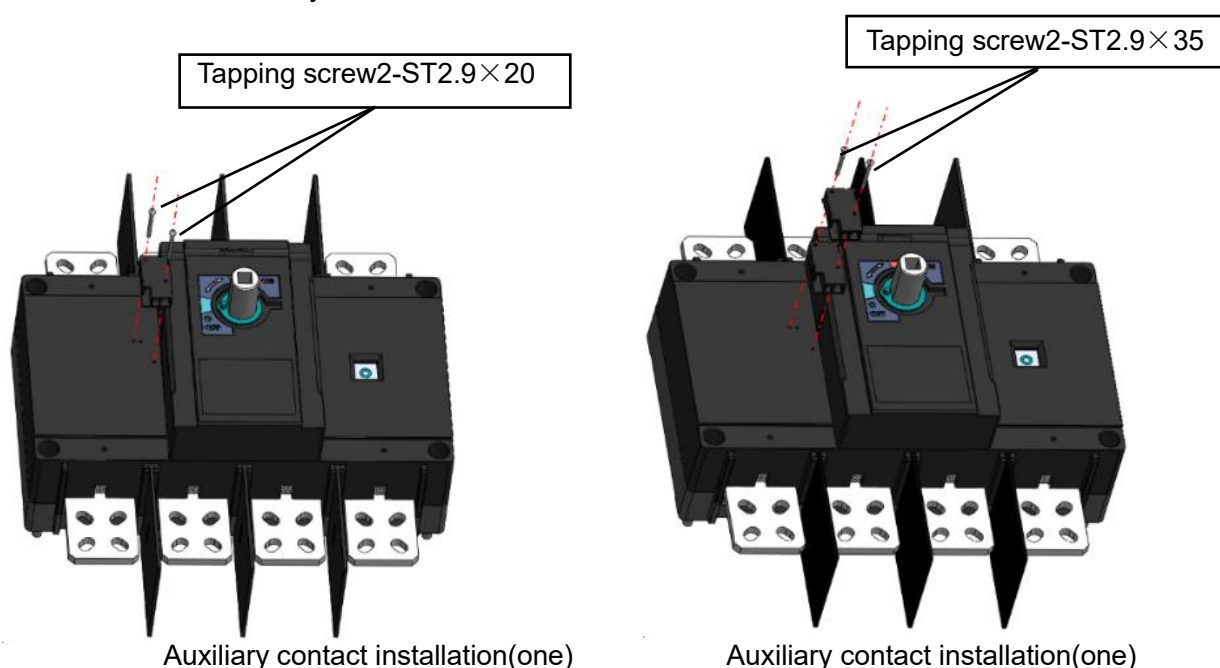
Installation of product body



Installation of the handle outside a cabinet



Installation of auxiliary contacts



11 Precautions

- 1) Any quality problem due to disassembly without permission will be the liability of the user
- 2) Do not touch the non-insulated exposed parts of the disconnecting switch when it is connected to a power supply
- 3) Reliable cabling is required to prevent the terminals from being burnt out due to abnormal heat at the terminals
- 4) Connecting wires shall be fastened in the distribution cabinet rack. 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