

Power Systems

ABB Solar Station Plus

Your reliable turnkey central inverter solution for large-scale PV



Be Successful. Use ABB Solar Station Plus.

Power and productivity
for a better world™



Your reliable solution from ABB

The ABB Solar Station is a turnkey, plug-and-play solution designed for large-scale PV power generation. It houses all the electrical equipment that is needed to rapidly connect a PV power plant to a medium voltage (MV) electricity grid. All the components within the ABB Solar Station are genuine ABB products that are designed and optimized to work with each other for the highest reliability and performance.

The ABB Solar Station design capitalizes on ABB's long experience in developing and manufacturing electrical equipment, secondary substations and solar systems for utilities and major end-users worldwide. Each ABB Solar Station houses two ABB central inverters, an ABB dry-type transformer, an ABB gas-insulated MV switchgear and auxiliary equipment and UPS for ancillaries. The station is designed to connect a PV power plant to a MV electricity grid, easily and rapidly. To meet the required capacity, several ABB Solar Stations can be combined.

The steel-framed insulated container comes complete with eight lower feet that can be easily positioned on top of simple concrete pylons, significantly saving on required civil works and unloading. The compact footprint and low weight make the container easy to be lifted via a standard crane.

Highlights:

- Proven technology and reliable components
- Compact and robust design
- High total efficiency
- Modular and serviceable system
- Global life cycle services and support
- Full grid support functionality

Options:

- Various MV AC output voltages
- Different MV switchgear configurations
- Motorized switchgear

- I/O extensions
- Smart control capabilities

Inverters

ABB solar central inverters are the result of decades of industry experience and the use of proven frequency converter technology. Unrivalled expertise from the world's market and technology leader in frequency converters is the hallmark of this solar inverter series. As such, ABB inverters provide the highest efficiency conversion in the market with the best proven reliability through the largest operating fleet in the world, case showing durability longer than 20 years. Two ABB central inverters are used in each ABB Solar Station.

Transformer

Each ABB Solar Station features an ABB vacuum cast coil dry-type transformer, which is environmentally safe, carrying no volatile liquids that can leak. The transformer is designed to meet the reliability required in PV applications and specifically optimized for its use with ABB solar inverters in order to provide the highest performance throughout the lifetime of the plant. As a major global transformer manufacturer, ABB transformers are fabricated in accordance with the most demanding industry and international standards, providing excellent mechanical and short-circuit characteristics.

Switchgear

The ABB Solar Station is equipped with the widely proven ABB SafePlus, SF6-insulated switchgear. A sealed steel tank with constant atmospheric conditions ensures a high level of reliability as well as personnel safety. The virtually maintenance-free system comes in a compact and flexible design that allows for a versatile switchgear configuration.

Technical specifications

	TC2X-630 1.4 MW _{ac}	TC2X-875 2.1 MW _{ac}	TC2X-1000 2.4 MW _{ac}
Inverter type	ABB Central Inverter PVS 800		
Transformer type	ABB Cast Coil Dry-Type		
MV Switchgear type	ABB SafePlus type DeF		
Input (DC)			
Max DC voltage	1000 V	1100 V	1100 V
Max DC current	2460 A	3420 A	3420 A
No. protected DC inputs	16 (250 A)	24 (250 A)	24 (250 A)
DC voltage range mpp	525-825 V	525-825 V	600-850 V
Output (AC)			
Nominal AC power (at 25C)	1.4 MW	2.1 MW	2.4 MW
Nominal AC voltage	33 kV		
Bus bar rated AC current	630 A		
Short circuit AC current	20 kA		
Frequency	50/60 Hz		
Max efficiency (incl. transformer)	97.8%	97.9%	98.0%
Auxiliary services			
Auxiliary transformer power	10 kVA		
Auxiliary transformer voltage	3 ~ 400 V		
Integrated UPS power	3 kVA		
Integrated UPS battery	30 min		
Mechanical characteristics			
Shelter body material	Sandwich technology		
Width / Height / Depth (mm)	7965/2960/2500	9824/2960/2500	9824/2960/2500
Weight approx.	13 t	15 t	17 t
Environmental limits			
Degree of protection	IP44		
Nominal ambient temperature	-20C to +40C		
Max ambient temperature	+50C		
Rel. humidity (non condensing)	15% to 95%		
Max altitude	2000 m		
Communications and support			
Fieldbus connectivity	Modbus, PROFIBUS, Ethernet		
Reactive power compensation	Yes		

Contact us

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