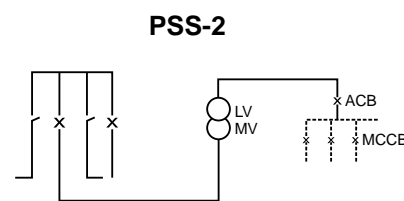
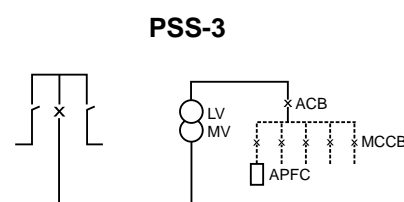


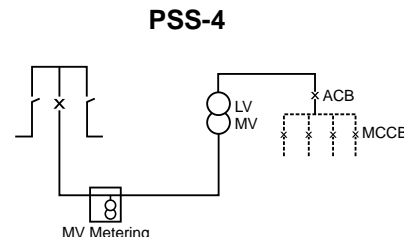
PSS-1



PSS-2



PSS-3



PSS-4

Together as partners

Package Substations supply of Electrical Power to LV Networks. These functional assemblies are:

- Factory built and CPRI tested
- In compliance with IEC 62271-202
- Ready for network connection
- Equipped for outdoor operation
- Equipped for manual or remote controlled MV network management

Description of Outdoor Substations

- A 2mm thick painted GI enclosure mounted on a hot-dip galvanized 4 mm thick GI base. Access to the operating bay and to the transformer itself is provided by two double doors located on each side of substation. The doors can be padlock and/or lock protected. The partitions between the compartments are in 2 mm thick GI.
- MV Switchgear is a compact SF6 insulated ring main unit with 2,3 or 4 functions.
- Transformer is oil-immersed or dry type.
- LV Switchboard:
 - Either a fuse-protected feeder board fitted with a main incomer and 4 to 12 feeders.
 - A rack fitted with an incoming ACB and MCCB outgoing feeders
 - customised design as per requirements (optional)

Standard Configuration

Model	Configuration
PSS-1	3 way RMU with oil transformer and LV Panel
PSS-2	4 way RMU with oil transformer and LV Panel
PSS-3	3 way RMU with oil transformer, 300 kVar APFC and LV Panel
PSS-4	3 way RMU with MV metering, oil transformer and LV Panel



Corporate Office, Gurgaon



Athal Plant



Jammu Plant



Gurgaon Plant



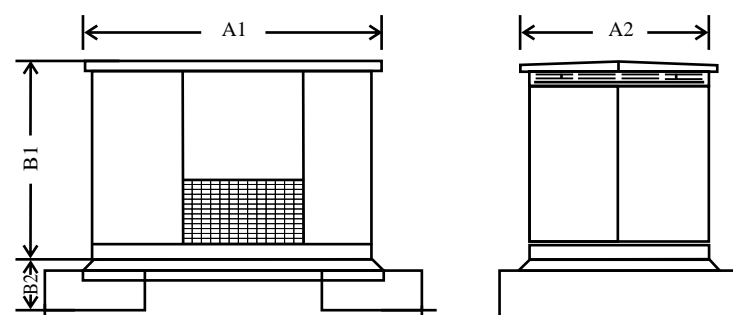
Package Substation - BIOSCO upto 24 KV

The right way for your Electrical Distribution Network



A well proved Schneider Electric design

General Installation and Civil Works Layout



The table below gives footprint dimensions for each enclosure.

KVA	A1	A2	B1	B2 *
Upto 1000	3300	2000	2400	700 *

* Recommended Plinth (Concrete)

Transport and Installation

Package substations are delivered in a protective cover or optionally packed for sea transport. They are fitted with a lifting beam. Package substations dimensions allow 20-feet open top container transport. Units are delivered fully equipped, only the concrete foundation slab and external cable connections are required on site. Commissioning and operating instructions are provided with each substation.

Note : Specifications may change due to regular product updations.



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Sudhir - Powering the Nation

GENERATION • DISTRIBUTION • ELECTRIFICATION

Sudhir is a name synonymous with Power. It stands tall in the Indian Power Generation Sector, providing complete turnkey Electrical solutions from GENERATION, DISTRIBUTION to ELECTRIFICATION. An Industry leader in the field of setting up Diesel base Captive Power Plants upto 20MW having its corporate office in Gurgaon. The Company has a wide blue-chip customer base and operates through multiple manufacturing facilities across India and focuses on Diesel & Gas Generators, HT & LT Switchboards, Transformers and Turnkey EPC contracts.

The product line includes the widest range of Diesel Gensets 15-3000 KVA with a fuel option of Gas, complete range of HT 11KV & 33KV Panels, LT Switchboards, Turnkey EPC contracts covering electrical and mechanical services of Generation, Distribution & Internal Electrification. Six ultra modern state of the art manufacturing plants strategically located in Silvassa, Athal, Jammu, Gurgaon & Bangalore help serve over 40,000 customers.

Sudhir at a Glance

- Sudhir - A legacy of over 3 decades
- A Complete Power Solution Company
- Equity partners - Goldman Sachs & General Electric (GE)
- India's largest Generator set manufacturer-Over 10,000 MW installation base
- Pan India network of offices covering all major metros and cities
- Six state of the art manufacturing plants, one at Silvassa, one at Gurgaon & three at Jammu and one at Bangalore
- 24 hours customer assistance helpline to provide prompt service support

Leaders get together... Schneider-Sudhir

- Sudhir under license from Schneider Electric manufactures BISCO – Packaged Sub Station (PSS)
- BISCO design & know-how from Schneider Electric, France
- BISCO design conforming to IEC 62271 - 202
- Factory built Packaged Sub Station (PSS) for outdoor applications
- Manufactured at Sudhir, Gurgaon plant, with best manufacturing practices of Schneider.
- A co-branded product covering the best of products:
 - Schneider Electric - LV & MV products
 - Sudhir - Transformers, LV panels & Metal Housings

...together a unique concept to meet every customer requirements

Schneider Electric Offering

MV switchgear:
Ringmains Unit
RM6, Ringmaster

MV switchboard

- Rated voltage: upto 24 kV
- Rated current:
- loop: 630 A
- Transformer protection: 200 A upto 630 A according to specifications.
- Short-time withstand current: upto 25 kA -1s



Schneider Electric & SGL Offering

- LV switchboards
- Enerpact and Simpact
- Compact NS
- Masterpact and Simpact
- Masterpact and Compact NS

LV switchboard

- Rated voltage: 440 V
- Incomer: upto 2000 A circuit breaker
- Feeders: max. upto 10 nos. of 250 A MCCB or 7 nos. of 400 A MCCB or 5 nos. of 630 A MCCB



Characteristics of Outdoor Package Substations

Ambient temperature	normal operating conditions	upto 40°C
Standard colour		RAL 1001 (Cream)
Outdoor operation		yes
Compartmentalised Design		yes
Types of ventilation		natural
Degree of standard protection	MV & LV compartment	IP 54
	Transformer compartment	IP 34
Electrical Characteristics		
Rated Voltage(kV)		12/17.5 24
Rated Insulation level	kV rms 50Hz 1min	28/38 50
	kV impulse, 1.2/50µs	75/95 125
Rated frequency		50
Switch connection to MV network		
Rated current (A)		630
Short time withstand current	kA - 1s	25
Peak withstand current	kA peak	62.5
Transformer protected by circuit breaker		
Rated current (A)		200/630
Breaking capacity (A)	Transformer off-load	16
	Cable off-load	30
Short time withstand current (kA 1s)	circuit breaker	25
Peak withstand current (kA peak)	circuit breaker	62.5
Immersed transformer		
Rated power (kVA)		100 to 1000
Rated secondary voltage(V)		440
Vector Group		Dyn 11
Tapping range(%)		±5 insteps of 2.5%
Compliance with standards		IEC 439-1; BS EN 60439 part1; IEC 947-1 and 947-2
Metering devices (LV & MV)		yes (optional)

in partnership with
Schneider Electric

Reaching excellence

BISCO

- BISCO substations have successfully passed internal arcing withstand test for 20kA 1s.
- Access to the MV & LV compartment provided through a double door arrangement.
- Louvers designed for natural ventilation and thermal class K10.
- Roof designed to support load upto 250kg/m².
- Spaciously designed to have adequate clearance.
- Degree of protection for MV/LV compartment is IP54 & for transformer compartment IP34.
- LV interconnection made of Al./CU busbars
- Internal earthing with 50x6mm Aluminium or 25x2mm copper busbars.



The Guiding System, the new way to build electrical systems

sudhir
Powering the Nation

Substation range upto 24 kV

The Schneider-Sudhir MV/LV prefabricated substation is part of a comprehensive offer of products with consistent design.

The PSS is a co-branded product offer covering the best of products from Schneider Electric & Sudhir.

BISCO design comes from Schneider Electric, France. All LT & MV electrical distribution products come from Schneider Electric, India. The Transformer, LT panels & Housing are products from Sudhir.

All these products have been designed to operate together to ensure electrical, mechanical and communication compatibility.

Synergy of Schneider-Sudhir are optimized and more efficient: better continuity of supply, enhanced safety for people and equipment, guaranteed upgradeability, effective monitoring and control

Combined with your know-how and creativity, the Guiding System ensures optimum installations that are dependable, upgradeable and compliant with standards.

MV/LV transformer

- Rated MV voltage: upto 24 kV
- Power: upto 1000 kVA



SGL Offering

- Oil type transformer
- Dry type cast resin transformer
- Dry type VPI transformer

Schneider Electric Offering

- Remote Terminal Unit : Easergy T200
- Fault Passage Indicator: Easergy Flair
- Remote monitoring interface: Easergy W200

Optional Equipment

- LV metering
- MV metering
- Upto 300 kVAR APFC panel
- Remote interface
- Remote control of MV switches
- Monitoring of fault passage indicator
- Remote monitoring interface (load, alarms, events)
- Fault passage indicator

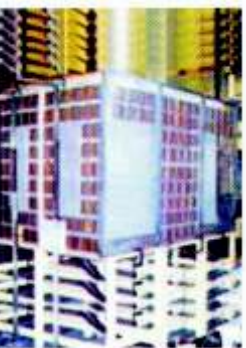


Schneider Electric & SGL Offering

- MV/LV prefabricated substation
- Galvanized steel.

Factory-built enclosure

- Factory-built MV/LV substation assemblies meet users' needs with respect to reliability, safety, overall quality, time-savings and appropriateness for the local surroundings (climatic conditions, operating mode, architectural requirements...)
- 2mm thick painted GI enclosure mounted on a hot dip galvanized 4mm thick GI base.
- Partitions between compartments with 2mm thick GI sheet.
- Gasket/ Stiffeners provided as required.
- Internal lighting facility provided.



Internal arcing withstand test

