Technical Datasheet

Compact Secondary Substation (CSS)
Mercury 10

Steel housing
Primary voltage 12 and 24 kV
Power rating up to 1000 kVA



Features

– High level of safety for equipment and personnel
– All equipment inside CSS is type tested
– Engineered footprint meeting required clearance standards
– Oil collection pit underneath the transformer
– Outside operated steel housing
– Can be lifted with transformer installed (consult ABB first)
– Engineered for smooth air flow and natural cooling
– Locking system for all doors to prevent un-authorized entry of personnel
– Stainless steel hinges for corrosion resistance
– No access to live parts
– Steel parts are tested according to ISO 6988

Definition

CSS is a type tested assembly comprising of an enclosure containing a medium voltage switchgear, a distribution transformer, a low voltage switchboard, interconnections and auxiliary equipment to transform energy from medium to low voltage systems.

Standard features

CSS layout can be equipped with air or gas insulated ring main unit (RMU) for secondary distribution network.

Low voltage side is equipped with LVS concept switchboard. Mercury 10 layout can accommodate up to 16 NH3 size fuselists. Low voltage switchboard can be equipped with DIN busbars, Z busbars or Kabeldon type busbars.

Transformer

CSS is designed and manufactured for installation of dry or oil type transformers with the transformer compartment designed for natural cooling which will meet temperature rise limits and IEC requirements.

Medium voltage

CSS medium voltage compartment design is flexible to accommodate different types of secondary switchgear: 12/24 kV SafeRing / SafePlus with SF6 or non-SF6 insulation up to 5 bays or 12 kV air insulated NAL switchgear up to 4 bays.

Low voltage

Low voltage switchboard is type tested according to IEC standards and can accommodate various types of switching devices such as MCCB’s, ACB’s or fuse switches.

Measurement and monitoring devices, as well as control and communication devices can be accommodated if needed. Busbar sizes are dimensioned according to transformer ratings. Various number and ratings of outgoing feeders are possible, depending on the transformer size and customer needs.

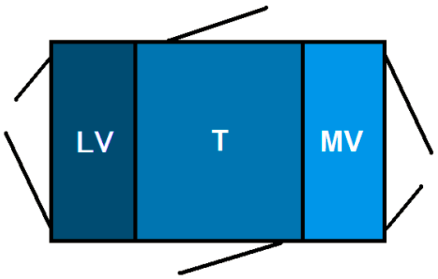
Interconnections

Transformer medium voltage connection is done with single-core XLPE insulated cables (PVC or PE sheath).

Low voltage cable connections are done with double insulated high flexible cable, to provide earth fault and short-circuit proof design for service personnel safety. Interconnection is dimensioned according to maximum transformer ratings.

Optional Features

Enclosure	LV	MV
– Different colors (RAL color system only)	– Lighting	– Surge arresters (overvoltage protection)
– Wooden panels on walls	– Surge arresters (overvoltage protection)	– Motor operation
– Anti-graffiti coating	– Socket outlet	– Remote control system functionality
– Increased roof slope: 18°	– Multimeter	– Tripping devices for transformer feeder
– Distribution transformer	– Current measuring	– Fuse links
– Temperature and pressure tripping wirings	– Voltage measuring	
– Transformer installation	– Fuse links	



Description	Mercury 10	
Power rating	1000 kVA	
MV Switchgear	ABB SafeRing / SafePlus	NAL Switchgear / SafeLink 2
Rated voltage	Up to 24 kV	Up to 12 kV
Short circuit withstand current of internal earthing network	Up to 20 kA, 1 s	
Substation dimension (L x W x H)	2730 x 2130 x 2430 mm	
Weight of substation with or w/o LV/MV switchgear excluding transformer	2790 kg / Up to 3750 kg	
Transformer compartment dimension (L x W x H)	1870 x 1190 x 2200 mm	
Maximum allowed transformer load / no load losses	Ak - Ao	
Enclosure IP class	IP23D	
Enclosure thermal class	20K	
Rated current of LV panel	Up to 1600 A	
Rated short circuit withstand capacity of LV busbar system	Up to 50 kA, 1 s	

Contact us

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