



## GPN1-12kV Removable AC Metal-clad Enclosed Switchgear

### Summary

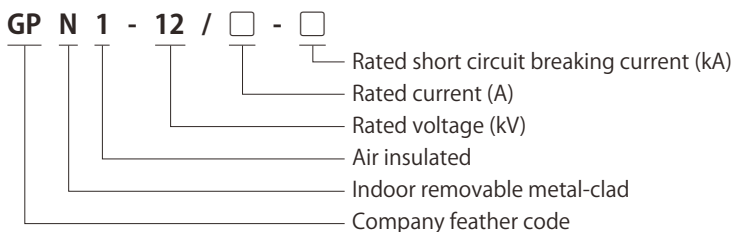
GPN1-12kV removable AC metal-clad switchgear (short for panel as below) is a new product, designed and developed by us, based on the introduction of advanced foreign design and manufacturing technology. The panel applies to 3.6~12kV 3phase AC 50Hz network for receiving and distributing power energy and also for control, monitor and protection. It can be arranged for single busbar, single busbar sectionalizing system or double busbar. It accords with IEC298 "AC Metal Enclosed Switch and Control Equipment above 1kV and below 52kV "IEC 694 Standard Common Clauses for High Voltage Switchgear ", DIN. VDE " AC Switchgear at Rated Voltage Above 1kV ", GB 3906 " 3~35kV AC Metal Enclosed Switchgear and so on. It has perfect and reliable prevention function against misoperation.



### Ambient condition

Ambient temperature: -25°C ~ +45°C , daily average: ≤ 35°C  
 Altitude: 1000m(Standard); can up to 4500m for special ordering;  
 Relative humidity: daily average ≤ 95%, monthly average ≤ 90%;  
 Earthquake intensity: ≤ 8 degree;  
 Applicable occasions should be free from inflammables, explosives, corrosives and severe vibration.

### Model and its meaning



Note: Suitable for ABB/ Siemens, Schneider etc. brands of vacuum circuit breakers.

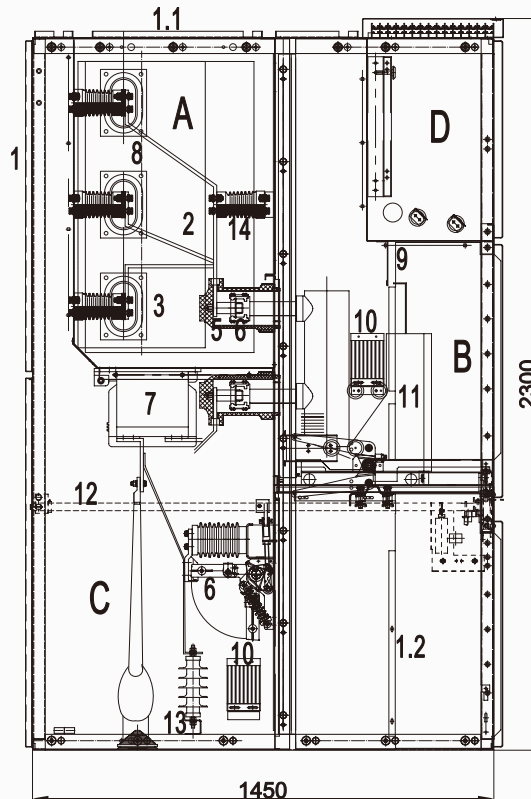
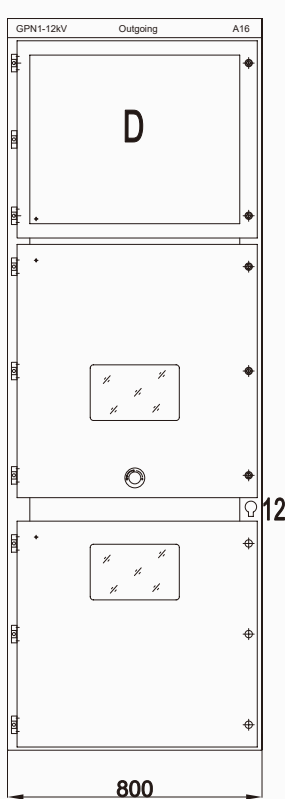
### Products feature

- 1) This product is applicable for our own made GPNV-12kV embedded or insulating sleeve vacuum circuit breaker or ABB's VD4 vacuum circuit breaker.
- 2) Our production configuration GPVC vacuum contactor - fuse combination or ABB company's VC vacuum contactors, which can be composed of F-C loop cubicle, to meet the electricity system of power plants and demand of other industrial and mining enterprises.
- 3) Using excellent aluminum-zinc clad steel plate by precision CNC machining equipment assembled into the cabinet, and the use of double bending process, greatly improve the strength of the cabinet.
- 4) Door surface by epoxy resin electrostatic powder spray process, resistance of corrosion, oxidation, impact and strong adhesion.
- 5) Cabinet fully enclosed structure is realized fully armored, the functional units are completely separated. When the door is closed, it can achieve the operation of circuit breaker and earthing switch.
- 6) Precision screw drive mechanism, ensure the trolley with good interchangeability.
- 7) Perfect primary plan to meet the various needs of users, and enables double trolley plan.
- 8) Fast earthing switch for earthing and short circuits, and to achieve electric (Motorized) operation.
- 9) Simple and effective "Five Safety" interlock mechanism can reliably prevent misuse and ensure operator's safety.
- 10) Switchgear is belonging to Arc-proof type, on the top of bus compartment, Vacuum circuit breaker compartment, and cable terminal compartment are equipped with pressure relief devices.
- 11) Cable compartment has ample space, can be easily connected to a plurality of cables, and make sure the installation height of the cable plug.
- 12) Strict protection rating (IP4X), to effectively prevent foreign matter or pest invasion.
- 13) Optional secondary system following the security monitoring device has a self-diagnostic function and data communication, intelligent integrated computer, to achieve remote control, remote telemetry, remote viewing, remote adjustment.
- 14) Meet GB3906, GB / T11022, DL404 and IEC60298, IEC62271-1 standards, and through a comprehensive test type test and plateau test (3000 m).
- 15) Passed electromagnetic compatibility tests in the high voltage equipment test laboratory.

## ■ Technical specification

Item	Unit	Data	
Rated voltage	kV	6~12	
Rated frequency	Hz	50/60	
Rated current	A	630~4000	
Rated insulation level	1min Power frequency (Phase to earth / across open contacts)	kV	42/48
	Lightning impulse withstand voltage (Phase to earth/across open contacts)	kV	75/85
Main busbar rated current	A	1250, 1600, 2000, 2500, 4000	
Sub-busbar rated current	A	630, 1250, 1600, 2000, 2500, 3150	
Rated short time withstand current (4s)	kA	16, 20, 25, 31.5, 40, 50	
Rated peak withstand current	kA	40, 50, 63, 80, 100, 125	
Protection degree		Enclosure IP4X, IP2X (VCB door opened)	
Outline dimension (width/depth/height)	mm	650 (800, 1000) / 1500 (1300, 1670, 2000) / 2300	
Weight	kg	500~1200	

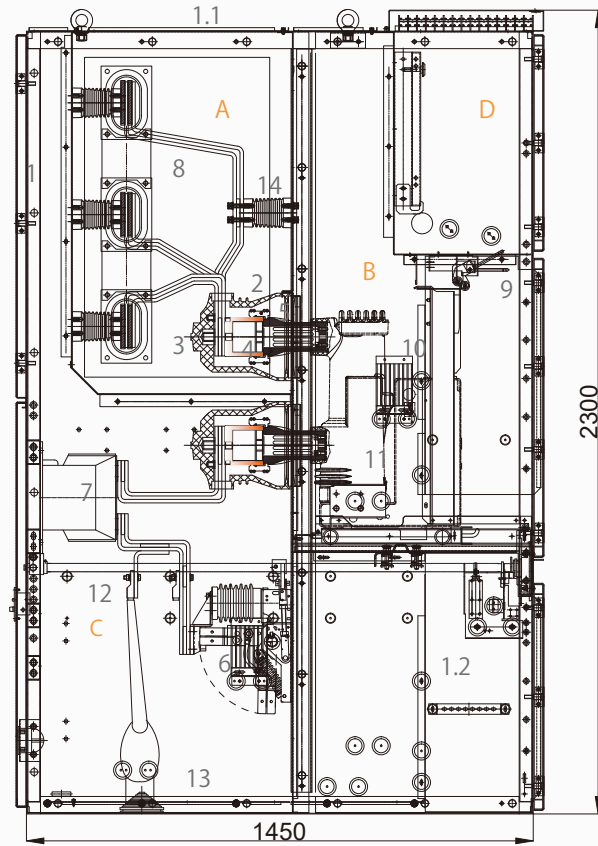
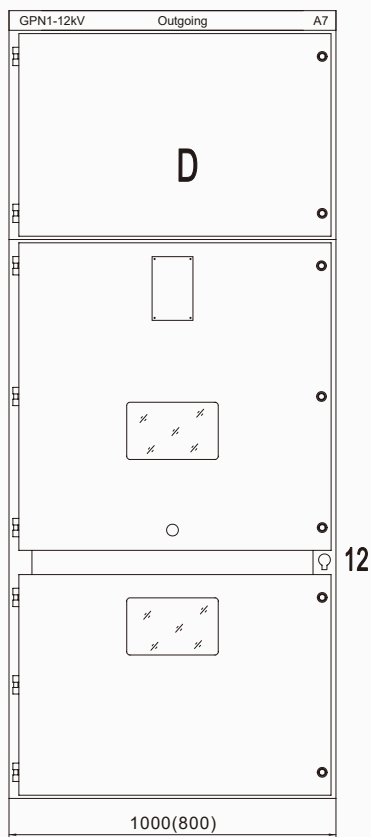
## ■ Structure drawing of cubicle 630A~1250A



- A. Busbar compartment
  - B. Circuit breaker compartment
  - C. Cable compartment
  - D. Metering compartment
1. Enclosure
  - 1.1 Pressure releasing plate
  - 1.2 Cover plate of control cable
  2. Branch busbar
  3. Busbar
  4. Fixed contact
  5. Tulip contact
  6. Earthing switch
  7. Current transformer (CT)
  8. Dismountable separating plate
  9. Secondary plug
  10. Heater
  11. Draw-out vacuum circuit breaker
  12. Operation mechanism of earthing switch
  13. Lighting arrestor
  14. Insulator

Note: here only show the outgoing schematic for reference. For the other schematic, Please consult with GP for more details.

■ Structure drawing of cubicle 1600A~4000A



- |                                |                                  |  |
|--------------------------------|----------------------------------|--|
| A. Busbar compartment          | 1.2 Cover plate of control cable | 8. Dismountable separating plate           |
| B. Circuit breaker compartment | 2. Branch busbar                 | 9. Secondary plug                          |
| C. Cable compartment           | 3. Busbar                        | 10. Heater                                 |
| D. Metering compartment        | 4. Fixed contact                 | 11. Draw-out vacuum circuit breaker        |
|                                | 5. Tulip contact                 | 12. Operation mechanism of earthing switch |
| 1. Enclosure                   | 6. Earthing switch               | 13. Lighting arresstor                     |
| 1.1 Pressure releasing plate   | 7. Current transformer(CT)       | 14. Insulator                              |

Note: here only show the outgoing schematic for reference. For the other schematic, Please consult with GP for more details.

■ Vacuum circuit breaker plan

Rating current of Branch bus (Ie)	Width (W)	Depth (D)	Height (H)
Ie≤1250A	650	1350 or 1450 or 1550 or 1610	2300
	800		
Ie≤1600A	800	1550 or 1610	2300
1600A≤Ie≤4000A	1000	1550 or 1610	2300

■ Vacuum contactor plan

Rating current of Branch bus (Ie)	Width (W)	Depth (D)	Height (H)
Ie ≤ 400A	650	1400 or 1500 or 1600 or 1660	2300

Note: See page 26/27 for more information of F-C circuit plan.