



# Solar inverter

## Medium voltage Compact Skid

### PVS-100/120-MVCS

The FIMER medium voltage compact skid is a plug&play solution designed for large-scale solar power generation using PVS-100/120 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-100/120-MVCS

The PVS-100/120-MVCS is an integrated product specifically engineered for decentralized solar plants realized with FIMER "PVS-100/120" string inverters. The solution allows to connect up to 26 inverters for a maximum power of 3.1 MVA

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-100/120-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.

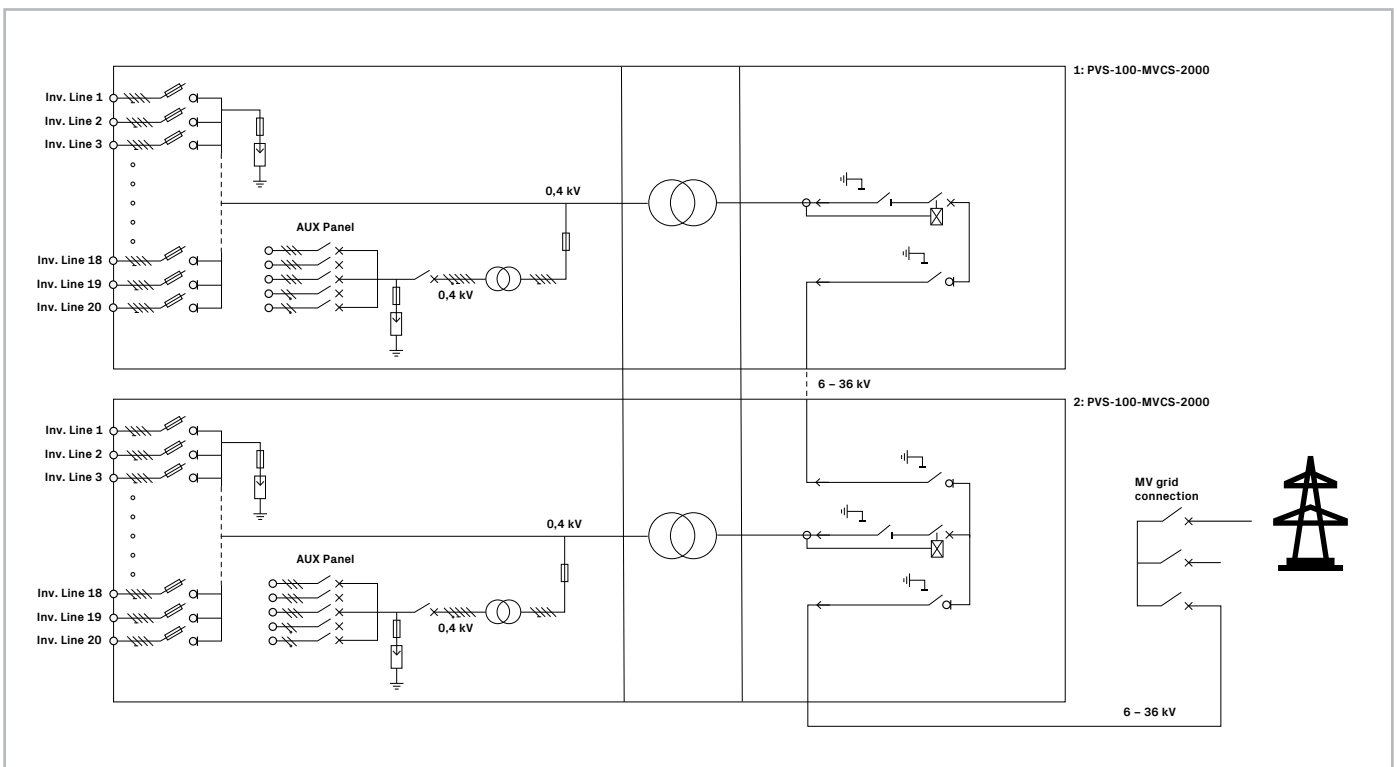
The solution's optimized cooling, filtering and high

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 1000 Vdc string inverters PVS-100/120-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-100/120-MVCS block diagram example



## Technical data and types

Type code	800	1000	1200	1400	1600	1800	2000	2200	2400	2600
Inverter	PVS-100-TL									
Number of inverters in parallel	8	10	12	14	16	18	20	22	24	26
Maximum rating in kVA	800	1000	1200	1400	1600	1800	2000	2200	2400	2600
<b>LV distribution panel</b>										
Number of fused protected feeders	8	10	12	14	16	18	20	22	24	26
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	800	1000	1200	1400	1600	1800	2000	2200	2400	2600
AC Power @ 40° C in kVA	800	1000	1200	1400	1600	1800	2000	2200	2400	2600
Low voltage level	400 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	400 / 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	7	7	7	7	8	8	8	9	9	9
<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	960	1200	1440	1680	1920	2160	2400	2640	2880	3120
<b>Inverter</b>										
	PVS-120-TL									
Number of inverters in parallel	8	10	12	14	16	18	20	22	24	26
Maximum rating in kVA	960	1200	1440	1680	1920	2160	2400	2640	2880	3120
<b>LV distribution panel</b>										
Number of fused protected feeders	8	10	12	14	16	18	20	22	24	26
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	960	1200	1440	1680	1920	2160	2400	2640	2880	3120
AC Power @ 40° C in kVA	960	1200	1440	1680	1920	2160	2400	2640	2880	3120
Low voltage level	480 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	480 / 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	7	7	7	7	8	8	9	9	10	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)									
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Conformity	IEC 60364, IEC 61936-1, IEC 60502-1									



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