



Solar inverter

PVS-20/30/33-TL

The PVS-20/30/33-TL is the new FIMER three-phase string inverter solution, ideal for the optimization of installation and operational costs in commercial and industrial PV plants.

From 20 to 33 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.

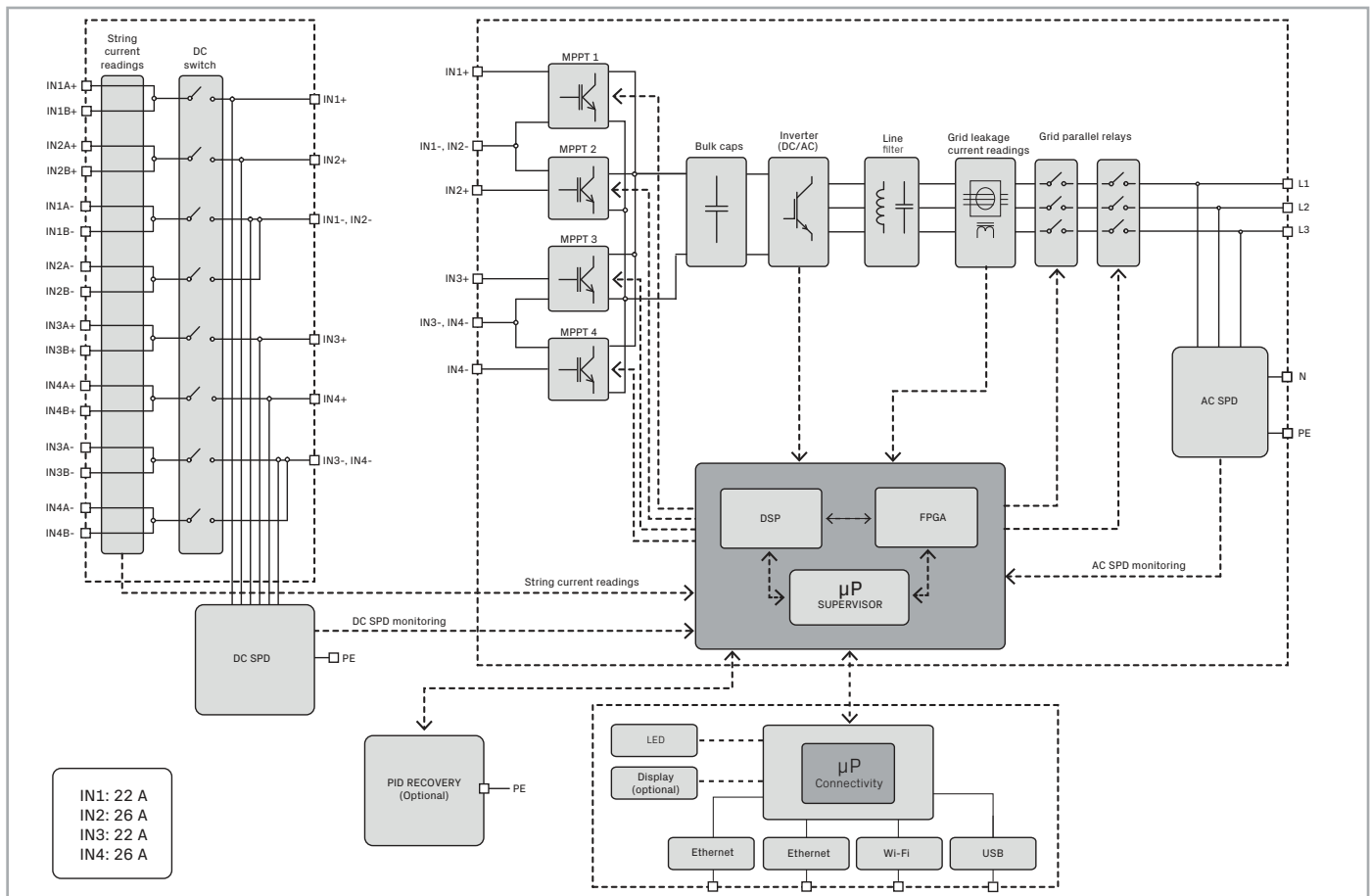
RSD compatibility

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
- High-current PV module support
- 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-20(4MPPT)-30-33-TL



Type code	PVS-20-TL (2MPPT)	PVS-20-TL (4MPPT)	PVS-30-TL	PVS-33-TL
Input side				
Absolute maximum DC input voltage ($V_{max,abs}$)	1100V			
Start-up DC input voltage (V_{start})	250...500V (default 430V)			
Operating DC input voltage range ($V_{dmin}...V_{dmax}$)	200-1000 V			
Rated DC input voltage (V_{dcr})	620V			
Rated DC input power (P_{dcr})	20500 W	20500 W	30600 W	33700 W
Maximum photovoltaic power recommended ($P_{PV,max}$)	30000 Wp	34000 Wp	44000 Wp	48000 Wp
Number of independent MPPT	2	4	4	4
Maximum DC input current (I_{dmax}) for each MPPT	2x26A	2x26A + 2x22A	2x26A + 2x22A	2x26A + 2x22A
Maximum DC input power for each MPPT ($P_{MPPT,max}$)	2x12000W	2x12000W + 2x10000W	2x12000W + 2x10000W	2x12000W + 2x10000W
MPPT input DC voltage range ($V_{MPPTmin} ... V_{MPPTmax}$) at P_{acr}	460-850V			
Maximum input short circuit current for each MPPT	40A (1)			
Number of DC inputs pairs for each MPPT	2			
DC connection type	PV quick fit connector			
Input protection				
Reverse polarity protection	Yes			
Input over voltage protection for each MPPT	SPD Type II / Type I+II (optional)			
Isolation control	Yes, according local regulation			
Output side				
AC grid connection type	Three-phase (3W+PE or 4W+PE)			
Earthing system	TN-S, TN-C, TN-CS, TT	TN-S, TN-C, TN-CS, TT	TN-S, TN-C, TN-CS, TT	TN-S, TN-C, TN-CS, TT and IT (2)
Rated AC power ($P_{acr} @ \cos\phi=1$)	20000 W	20000 W	30000 W	33000 W
Maximum AC output power ($P_{ac,max} @ \cos\phi=1$)	22000 W up to 30°C (3)	22000 W up to 30°C (3)	33000 W up to 30°C (3)	36300 W up to 30°C (3)
Maximum apparent power (S_{max})	22000 VA up to 30°C (4)	22000 VA up to 30°C (4)	33000 VA up to 30°C (4)	36300 VA up to 30°C (4)
Maximum reactive power (Q_{max})	20000 VAR	20000 VAR	30000 VAR	33000 VAR
Nominal power factor and adjustable range	> 0.995; 0...1 inductive/capacitive			
Rated AC grid voltage ($V_{ac,r}$)	380V, 400V (5)			
Maximum AC output current ($I_{ac,max}$)	33,4 A	33,4 A	50,1 A	55,1 A
Rated output frequency (f_r)	50 Hz / 60 Hz			
Output frequency range ($f_{min}...f_{max}$)	47...53 Hz / 57...63 Hz (6)			
Total current harmonic distortion	<3%			
Maximum AC cable	35 mm ² copper/aluminum			
AC connection type	Detachable Terminal Block			
Output protection				
Anti-islanding protection	According to local standard			
Maximum external AC overcurrent protection	63 A	63 A	80 A	80 A
Output overvoltage protection	SPD Type II			
Operating performance				
Maximum efficiency (μ_{max})	98,4%	98,4%	98,4%	98,4%
Euro efficiency	98,2%	98,2%	98,2%	98,2%
Communication				
Embedded communication interfaces	Dual Ethernet port, WLAN, advanced RS-485 port (optional)			
Communication protocol	Modbus TCP Sunspec, Modbus RTU Sunspec (optional)			
User Interface	LEDs, Web User Interface, Installer APP, Display (optional)			
Cloud services	Aurora Vision® Plant Management Platform, Rest API			
Advanced functions	Embedded export limitation control (in combination with external meter), 24h self consumption monitoring			

Type code	PVS-20-TL (2MPPT)	PVS-20-TL (4MPPT)	PVS-30-TL	PVS-33-TL
Input side				
Environmental				
Ambient temperature range	-25...+60°C (-13...140 °F) with derating above 45 °C (113 °F)			
Relative humidity	4%... 100% condensing			
Maximum operating altitude	4000 m	4000 m	4000 m	4000 m (13123 ft) with derating above 3000 m (9842 ft)
Physical/General				
Inverter typology	Grid connected, double stage, transformerless			
Environmental protection rating	IP65			
Environmental classification	4K26 (IEC 60721-3-4)			
Cooling	Forced air			
Dimension (H x W x D)	675 (799,2 with connection boxes) x 591,8 x 227,5 mm			
Weight	50 Kg			
Mounting system	Single mounting bracket (vertical and horizontal installation)			
Safety				
Marking	CE, RCM			
Safety, EMC and RED standard	"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"			
Grid standard (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, 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				
8 inputs with PV quick fit connectors + SPD Type 2 on the DC and AC side	PVS-20-TL-SX	PVS-20-TL-SXD	PVS-30-TL-SX	PVS-33-TL-SX
8 inputs with PV quick fit connectors + SPD Type 1+2 on the DC side and Type 2 on the AC side	PVS-20-TL-SY	-	PVS-30-TL-SY	PVS-33-TL-SY
8 inputs with PV quick fit connectors + SPD Type 2 on the DC and AC side for IT system	-	-	-	PVS-33-TL-SI
Optional available				
PID recovery	Available only on the SX version	-	Available only on the SX version	Available only on the SX version
AFCI	Available only on the SX version	-	Available only on the SX version	Available only on the SX version
Display	Available only on the SX version	-	Available only on the SX version	Available only on the SX version

1) 30 A for Australia and New Zealand

2) Available only with a dedicated version called "SI", with 33kW of power

3) Due to country specific regulations this value can be limited to the rated value (20kW for PVS-20-TL, 30kW for PVS-30-TL, 33kW for PVS-33-TL)

4) Due to country specific regulations this value can be limited to the rated value (20kVA for PVS-20-TL, 30kVA for PVS-30-TL, 33kVA for PVS-33-TL)

5) The AC voltage range may vary depending on specific country grid standards

6) The 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



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

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