

Secondary Enclosed Unit (SEU) Solar Power Collection application

Secondary Enclosed Unit (SEU)

The Secondary Enclosed Unit is designed for large scale solar power generation. The SEU typically consists of routine-tested MV switchgear and a transformer in an enclosure, usually installed as close to the solar strings as possible, to transform and protect the power from the solar string. The enclosure enables the solar collection unit to be easily and rapidly connected to the grid, reduces wear, and simplifies maintenance. The solar inverter can also be installed in the same housing if desired.

Features

- Simple and quick installation – pre-test units at the factory, drop in place and connect cables
- Pre-engineered products to reduce time to quote and supply, while reducing risks
- Engineered for efficient cooling in order to extend the life of the equipment
- All ABB designs are green to support the environment
- No exposed live parts, more safe for operator and personnel
- SCADA ready
- All equipment contained in the solar modules are type tested according to their relevant standards
- Robust and reliable – proven components from a single source
- Compact and easily transportable
- Optional oil collection pit for environmental protection
- Internal maintenance available
- Equipment protected from environment
- Economic solution
- All doors are lockable to prevent unauthorized entry
- Any inverter can be installed internally or connected externally, as required

Transformer

The SEU is capable to accept either oil immersed or dry type transformers. The transformer characteristics are specifically designed to be fully compatible with the requirements of the inverters. The transformer can be provided with alarm and trip contacts for temperature and gas pressure, and can be mounted separately externally, if no enclosure is required.



Medium voltage

The SEU can be provided with different options of Medium Voltage switchgear from ABB's SF6 or air insulated switchgear portfolio. The MV switchgear can be provided with SF6 gas alarm, switch position contacts, plug-in MV surge arresters or auto reclosing functions.

Low voltage

The low voltage protection is included in the inverter equipment. LV cables are directly connected to the transformer LV bushing.

Housing

The housing is a product of ABB's long experience in producing substations all over the world. The steel container is designed for outdoor installation, can be equipped with many safety features and allows walk-in maintenance during poor weather. The transformer and switchgear are enclosed in an optimized layout that provides sufficient air circulation.

Smart Grid

- Smart grid ready for easy connection to any SCADA system through any standard communication protocols
- Remote Terminal Unit (RTU) to monitor the SSU and store data for operation, maintenance and fault analysis
- Local and remote monitoring commands available
- Smart grid compatibility provides supervision and operation of substations from a central office by utilizing end user communication and infrastructure and ABB Station automation device

Pre-engineered solution technical data

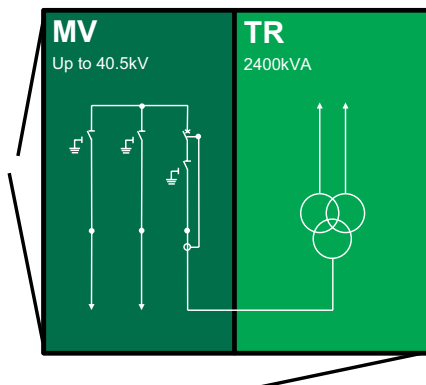
Pre-designed solutions are available for optimized designs and quicker delivery. Power ratings are aligned with the most common inverter power ratings. The solutions are equipped with medium voltage switchgear SafeRing CCV configuration

(cable loop with breaker and relay protection). The transformer includes standard integrated protection for pressure and gas (RIS). Product datasheets are available with an overview of other options available. Pre-designed solutions for Power Collection are shown below:

Style number	SEU-S-1510-0CCV-4000	SEU-S-2410-0CCV-3000
Enclosure type	Steel enclosed	Steel enclosed
Overall parameters		
Length x Width x Height, mm	6100 x 2600 x 2440	6100 x 2600 x 2440
Approximate weight (metric tons)	13.0	13.0
MV switchgear		
Switchgear type	SafeRing CCV	SafeRing CCV
Protection Relay	REJ 603	REJ603
Transformer		
Transformer type	oil immersed	oil immersed
Power rating, kVA	1500	2400
LV Voltage level, V	300 to 400	300 to 400
MV Voltage level, kV max	13.8	40.5
Standard protection	RIS	RIS

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Single line diagram/layout (without inverter)



For more information please contact:

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General technical data

Nominal output voltage range	6 kV to 40.5 kV
Ambient temperature range	-25 °C to +40 °C
Relative humidity, non-condensing	95%
Max altitude above sea level w/out derating	1000m
Corrosion class (ISO 12944-2)	C5M
Minimum IP rating	IP23D

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