



# Solar inverter

## **PVI-10.0/12.5-TL-OUTD**

Designed for commercial usage, the PVI-10.0/12.5, three-phase inverter is highly unique in its ability to control the performance of the PV panels, especially during periods of variable weather conditions.

**From 10.0 to 12.5 kW**

The high speed and precise Maximum Power Point Tracking (MPPT) algorithm provides real-time power tracking and improved energy harvesting.

**Two independent MPPTs and efficiency ratings up to 97.8%**

This transformerless device has two independent MPPTs and efficiency ratings of up to 97.8%.

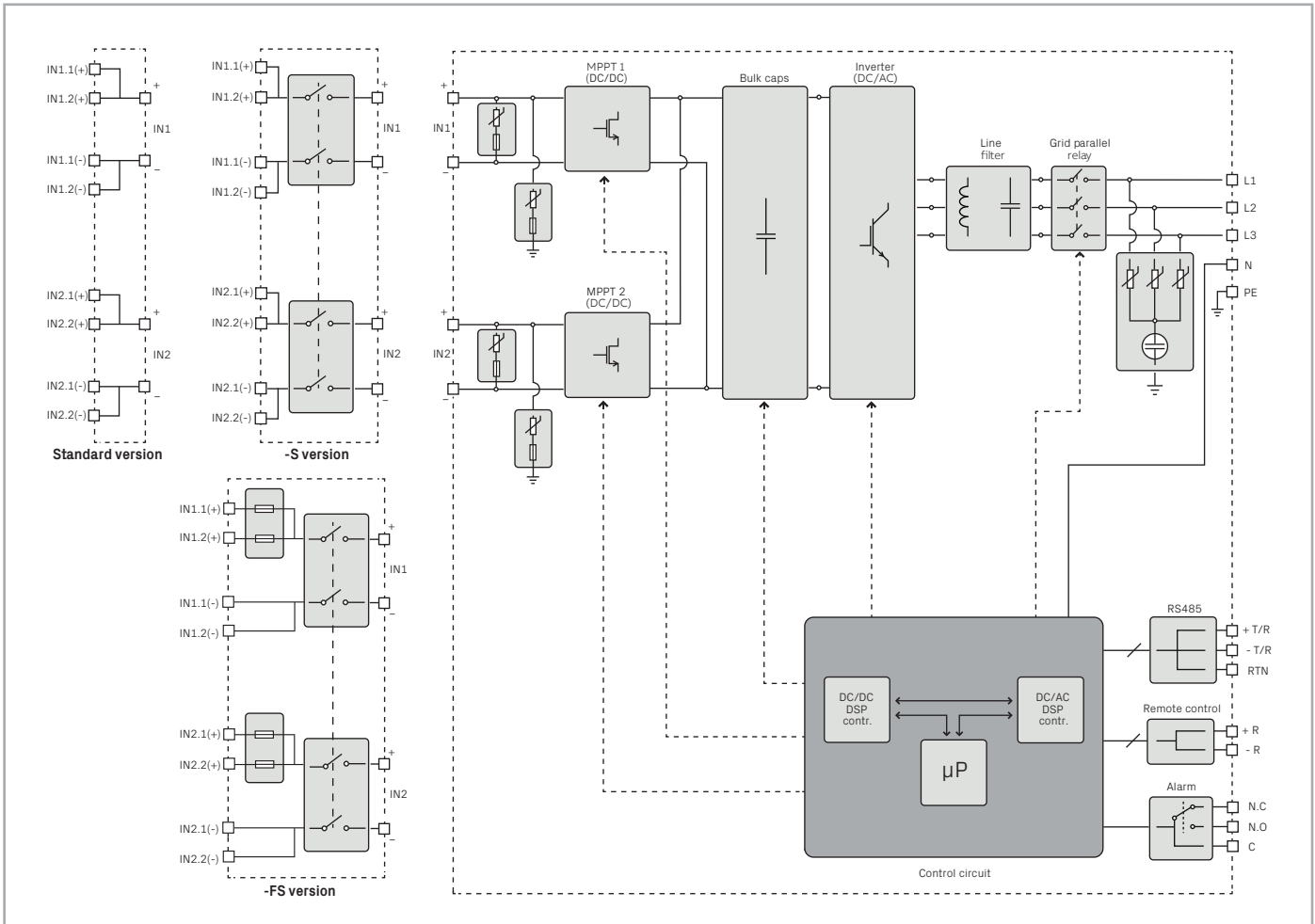
Flat efficiency curves ensure high efficiency at all output levels ensuring consistent and stable performance across the entire input voltage and output power range.

The wide input voltage range makes the inverter suitable for low power installations with reduced string size.

**Highlights**

- True three-phase bridge topology for DC/AC output converter
- Transformerless topology
- Each inverter is set on specific grid codes which can be selected in the field
- Wide input voltage range
- Dual input section with independent MPPT allows optimal energy harvesting from two sub-arrays oriented in different directions
- Integrated DC disconnect switch in compliance with international standards (-S and -FS versions)
- Natural convection cooling for maximum reliability
- Outdoor enclosure for unrestricted use under any environmental conditions
- RS-485 communication interface (for connection to laptop or datalogger)
- VSN300 Wifi Logger Card as optional for adding Wifi radio, Modbus TCP/Sunspec features as well as access to all Aurora Vision functionalities
- Lifetime free of charge access to Aurora Vision

**PVI-10.0/12.5-TL-OUTD string inverter block diagram**



## Technical data and types

Type code	PVI-10.0-TL-OUTD	PVI-12.5-TL-OUTD
<b>Input side</b>		
Absolute maximum DC input voltage ( $V_{max,abs}$ )		900 V
Start-up DC input voltage ( $V_{start}$ )		360 V (adj. 250...500 V)
Operating DC input voltage range ( $V_{dcmin}...V_{dcmax}$ )		$0.7 \times V_{start}...850$ V (min 200 V)
Rated DC input voltage ( $V_{dcr}$ )		580 V
Rated DC input power ( $P_{dcr}$ )	10300 W	12800 W
Number of independent MPPT		2
Maximum DC input power for each MPPT ( $P_{MPPTmax}$ )	6500 W	8000 W
DC input voltage range with parallel configuration of MPPT at $P_{acr}$	300...750 V	360...750 V
DC power limitation with parallel configuration of MPPT	Linear derating from max to null [ $750 V \leq V_{MPPT} \leq 850 V$ ]	
DC power limitation for each MPPT with independent configuration of MPPT at $P_{acr}$ , max unbalance example	6500 W [ $380 V \leq V_{MPPT} \leq 750 V$ ] the other channel: $P_{dcr} = 6500$ W [ $225 V \leq V_{MPPT} \leq 750 V$ ]	8000 W [ $445 V \leq V_{MPPT} \leq 750 V$ ] the other channel: $P_{acr} = 8000$ W [ $270 V \leq V_{MPPT} \leq 750 V$ ]
Maximum DC input current ( $I_{dcmax}$ ) / for each MPPT ( $I_{MPPTmax}$ )	34.0 A / 17.0 A	36.0 A / 18.0 A
Maximum input short circuit current for each MPPT		22.0 A
Number of DC input pairs for each MPPT		2
DC connection type		PV quick fit connector <sup>1)</sup>
<b>Input protection</b>		
Reverse polarity protection	Inverter protection only, from limited current source	
Input over voltage protection for each MPPT - varistor		Yes
Photovoltaic array isolation control	According to local standard	
DC switch rating for each MPPT (version with DC switch)		25 A / 1000 V
Fuse rating (versions with fuses)		15 A / 1000 V
<b>Output side</b>		
AC grid connection type	Three-phase 3W+PE or 4W+PE	
Rated AC power ( $P_{acr} @ \cos\phi=1$ )	10000 W	12500 W
Maximum AC power ( $P_{acmax} @ \cos\phi=1$ )	11000W <sup>2)</sup>	13800W <sup>3)</sup>
Maximum apparent power ( $S_{max}$ )	11500 VA	13800 VA
Rated AC grid voltage ( $V_{acr,t}$ )		400 V
AC voltage range		320...480 V <sup>4)</sup>
Maximum AC output current ( $I_{ac,max}$ )	16.6 A	20.0 A
Contributory fault current	19.0 A	22.0 A
Rated output frequency ( $f_r$ )		50 Hz / 60 Hz
Output frequency range ( $f_{min}...f_{max}$ )		47...53 Hz / 57...63 Hz <sup>5)</sup>
Nominal power factor and adjustable range	$> 0.995$ , adj. $\pm 0.9$ with $P_{acr}=10.0$ kW, $\pm 0.8$ with max 11.5 kVA	$> 0.995$ , adj. $\pm 0.9$ with $P_{acr}=12.5$ kW, $\pm 0.8$ with max 13.8 kVA
Total current harmonic distortion		$< 2\%$
AC connection type	Screw terminal block, cable gland M40	
<b>Output protection</b>		
Anti-islanding protection	According to local standard	
Maximum external AC overcurrent protection		25.0 A
Output overvoltage protection - varistor		3 plus gas arrester
<b>Operating performance</b>		
Maximum efficiency ( $\eta_{max}$ )		97.8%
Weighted efficiency (EURO/CEC)	97.1% / -	97.2% / -
Feed in power threshold		30.0 W
Night consumption		$< 1.0$ W
<b>Communication</b>		
Wired local monitoring	PVI-USB-RS232_485 (opt.)	
Remote monitoring	VSN300 Wifi Logger Card (opt.), VSN700 Data Logger (opt.)	
Wireless local monitoring	VSN300 Wifi Logger Card (opt.)	
User interface	16 characters x 2 lines LCD display	

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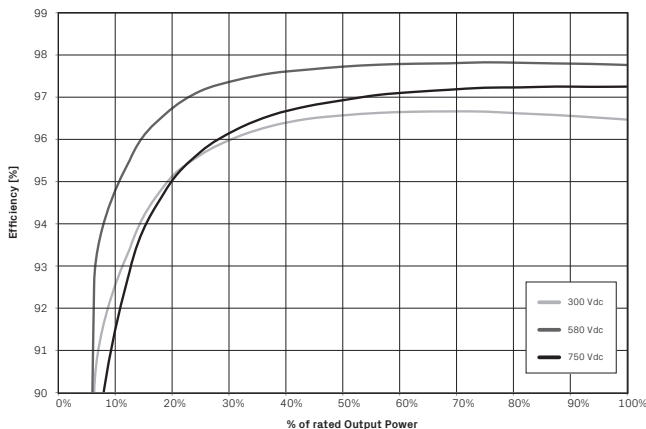
Type code	PVI-10.0-TL-OUTD	PVI-12.5-TL-OUTD
<b>Environmental</b>		
Ambient temperature range	-25...+60°C (-13...+140°F) with derating above 55°C (131°F)	-25...+60°C (-13...140°F) with derating above 50°C (122°F)
Relative humidity		0...100% condensing
Sound pressure level, typical		50 dBA @ 1 m
Maximum operating altitude without derating		2000 m / 6560 ft
<b>Physical</b>		
Environmental protection rating		IP65
Cooling		Natural
Dimension (H x W x D)		716 mm x 645 mm x 224 mm / 28.2" x 25.4" x 8.8"
Weight		< 41.0 kg / 90.4 lbs
Mounting system		Wall bracket
<b>Safety</b>		
Isolation level		Transformerless
Marking		CE (50 Hz only), RCM
Safety and EMC standard		EN 50178, IEC/EN 62109-1, IEC/EN 62109-2, AS/NZS 3100, AS/NZS 60950.1, EN 61000-6-2, EN 61000-6-3, EN 61000-3-11, EN 61000-3-12
Grid standard (check your sales channel for availability)		CEI 0-21, CEI 0-16, DIN V VDE V 0126-1-1, VDE-AR-N 4105, G59/3, C10/11, EN 50438 (not for all national appendices), RD 1699, RD 413, RD 661, P.O. 12.3, AS/NZS 4777, IEC 61727, IEC 62116, BDEW, MEA, NRS 097-2-1, VFR 2014
<b>Available products variants</b>		
Standard	PVI-10.0-TL-OUTD	PVI-12.5-TL-OUTD
With DC switch	PVI-10.0-TL-OUTD-S	PVI-12.5-TL-OUTD-S
With DC switch and fuse	PVI-10.0-TL-OUTD-FS	PVI-12.5-TL-OUTD-FS

- 1) Please refer to the document "String inverters – Product manual appendix" available at [www.fimer.com](http://www.fimer.com) for information on the quick-fit connector brand and model used in the inverter  
 2) Limited to 10000 W for Belgium and Germany  
 3) Limited to 12500 W for Germany

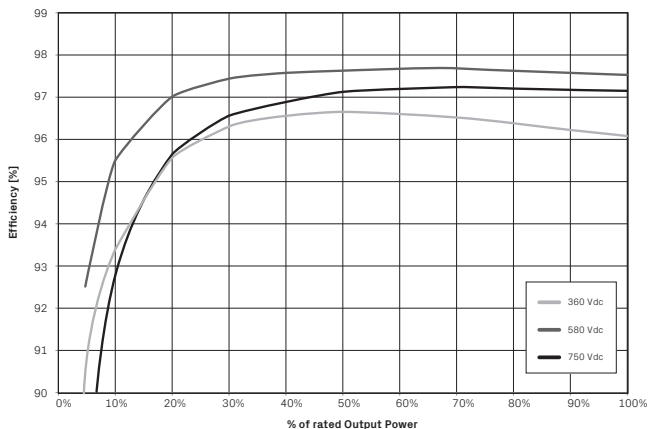
- 4) The AC voltage range may vary depending on specific country grid standard)  
 5) The Frequency range may vary depending on specific country grid standard

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

**Efficiency curves of PVI-10.0-TL-OUTD**



**Efficiency curves of PVI-12.5-TL-OUTD**



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

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