FIMER



Solar inverter
PVS-12.5-TL

The PVS-12.5-TL is the new FIMER three-phase solution, ideal for the optimization of installation and operational costs in commercial and industrial PV plants.

12.5 kW

This new PVS string inverter family, with power ratings of up to 33 kW, has been designed with the objective to maximize the ROI in commercial and industrial applications such as rooftop plants, carports and trackers.

Ease of installation and maintenance
The compact design of the product allows savings on installation costs. The installation is quick and easy, without the need to open the front cover.
Moreover, being fuse-free, this inverter guarantees further savings on maintenance costs and time, reducing on site interventions to a minimum.

Maximum flexibility and integration
The input voltage range and all DC-side specs as a whole allow for the greatest plant design flexibility within both new and existing installations.
This new inverter family guarantees maximum integration with the latest PV technologies, including bifacial modules.

Advanced communication
Fast commissioning thanks to the Solar Inverters installer app which enable a quick multi-inverter installation, saving up to 70% commissioning time.
The single string current monitoring allows to keep the status of the PV generator under control and to detect potential faults in real time. The built-in FIMER Export Limitation solution allows to comply with any power export constraints established by utilities, without any additional devices to be installed.

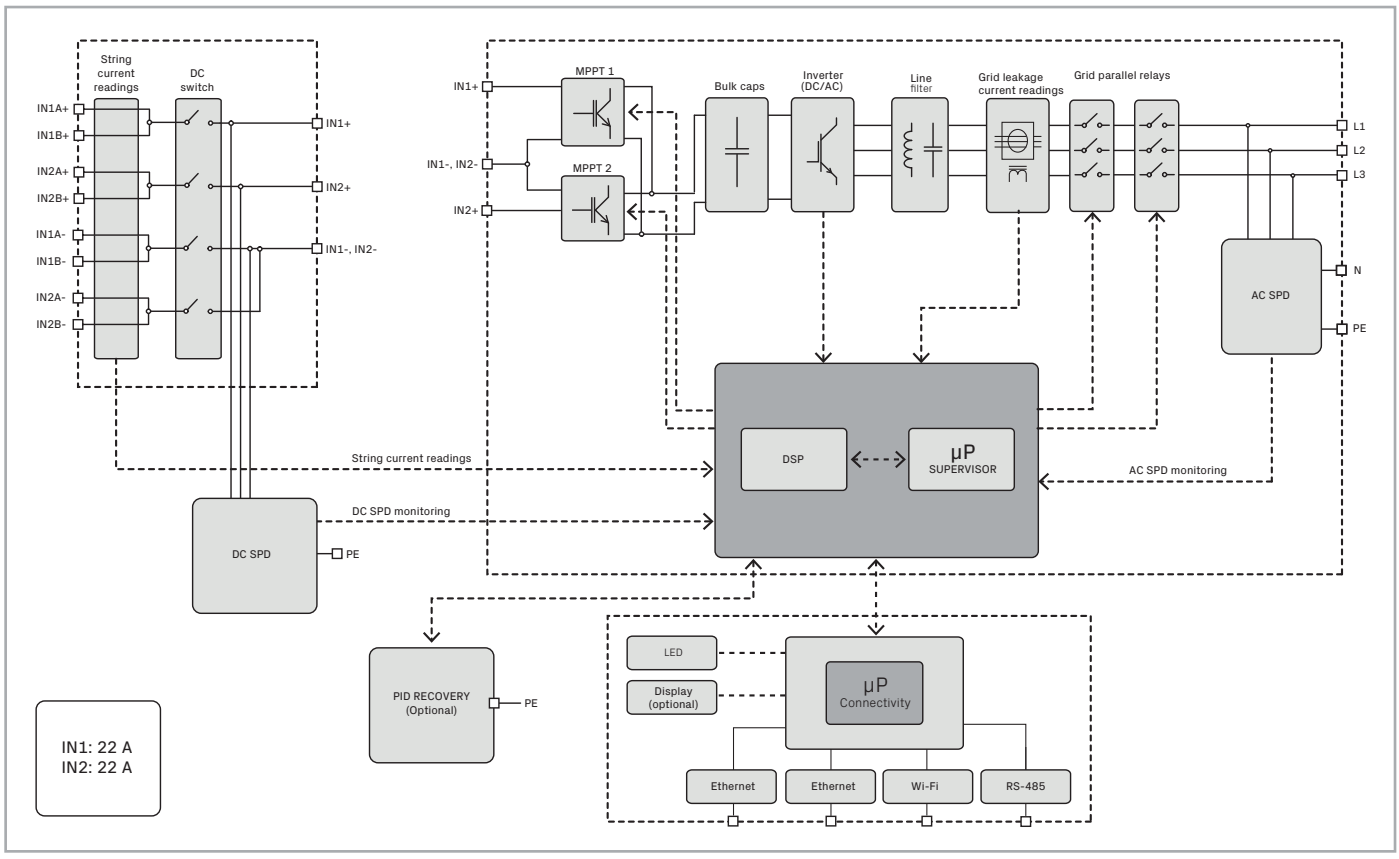
Integrated PID recovery function
Inverters equipped with PID (Potential Induced Degradation) recovery function are able to restore the optimal conditions of the PV module in order to prevent performance losses which could be caused by the PID during standard operation. Such functionality allows to maintain the highest level of performance and to maximize the working life of the plant, hence, optimizing the return on investment.

Integrated Arc Fault Circuit Interrupter
The Integrated Arc Fault Circuit Interrupter allows to recognize and immediately interrupt the electric arcs which may occur on the PV system. Thanks to such functionality the inverter is able to offer a reliable fire prevention mechanism wherever required for roof mounted installations.

RSD compatibility
PVS-10/33 is tested for operation in PV systems equipped with Rapid Shutdown systems (RSD) and/or with I-V optimizers installed at module level (contact FIMER for a complete list of compatible systems).

Highlights
- Compact inverter suitable for vertical and horizontal installation
- Fuse-free design
- Installation on new and existing plants
- Maximum string voltage 1100 Vdc
- PID recovery function (optional)
- Commissioning through the Solar Inverters installer app
- Integrated Export Limitation function
- Single string current monitoring
- Arc fault circuit interrupter (optional)

Block diagram PVS-12.5-TL



Technical data and types

Type code	PVS-12.5-TL
Input side	
Absolute maximum DC input voltage ($V_{max,abs}$)	1100 V
Start-up DC input voltage (V_{start})	250...500V (default 360V)
Operating DC input voltage range (V_{dcmin}...V_{dcmax})	200-1000 V
Rated DC input voltage (V_{dcr})	620V
Rated DC input power (P_{dcr})	12760 W
Number of independent MPPT	2
Maximum photovoltaic power recommended ($P_{PV,\ max}$)	18125 Wp
Maximum DC input power for each MPPT ($P_{MPPT,\ Tmax}$)	8300W
MPPT input DC voltage range ($V_{MPPTmin}$ ... $V_{MPPTmax}$) a P_{acr}	460-850V
Maximum DC input current (I_{dcmax}) for each MPPT	2x18A
Maximum input short circuit current for each MPPT	30 A
Number of DC input pairs for each MPPT	2
DC connection type	PV quick fit connector
Input protection	
Revers polarity protection	Yes, from limited current source
Input over voltage protection for each MPPT	SPD Type II / Type I+II (optional)
Isolation control	According to local standard
Output side	
AC grid connection type	Three-phase (3W+PE or 4W+PE)
Earthing system	TN-S, TN-C, TN-CS, TT
Rated AC power (P_{acr} @cosφ=1)	12500 W
Maximum AC output power (P_{acmax} @cosφ=1)	12500 W
Maximum apparent power (S_{max})	12500 VA
Maximum reactive power (Q_{max})	7500 VAR
Nominal power factor and adjustable range	> 0.995; 0,8...1 inductive/capacitive
Rated AC output voltage ($V_{ac,r}$)	380V, 400V [1]
Maximum AC output current ($I_{ac,max}$)	20 A
Rated output frequency (f_r)	50 Hz / 60 Hz
Output frequency range (f_{min}...f_{max})	47...53 Hz / 57...63 Hz [2]
Total current harmonic distortion	<3%
Maximum AC cable	16 mm^2 copper
AC connection type	AC quick fit connector
Output protection	
Anti-islanding protection	According to local standard
Maximum external AC overcurrent protection	32 A
Output overvoltage protection	SPD Type II
Operating performance	
Maximum efficiency (η_{max})	98,5%
Weighted efficiency (EURO)	98,2%
Communication	
Embedded communication interfaces	Double Ethernet port, WLAN, RS485 port
Communication protocol	Modbus TCP Sunspec, Modbus RTU Sunspec
User interface	LEDs, Web User Interface, Installer APP, Display (optional)
Cloud services	Aurora Vision® Plant Management Platform, Rest API
Advanced features	Embedded export limitation control (in combination with external meter), 24h self-consumption monitoring

Technical data and types

Type code	PVS-12.5-TL
Environmental	
Ambient temperature range	-25...+60°C (-13...140 °F) with derating above 45 °C (113 °F)
Relative humidity	4%... 100% with condensation
Maximum operating altitude	4000 m (13123 ft) with derating above 2000 m (6561 ft)
Physical	
Inverter type	Grid connected, double stage, transformerless
Environmental protection rating	IP65
Environmental classification	4K26 (IEC 60721-3-4)
Cooling	Natural cooling
Dimension (H x W x D)	568,2 x 473,6 x 207
Weight	29,6 Kg
Mounting system	Mounting bracket
Safety	
Marking	CE, RCM
Safety and EMC standards	IEC/EN 62109-1, IEC/EN 62109-2, EN 61000-6-1, EN 61000-6-2, EN 61000-3-11, EN 61000-3-12 EN 62311, EN 301 489-1, EN 301 489-17, EN 300 328
Certificates and compliance (check your sales channel for availability)	IEC 61683, EN 50530, IEC 62116, IEC 61727, AS/NZS 4777.2, VDE-AR-N 4105, VDE-AR-N 4110, VDE V 0124-100, DIN VDE V 0126-1-1, VFR 2019, UTE C15-712-1, CEI 0-21, CEI 0-16, PEA, MEA, EN 50438, EN 50549-1/-2, DRRG (DUBAI), CLC/TS 50549-1/-2, TOR Erzeuger, G98, G99, Synergrid C10/11, RD 413, RD 1565, RD244, P.O. 12.3, NTS 631, UNE 206006 IN (ITC-BT-40), PPDS-priloha, Denmark Type A/B, IRR-DCC-MV, ABNT NBR 16149, ABNT NBR 16150, Chile LV/MV, NRS 097-2-1, SII, ISO/IEC Guide 67, Netherlands Type A, EIFS Type A, Ireland
Available product variants	
4 inputs with PV quick fit connectors + SPD Type 2 on the DC and AC side	PVS-12.5-TL-SX
4 inputs with PV quick fit connectors + SPD Type 1+2 on the DC side and Type 2 on the AC side	PVS-12.5-TL-SY
Optional available	
PID recovery	Available for SX version
AFCI	Available for SX version
Display	Available for SX version

1) The output voltage range may vary depending on specific country grid standards
2) The output frequency range may vary depending on specific country grid standards

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

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

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FIMER_PVS-12.5-TL__EN_Rev_C 22.06.2021