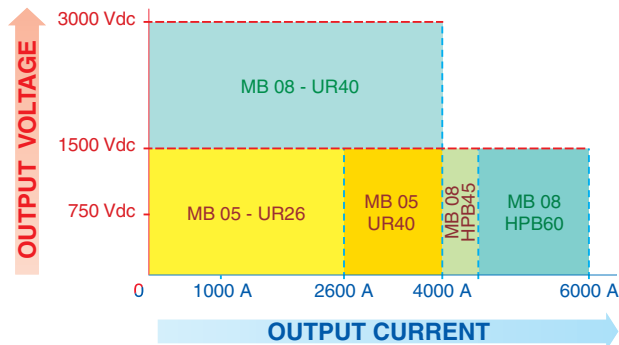


SUBSTATIONS

## D.C. Switchgear Type MB



## Main applications and product range



Modern DC traction networks require safe power distribution and reliable control systems. The MB high speed circuit-breakers (HSCB) cubicles are suitable for a large number of applications, such as Light Rail Transit, Heavy Rail Transit, metros and trains. The MB family offers a wide range of output current, from 1000A to 6000A and for typical DC voltages between 750V and 3000V.

The DC switchgear serves as control and protection equipment for the distribution of DC power to the overhead lines or third rails.

## Description

The metal clad DC switchgear type MB is a modular concept cubicle which integrates three separated compartments for high and low voltage equipment:

- High speed circuit breaker compartment
- Busbar rear compartment
- Protection and control compartment

### High speed circuit breaker compartment

The high-speed circuit breaker (Sécheron's UR or HPB) is mounted on a removable four-wheeled trolley which can be easily drawn in or out of the cubicle.

It is connected or disconnected from buses by means of power finger connectors and from auxiliary circuits by means of multiple connectors.

All trolleys are easily manoeuvrable.

The draw-out circuit breaker trolley has four positions:

- Service position (interlockable)
- Test position (interlockable)
- Disconnected position
- Removed position

### Busbar rear compartment

The busbar rear compartment is composed of two main parts:

- Main incoming busbar
- Connection for outgoing cables. Copper bars are provided to connect the power cable to the third rail or catenary.

The measuring shunt is inserted in these copper bars.

### Protection and control compartment

Accessible from the front of the cubicle, this low voltage compartment is composed of the SEPCOS protection and control relay, the protection and control components and the low voltage equipment.



*MB cubicle*



*Trolley equipped with UR26/81 HSCB*

## Main technical data

	Symbol	Unit	MB 05		MB 08		
Cubicle type							
Rated service current	$I_{Ne}$	[A]	2600	3600 & 4000	4000	4500	6000
Rated voltage	$U_{Ne}$	[VDC]	750 to 1500	750 to 1500	3000	750 to 1500	750 to 1500
Circuit breaker type			UR 26	UR36 & UR40	UR40	HPB45	HPB60
Power frequency withstand voltage Active part to earth (50 Hz, 1min)		[kV]	5.5 to 8.5	5.5 to 8.5	12	5.5 to 8.5	5.5 to 8.5
Main busbar	$I_e$	[kA]	upon application up to 9		upon application up to 9		
Busbar rating: connexion		[A]	2500	4000	4000	4500	6000
Rated short-circuit current (900V) (3000V)	$I_{Nss}/\hat{I}_{Nss}$	[kA]	100/142	125/178	125/178	125/178	-
		-	-	-	-	40/57	-
Protection degree			IP20 / IP30* / IP41*		IP20 / IP30* / IP41*		
Ambient temperature range	T	[°C]	-5...+40	-5...+40	-5...+40	-5...+40	-5...+40
Typical weight		[kg]	350	370	420	450	500
Dimensions (WxDxH)		[mm]	500x1787x2300		800x1787x2300		

\* IP30 / IP41: option

Other characteristics: refer to the data sheet for the individual circuit-breaker type

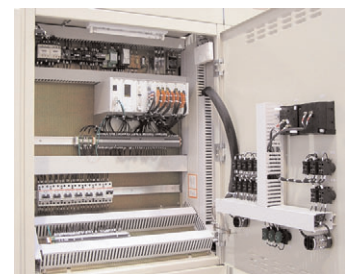
Designed according to standard specifications EN 50123 and IEC 61992

## SEPCOS control and protection relay

The SEPCOS protection and control relay provides reliable protection and control of line feeders and rectifiers groups. It features:

- A recording of the current curve during the last detected failure and last 100 events
- An interfaces with fieldbus, profibus, modbus or modbus+ are available for communication with the central control system (SCADA)
- Control and monitor an automatic line testing and reclosing device (LTD)
- A modular configuration

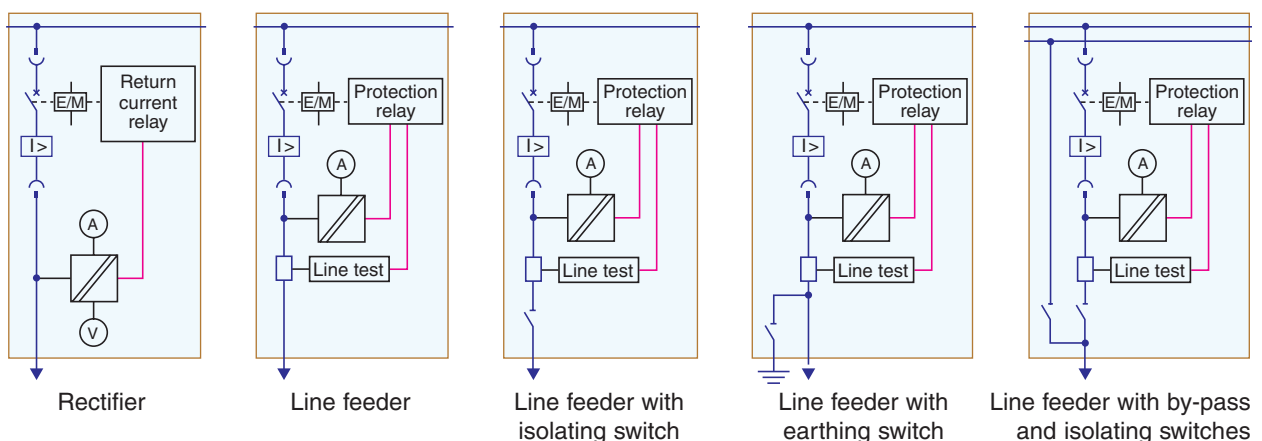
The SEPCOS relay is a microprocessor based equipment. Its purpose is the control of the High Speed Circuit Breaker (ON and OFF orders, line testing, auto-reclosing process) and protection against faults on the system for values lower than the HSCB setting.



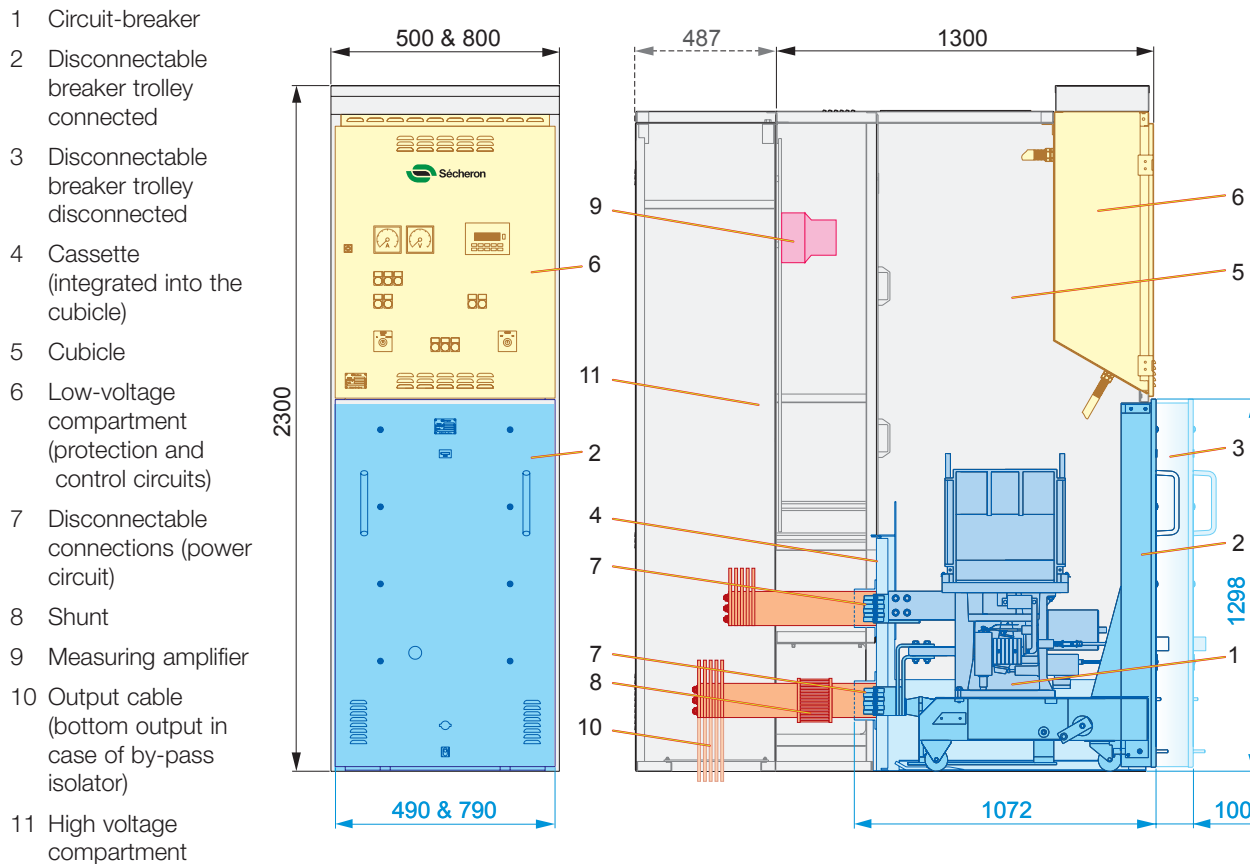
Protection and control compartment

## Applications

Typical cubicle configurations: rectifier and line feeder circuit breakers cubicles.



## Main dimensions (standard version)



## Trolley - Cassette

The CB 05 type cassette (fixed part, with protection shutters, mounted inside a cubicle, holding the circuit-breaker trolley) was specially designed for easy installation in cubicles made by other OEM manufacturers.

All adjustments for the insertion of the carriage into the cassette are made in our factory to facilitate the installation of the unit in original cubicles.

Available cassettes with:

- UR26: 750 or 1500 Vdc applications
- UR36: 750 or 1500 Vdc applications
- UR40: 750 or 1500 Vdc applications

CB05 cassette with HSCB UR26-81S

