

# Solar inverter

## Medium voltage Compact Skid

### PVS-175-MVCS

The FIMER medium voltage compact skid is a plug&play solution designed for large-scale solar power generation using PVS-175 high-power string inverters. It includes the medium voltage transformer, the medium voltage switchgear and all low voltage protections needed to connect the inverters to the transformer.

## String inverter - PVS-175-MVCS

The PVS-175-MVCS is an integrated product specifically engineered for decentralized solar plants realized with FIMER "PVS-175" string inverters. The solution allows to connect up to 36 inverters for a maximum power of 6.7MVA

The MVCS includes an optimized MV oil-immersed transformer, MV gas-insulated switchgear, all necessary LV protections and connections to attach the solar array and a set of available auxiliary services with independent auxiliary power.

All PVS-175-MVCS components ensure the highest standards of quality, performance and durability.

This medium voltage compact skid is used to connect a PV power plant to a MV electricity grid easily and rapidly. To meet the PV power plant's demanded capacity, several FIMER compact skids can be used and connected in any possible manner thanks to the versatility of the integrated MV switchgear.

The compact skid solution has dimensions suitable for transportation inside a closed 20 feet high cube shipping container. The standardized shipping dimensions ensure cost-effective and safe transportability to the site, even overseas.

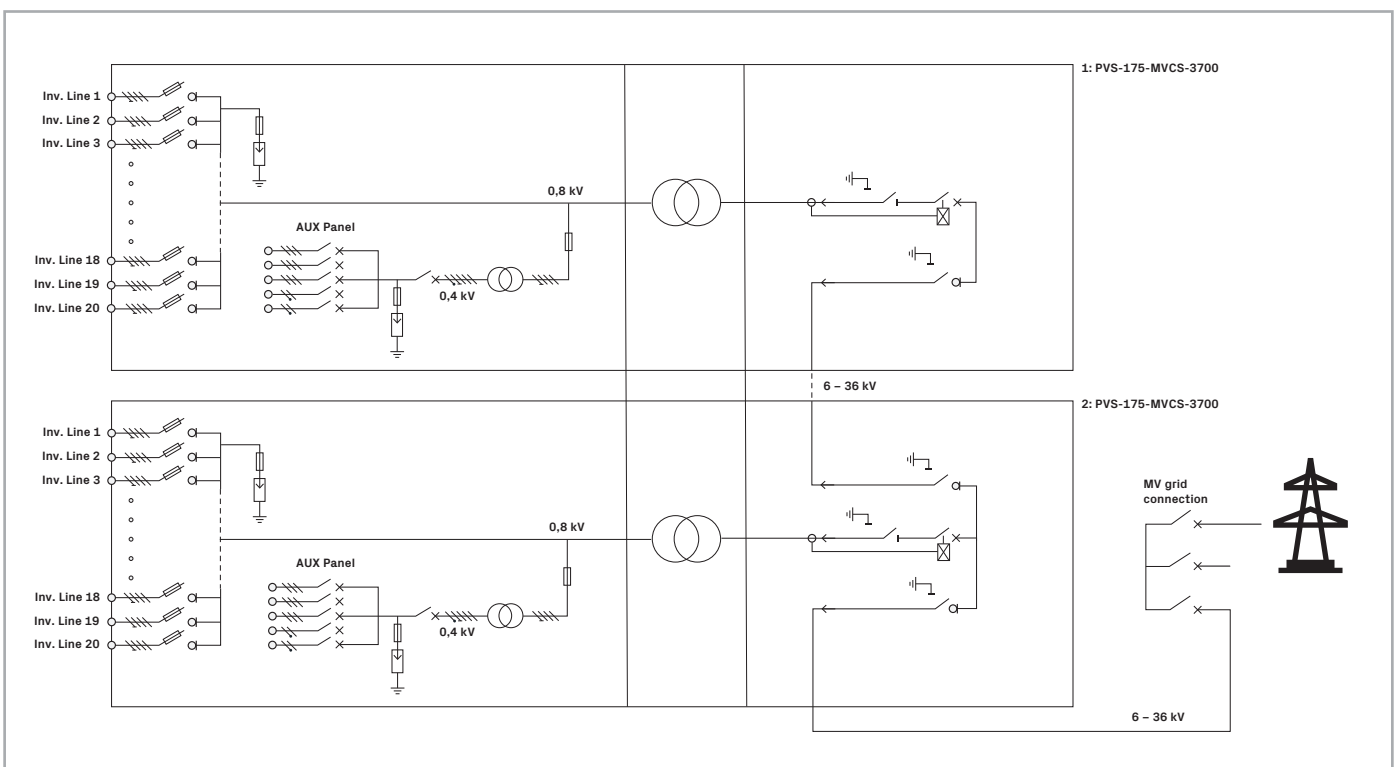
The solution's optimized cooling, filtering and high

environmental protection degree enable installations in a wide span of ambient conditions, from harsh desert temperatures to cold and humid environments. The FIMER medium voltage compact skid is designed for at least 25 years of operation.

### Highlights

- Designed for decentralized systems based on the award-winning 1500 Vdc string inverters PVS-175-TL
- Integrated low voltage distribution panel for a simplified and cost optimized Balance of System (BoS) without the need of additional recombiners
- Quick individual isolation of each feeder, even on-load, for easy and cost-effective maintenance, ensuring maximum uptime
- Individually-protected feeders, enabling separate inverters to be serviced without disrupting the rest of the units connected to the same cluster
- Optimized and very compact layout for integration of all components necessary for medium voltage connection
- Standardized shipping dimensions ensure reduced logistic costs
- Made in Europe product, compatible with most of the world-wide structural regulations and standards
- Vertically integrated product from FIMER, guaranteed by FIMER

### PVS-175-MVCS block diagram example



## Technical data and types

Type code	1850	2200	2590	2960	3330	3700	4070
Inverter	PVS-175-TL						
Number of inverters in parallel	10	12	14	16	18	20	22
Maximum rating in kVA	1850	2200	2590	2960	3300	3700	4070
<b>LV distribution panel</b>							
Number of fused protected feeders	10	12	14	16	18	20	22
Fuse rating of feeders	200 A						
Breakable on load	Yes						
Over voltage protection - replaceable surge arrester	Type 2 (Type 1+2 optional)						
<b>MV transformer</b>							
Transformer type	Oil immersed (ONAN)						
AC Power @ 30° C in kVA	1850	2200	2590	2960	3300	3700	4070
AC Power @ 40° C in kVA	1750	2100	2450	2800	3150	3500	3850
Low voltage level	800 V						
Medium voltage level range	≤ 36kV						
Rated frequency	50 Hz or 60 Hz						
Oil type	Mineral (vegetable optional)						
Tap changer	± 2 x 2.5%						
Winding material (primary / secondary)	Al / Al						
Eco efficiency optional	Yes						
<b>MV switchgear</b>							
Switchgear type	SF <sub>6</sub> -insulated						
Rated current	630 A						
Configuration	Single (CV) or double feeder (CCV)						
Protection (up to 24 kV / up to 36 kV)	Circuit breaker (16 kA or 20 kA / 20 kA or 25 kA)						
Protection relay type	REJ603 (others on request)						
Motorized optional	Yes						
<b>Auxiliary supply</b>							
Auxiliary transformer power	10 kVA (higher on request)						
Auxiliary transformer voltage	800 / 400-230 V						
Low voltage distribution panel for auxiliary functions	Yes						
<b>Mechanical characteristics</b>							
Dimensions (length x width x height) in mm	5700 x 2150 x 2500						
Weight approx. in ton	9	9	10	10	10	11	11
<b>Environmental</b>							
Operating temperature range	-25° C ... +60° C (with derating above 40° C)						
Operating altitude range	≤ 2000 m						
Relative humidity (non-condensing)	≤ 95%						
Environmental protection rating	IP 54						
Painting corrosion protection	C4 (C5M optional)						
<b>Product compliance</b>							
Conformity	IEC 60364, IEC 61936-1, IEC 60502-1						

## Technical data and types

Type code	4440	4810	5180	5550	5920	6290	6660
Inverter	PVS-175-TL						
Number of inverters in parallel	24	26	28	30	32	34	36
Maximum rating in kVA	4440	4810	5810	5550	5920	6290	6660
<b>LV distribution panel</b>							
Number of fused protected feeders	24	26	28	30	32	34	36
Fuse rating of feeders	200 A						
Breakable on load	Yes						
Over voltage protection - replaceable surge arrester	Type 2 (Type 1+2 optional)						
<b>MV transformer</b>							
Transformer type	Oil immersed (ONAN)						
AC Power @ 30° C in kVA	4440	4810	5810	5550	5920	6290	6660
AC Power @ 40° C in kVA	4200	4550	4900	5250	5600	5950	6300
Low voltage level	800 V						
Medium voltage level range	≤ 36kV						
Rated frequency	50 Hz or 60 Hz						
Oil type	Mineral (vegetable optional)						
Tap changer	± 2 x 2.5%						
Winding material (primary / secondary)	Al / Al						
Eco efficiency optional	Yes						
<b>MV switchgear</b>							
Switchgear type	SF <sub>6</sub> -insulated						
Rated current	630 A						
Configuration	Single (CV) or double feeder (CCV)						
Protection (up to 24 kV / up to 36 kV)	Circuit breaker (16 kA or 20 kA / 20 kA or 25 kA)						
Protection relay type	REJ603 (others on request)						
Motorized optional	Yes						
<b>Auxiliary supply</b>							
Auxiliary transformer power	10 kVA (higher on request)						
Auxiliary transformer voltage	800 / 400-230 V						
Low voltage distribution panel for auxiliary functions	Yes						
<b>Mechanical characteristics</b>							
Dimensions (length x width x height) in mm	5700 x 2150 x 2500						
Weight approx. in ton	12	12	13	13	14	14	15
<b>Environmental</b>							
Operating temperature range	-25° C ... +60° C (with derating above 40° C)						
Operating altitude range	≤ 2000 m						
Relative humidity (non-condensing)	≤ 95%						
Environmental protection rating	IP 54						
Painting corrosion protection	C4 (C5M optional)						
<b>Product compliance</b>							
Conformity	IEC 60364, IEC 61936-1, IEC 60502-1						



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