

## MNS Low Voltage Withdrawable Switchgear

### Summary

MNS model LV switchgear is suitable for AC 50~60Hz, 660V and below power system. It is applied into power plant, substation, oil field, chemistry industry, metallurgy, mineral enterprise etc. To receive and distribute power with the function of control, protection and monitor. Different types of switch is used inside the cabinet.

The LV Switchgear conforms to IEC60439 VDE0660, part five, GB7251 " LV Switchgear and controlgear " standard and JB/T9661 " LV draw out switchgear " standard.

### Ambient condition

1. Ambient temperature:  $\leq +40^{\circ}\text{C}$ , daily temperature  $\leq +35^{\circ}\text{C}$ , lowest temperature  $\geq -5^{\circ}\text{C}$ ;
2. Relative humidity at highest temperature  $+40^{\circ}\text{C}$ ,  $\leq 50\%$ , allowed max. relative humidity at low temperature, for example,  $+20^{\circ}\text{C}$  is  $90\%$ , it will occur moderate moist due to temperature change;
3. Altitude:  $\leq 2000\text{m}$ ;
4. The device is suitable for transportation and storage as the following temperature:  $-25^{\circ}\text{C} \sim 55^{\circ}\text{C}$ . The device should not be suffered from non-recovery damage.



### Technical specification

Primary circuit technical parameter (as per DW45)

Type	Rated current (A)	Rated current of over current release (A)	Rated insulation voltage (V)	Rated breaking capacity				Short time withstand current (1s)
				Rated making capacity				
				Instantaneous		Delay 0.42s		
660V	380V	660V	380V					
DW45-600	600	250,400,630	660		42/88.2		22/46.2	30
DW45-1000	1000	250,400,630,1000	660		50/105		30/63or40/84	40
DW45-1600	1600	1000,1250,1600	660	30/63	65/143	22/46.2	35/80.5	50
DW45-2000	2000	1250,2000	660	30/63	65/143	30/63	35/80.5	50
DW45-3200	2000	1250,2000	660	30/63	70/154	30/63	70/154	70
DW45-2000G	3200	2000,3200	660	50/105	65/143	42/88.2	42/88.2	65
DW45-2000G	3200	2000,3200	660	50/105	85/187	42/88.2	42/88.2	85
DW45-5000	5000	5000	660	50/105	120/264	42/88.2	42/88.2	100

### Outline and installation dimension

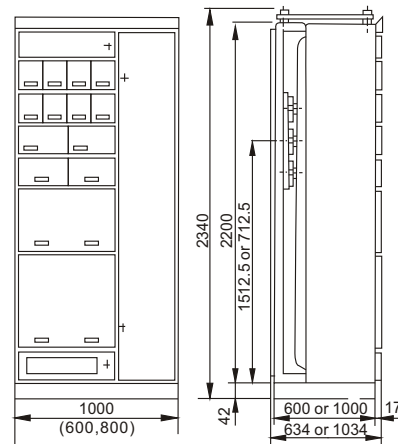


Fig.1 Draw out type MCC panel

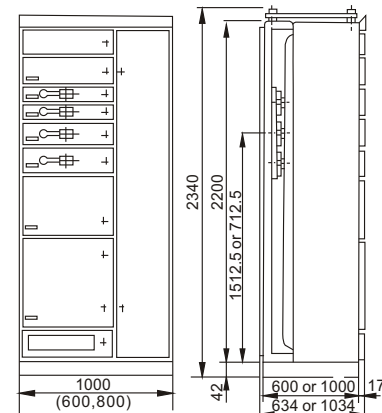


Fig.2 Removable type MCC panel

## GCS Low Voltage Withdrawable Switchgear

### Summary

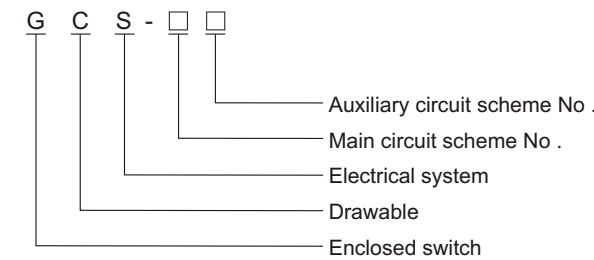
LV withdrawable switchgear is suitable for distribution system of power plant, high building and some lines, such as petroleum chemistry and industry, metallurgy, textile, etc. It is applicable for distribution, motor centralized control, reactive power compensation in power generation and power supply system of three phase AC 50/60Hz, rated voltage 380V(400V,600V), rated current 4000A and below, where require high automation and interfaces with computers.



### Ambient condition

1. Ambient temperature:  $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$ , daily average  $\leq +35^{\circ}\text{C}$ . It should reduce capacity according to real condition when out of stipulation;
2. Indoor, Altitude  $\leq 2000\text{m}$ ;
3. The change of ambient relative temperature will cause a little moist by accident;
4. The slant between device installation position and vertical section  $\leq 5^{\circ}$ ;
5. Occasions without flammable and explosive matter, without corrosive chemical and frequent severe vibration.

### Model



### Structure feature

1. Main frame adopts 8MF open type steel which bended by 2.5mm cold rolled steel sheet. There are modulus with 20mm, 100mm, 9.2 mm installation hole located on three side, high strength for modelling installation conveniently.
2. The drawer divided into 1/2 unit, 1 unit, 2 unit, 3 unit, loop rated current is 400A and below.
3. Flexible assembly, compact structure, strong versatility, perfect secure performance, convenient assembly.
4. Improve thermal capacity of patchboard, reduce additional temperature rise of plug in, cable terminal, isolating board due to temperature rise of transition element.
5. It can not influence others unit when any unit appears to fault between function unit and isolating unit, limit the emergency in a small scope.
6. Busbar horizontal is good for dynamic and thermal stable performance.
7. The maximum 22 loops for MCC single panel, take consideration of requirement of auto motor door group about large unit capacity power plant, petroleum chemistry system line.
8. It finish connection of device and outer cable in cable compartment, upper and down inlet and outlet is available. The zero sequence current transformer is installed in the cable isolating compartment.
9. It can limit short circuit current depend on limited reactor in the same power distribution system, to stabilize busbar voltage, reduce short circuit intensity requirement.