

Solar inverters

ABB turnkey stations ULTRA-MVC-S 770 to 3110 kW



Turnkey solutions comprising an ULTRA series inverter and a Medium Voltage Compartment (MVC-S).

The new ULTRA-MVC-S has been specifically developed for large installations made with ULTRA series inverters. The MVC-S can operate at the most extreme climatic and environmental conditions, such as desert areas or coastal, salt water saline environments.

The MVC-S solution has been designed to optimize space, transportation, installation and maintenance, thanks to the integration of medium voltage components on a single metal base (skid).

Furthermore, the MVC-S is compliant with the most stringent European standards. Thanks to the use of oil sealed transformers with reduced loss, the MVC-S ensures minimum losses and maximum return on investment.

The ease of installation and maintenance is ensured by front access to all components and the ability to completely remove the transformer grid protection.

Highlights

- Developed to be used jointly with outdoor type inverters (ULTRA Series)
- Designed and built for outdoor use in all environmental conditions
- Completely removable protection grid for simplified installation and maintenance
- Maximum efficiency guaranteed by the use of reduced-loss MT transformer
- Reduced weight and dimensions to ensure ease of transport and installation
- Front access to all components and removable grid to simplify maintenance and installation

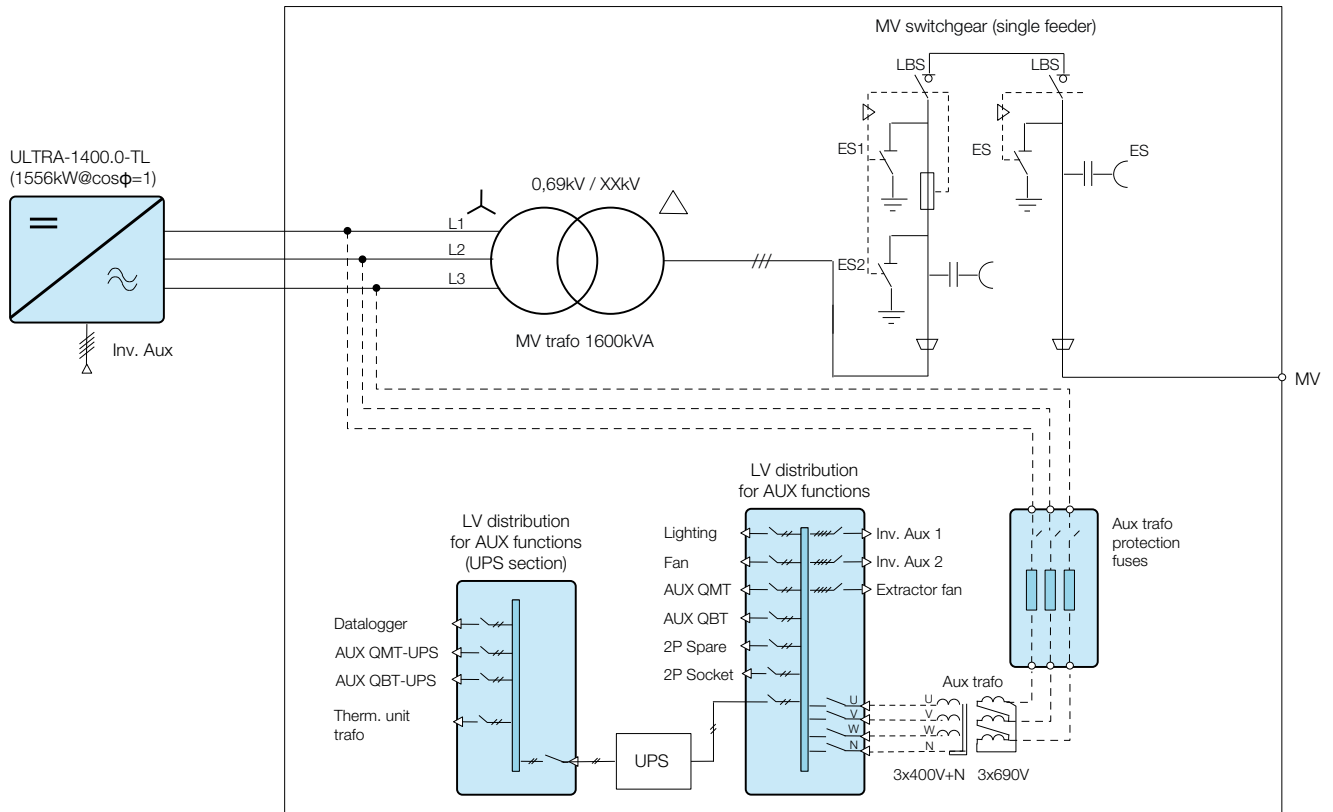
ABB turnkey stations



Technical data and types

Type code	ULTRA-MVC-770.0-S	ULTRA-MVC-1160.0-S	ULTRA-MVC-1550.0-S
Inverter ¹⁾	ULTRA-700.0-TL	ULTRA-1050.0-TL	ULTRA-1400.0-TL
LV distribution panel			
LV connections from the inverter ¹⁾	Max 6 x 3 x 240 mm ²		
Low voltage AC power distribution from inverters to trafo (magnetohermic switch)	Not available (an automatic breaker is available as inverter option)		
Device for insulation permanent control ²⁾	Not available (the insulation control device is available as inverter option)		
Energy meters ³⁾	Not available (the Energy meter is available as inverter option)		
Medium-voltage transformer			
Construction	Oil-sealed		
Rated power (voltage)	800 kVA	1250 kVA	1600 kVA
Tap changer ⁴⁾	± 2 x 2.5%		
Number of secondary windings	1		
Cooling	ONAN		
Charging	Mineral oil		
Vector group	Dyn11		
Short circuit voltage	6%		
Losses class	Refer to transformer datasheet		
Environmental protection rate	IP65		
Mv switchgear			
Configuration	Single feeder (double feeder optional)		
Trafo protection	Switch disconnector and fuses 16 kA (1s) / 630 A		
Auxiliary supply			
Auxiliary supply voltage	3x400 Vac + N, 50 Hz		
Low voltage distribution for auxiliary functions	Yes (include dedicated and protected supply lines for: inverter, data logger, lighting, AC socket, spare)		
Supply for customer devices	Single-phase socket with RCD protection, 16 A/230 V/50 Hz (I _d = 0,03 A)		
Auxiliary supply transformer (optional)			
Construction	Dry		
Rated power (voltage)	15 kVA (690/400 V)		
Cooling	Air		
Vector group	Dyn11		
No load losses / On load losses	<130 W / <460 W		
Protection for AUX transformer	Circuit breaker		
Cooling			
Cooling type (switch gear cabinet)	Forced air by extractor fan		

Electrical diagram of ULTRA-MVC-1550.0-S



Technical data and types

Type code	ULTRA-MVC-770.0-S	ULTRA-MVC-1160.0-S	ULTRA-MVC-1550.0-S
Inverter ¹⁾	ULTRA-700.0-TL	ULTRA-1050.0-TL	ULTRA-1400.0-TL
Environmental parameters			
Full power operating temperature range	-25°C...+45°C		
Relative humidity (non-condensing)	≤ 95%		
Maximum operating altitude without derating ⁵⁾	1000		
Communication/user interface and system monitoring			
Communication port (PC / Data logger)	1 x RS485		
Communication to inverter	1 x RS485		
Remote communication (optional)	VSN700 Data Logger		
UPS (optional)			
UPS for protection and monitoring system	2 kVA, 10'		
Lighting	Fluorescent lamps T8 2x18 W, electronic supplier for emergency lighting with Ni-Cd hermetic battery (1 h autonomy)		
Mechanical characteristics			
Dimensions (W x H x D)	5200 x 2800 x 2300 mm		
Body material (MV switch gear cabinet)	Metal housing with double metal panel insulated by polyurethane foam		
Oil collecting tank	110% of oil content		
Environmental protection rate (MV switch gear cabinet)	IP43 (IP54 optional)		
Environmental protection rate (trafo protection grid)	IP1XA		

¹⁾ For further details, please refer to the specific inverter data-sheet

²⁾ Available as inverter option

³⁾ Available as inverter option - 4 quadrant MID certified

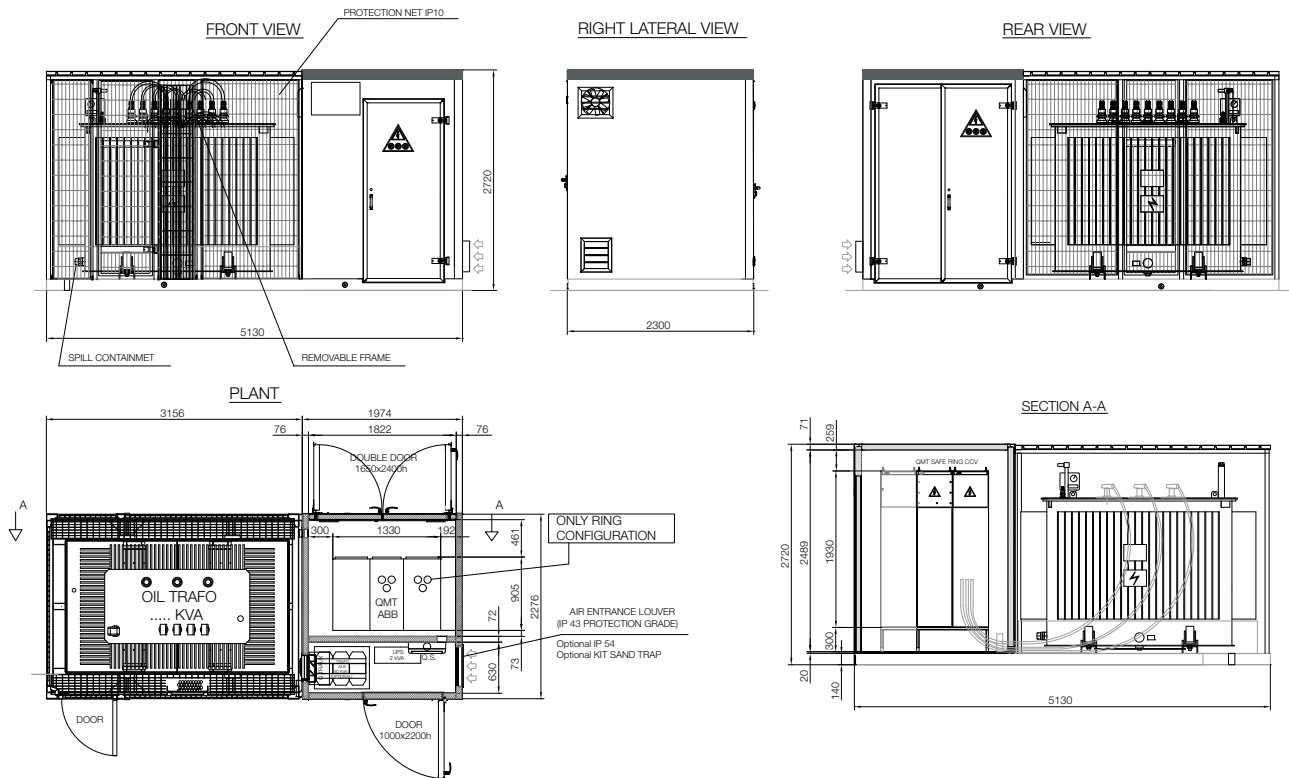
⁴⁾ Other medium voltage levels available on request

⁵⁾ Contact ABB for application at higher altitudes

Remark. Features not specifically listed in the present data sheet are not included in the product

Optional	ULTRA-MVC-S
LV electrical panel with automatic circuit breaker	-
Energy meters (one for each inverter)	-
LV distribution panels for auxiliary functions	●
Auxiliary transformer	○
Single / double feeder switchgear	●/○
Monitoring system VSN700 Data Logger	○
UPS 2 kVA for monitoring and protection system	○
Hot climate package 50°C	○
IP54 ambiental protection degree	○
IP54 ambiental protection degree + sand trap filter	○

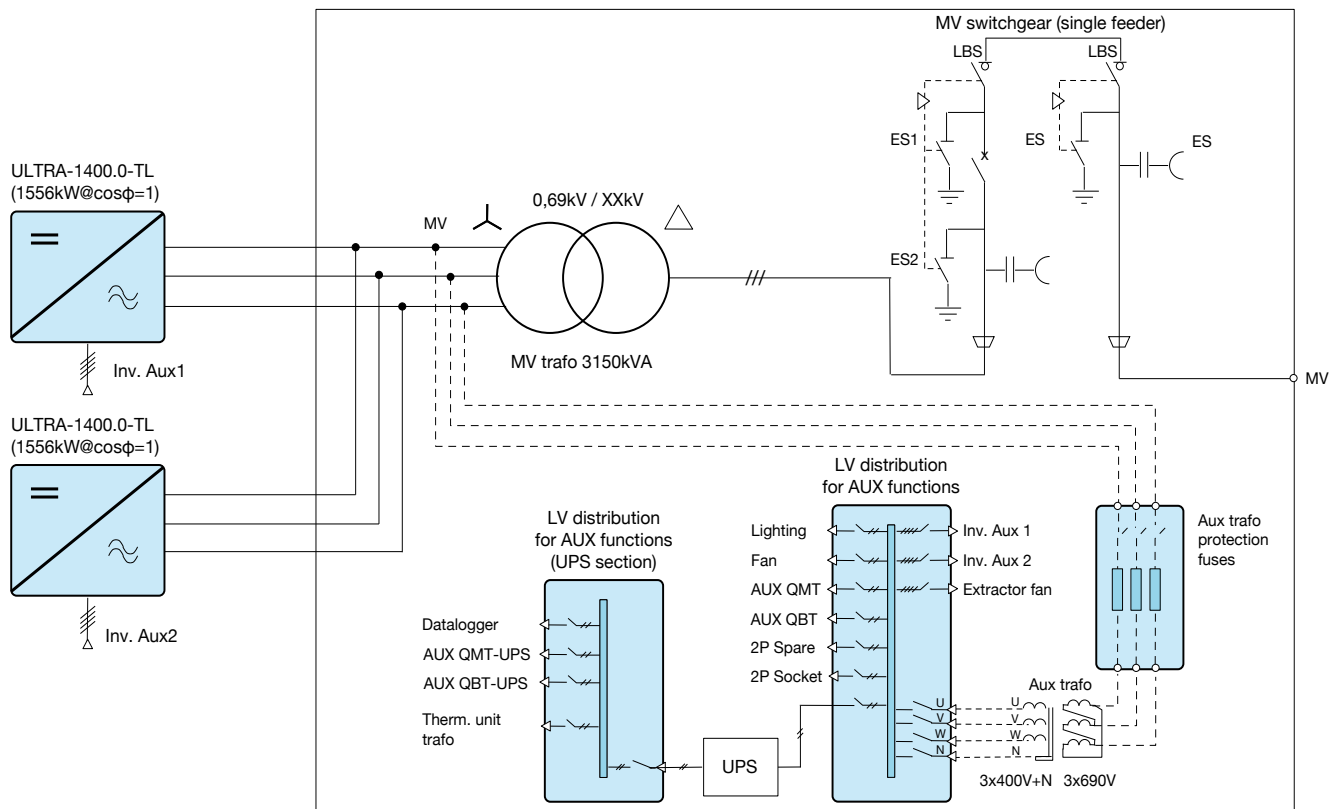
Footprint ULTRA-MVC-3110.0-S



Technical data and types

Type code	ULTRA-MVC-1940.0-S	ULTRA-MVC-2330.0-S	ULTRA-MVC-2720.0-S	ULTRA-MVC-3110.0-S
Inverter ¹⁾	ULTRA-700.0-TL ULTRA-1050.0-TL	2x ULTRA-1050.0-TL	ULTRA-1050.0-TL ULTRA-1400.0-TL	2x ULTRA-1400.0-TL
LV distribution panel				
LV connections from the inverter ¹⁾	Max 12 x 3 x 240 mm ²			
Low voltage AC power distribution from inverters to trafo (magnetohermic switch)	Not available (an automatic breaker is available as inverter option)			
Device for insulation permanent control ²⁾	Not available (the insulation control device is available as inverter option)			
Energy meters ³⁾	Not available (the Energy meter is available as inverter option)			
Medium-voltage transformer				
Construction	Oil-sealed			
Rated power (voltage)	2000 kVA	2500 kVA	3150 kVA	3150 kVA
Tap changer ⁴⁾	± 2 x 2.5%			
Number of secondary windings	1			
Cooling	ONAN			
Charging	Mineral oil			
Vector group	Dyn11			
Short circuit voltage	6%			
Losses class	Refer to transformer datasheet			
Environmental protection rate	IP65			
Mv switchgear				
Configuration	Single feeder (double feeder optional)			
Trafo protection	Switch disconnector and fuses 16 kA (1 s) / 630 A			
Auxiliary supply				
Auxiliary supply voltage	3x400 Vac + N, 50 Hz			
Low voltage distribution for auxiliary functions	Yes (include dedicated and protected supply lines for: inverter, data logger, lighting, AC socket, spare)			
Supply for customer devices	Single-phase socket with RCD protection, 16 A/230 V/50 Hz (I _d = 0,03 A)			
Auxiliary supply transformer (optional)				
Construction	Dry			
Rated power (voltage)	25 kVA (690/400 V)			
Cooling	Air			
Vector group	Dyn11			
No load losses / On load losses	<200 W / <650 W			
Protection for AUX transformer	Circuit breaker			
Cooling				
Cooling type (switch gear cabinet)	Forced air by extractor fan			

Electrical diagram of ULTRA-MVC-3110.0-S



Technical data and types

Type code	ULTRA-MVC-1940.0-S	ULTRA-MVC-2330.0-S	ULTRA-MVC-2720.0-S	ULTRA-MVC-3110.0-S
Inverter ¹⁾	ULTRA-700.0-TL ULTRA-1050.0-TL	2x ULTRA-1050.0-TL	ULTRA-1050.0-TL ULTRA-1400.0-TL	2x ULTRA-1400.0-TL

Environmental parameters	
Full power operating temperature range	-25°C...+45°C
Relative humidity (non-condensing)	≤ 95%
Maximum operating altitude without derating ⁵⁾	1000

Communication/user interface and system monitoring	
Communication port (PC / Data logger)	1 x RS485
Communication to inverter	1 x RS485
Remote communication (optional)	VSN 700 Data Logger

UPS (optional)	
UPS for protection and monitoring system	2 kVA, 10'
Lighting	Fluorescent lamps T8 2x18W, electronic supplier for emergency lighting with Ni-Cd hermetic battery (1 h autonomy)

Mechanical characteristics	
Dimensions (W x H x D)	5200 x 2800 x 2300 mm
Body material (MV switch gear cabinet)	Metal housing with double metal panel insulated by polyurethanic foam
Oil collecting tank	110% of oil content
Environmental protection rate (MV switch gear cabinet)	IP43 (IP54 optional)
Environmental protection rate (trafo protection grid)	IP1XA

¹⁾ For further details, please refer to the specific inverter data-sheet

²⁾ Available as inverter option

³⁾ Available as inverter option - 4 quadrant MID certified

⁴⁾ Other medium voltage levels available on request

⁵⁾ Contact ABB for application at higher altitudes

Remark. Features not specifically listed in the present data sheet are not included in the product

Optional	ULTRA-MVC-S
LV electrical panel with automatic circuit breaker	-
Energy meters (one for each inverter)	-
LV distribution panels for auxiliary functions	•
Auxiliary transformer	○
Single / double feeder switchgear	●/○
Monitoring system VSN700 Data Logger	○
UPS 2 kVA for monitoring and protection system	○
Hot climate package 50°C	○
IP54 ambiental protection degree	○
IP54 ambiental protection degree + sand trap filter	○

Support and service

ABB supports its customers with dedicated, global service organization in more than 60 countries and strong regional and national technical partner networks providing complete range of life cycle services.

For more information please contact your local ABB representative or visit:

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