

SOLAR INVERTERS

ABB string inverters

PVS-60-TL-CN



PVS-50/60-TL
string inverter

This new addition to the PVS string inverter family, with 3 independent MPPT and power ratings of up to 60 kW, has been designed with the objective to maximize the ROI in large systems with all the advantages of a decentralized configuration for both rooftop and ground-mounted installations.

Compact design

Thanks to technological choices aimed at optimizing installation times and costs, the product design features the power module and wiring box enclosed in a single compact chassis thus saving installation resources and costs.

The inverter comes in multiple versions also allowing the possibility to connect to third-party DC string combiners.

Ease of installation

The horizontal and vertical mounting possibility creates flexibility for both rooftop and ground mounted installations.

Moreover the cover is equipped with hinges and locks that are fast to open and reduce the risk of damaging the chassis and interior components when commissioning and performing maintenance actions.

Advanced cloud connected features

Standard wireless access from any mobile device makes the configuration of inverter and plant easier and faster. Improved user experience thanks to a built-in User Interface (UI) enables access to advanced

The PVS-60-TL-CN is ABB's cloud connected three-phase string solution enabling cost efficient large decentralized photovoltaic systems for both commercial and utility applications.

inverter configuration settings.

The installer mobile APP, available for Android/IOS devices, further simplifies multi-inverter installations.

Fast system integration

Industry standard Modbus/SUNSPEC protocol enables fast system integration. Two Ethernet ports enable fast and future-proof communication for PV plants.

ABB plant portfolio integration

Monitoring your assets is made easy, as every inverter is capable to connect to ABB cloud platform to secure your assets and profitability in long term.

Highlights

- Up to 3 independent MPPT
- 60 kW power rating
- Horizontal and vertical installation
- Easy access to wiring box thanks to screw-less cover
- Power module and wiring box in one compact chassis
- Wi-Fi interface for commissioning and configuration
- Two ethernet ports for plant level communication
- Remote monitoring and firmware upgrade via ABB Cloud platform (logger free)
- Provides 10% more power in case of reduced ambient temperature
- Improved operating altitude. Can work up to 4000 mt.
- Transformerless inverter

ABB string inverters

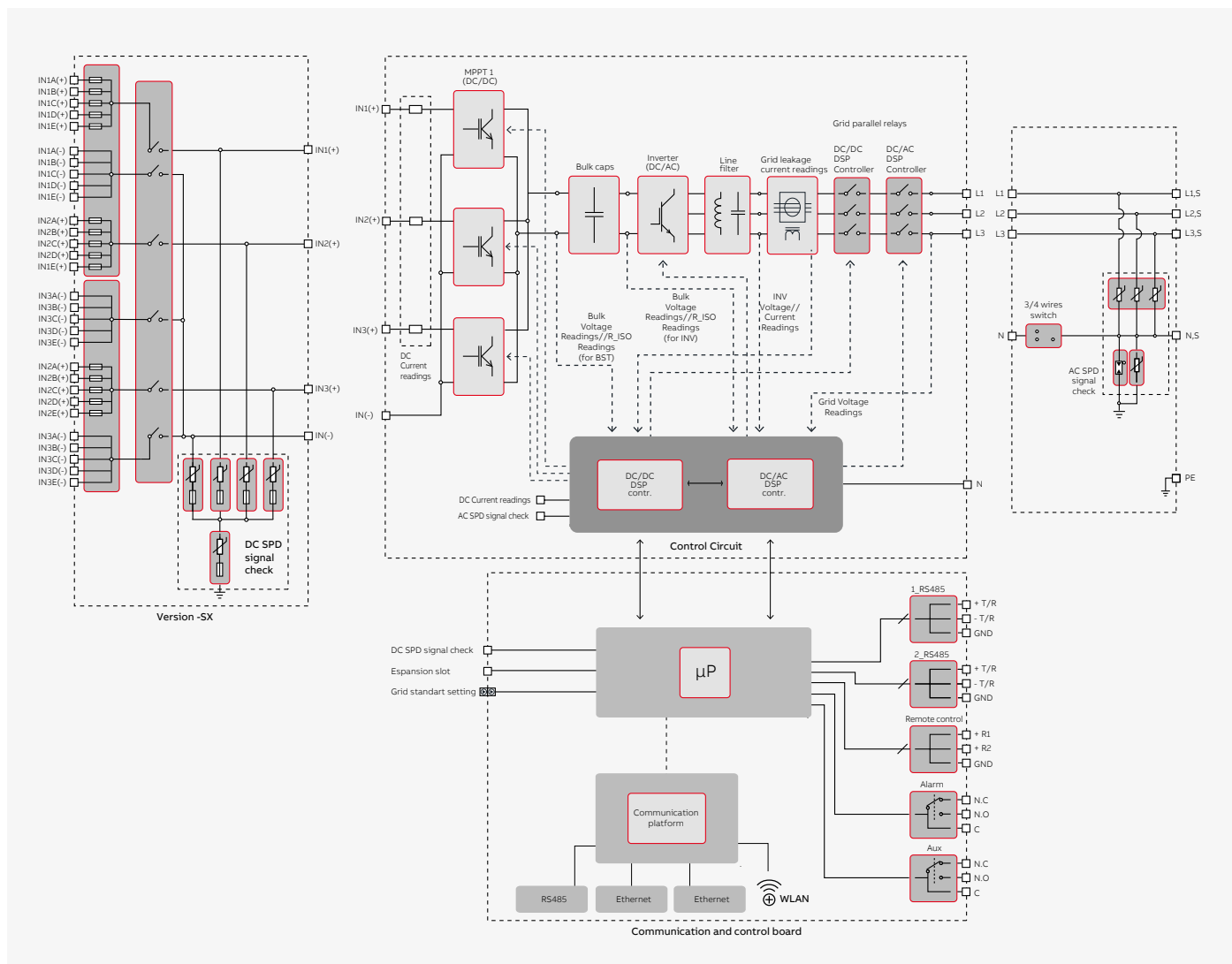
PVS-60-TL-CN



Technical data and types

Type code	PVS-60-TL-CN
Input side	
Absolute maximum DC input voltage ($V_{max,abs}$)	1000 V
Start-up DC input voltage (V_{start})	420...700 V (Default 500 V)
Operating DC input voltage range ($V_{dcmin}...V_{dcmax}$)	$0.7 \times V_{start} ... 950$ V (min 360 V)
Rated DC input voltage (V_{dcr})	720 Vdc
Rated DC input power (P_{dcr})	61800 W
Number of independent MPPT	3 or 1 (with MPPT in parallel)
Maximum DC input power for each MPPT (PMPPT, max)	23100W@30°C / 21000W@45°C
MPPT input DC voltage range ($V_{MPPTmin} ... V_{MPPTmax}$) at P_{acr}	570-800 Vdc
Maximum DC input current (I_{dcmax}) for each MPPT	36 A
Maximum input short circuit current for each MPPT	55 A (165 A in case of parallel MPPT)
Number of DC input pairs for each MPPT	4
DC connection type	PV quick fit connector ¹⁾
Input protection	
Reverse polarity protection	Yes, from limited current source
Input over voltage protection for each MPPT	Type 2
Photovoltaic array isolation control	According to local standard
DC switch rating for each MPPT (version with DC switch)	75 A / 1000 V for each MPPT
Fuse rating (version with fuses)	15 A / 1000 V
Output side	
AC grid connection type	Three-phase (3W+PE or 4W+PE)
Rated AC power ($P_{acr} @ \cos\phi=1$)	60000 W
Maximum AC output power ($P_{acmax} @ \cos\phi=1$)	66000 W up to 30°C
Maximum apparent power (S_{max})	66000 VA up to 30°C
Nominal power factor and adjustable range	> 0.995; 0...1 inductive/capacitive with maximum Sn
Rated AC grid voltage (V_{acr})	480 V
AC voltage range	384...571 V ²⁾
Maximum AC output current ($I_{ac,max}$)	80 A
Contributory fault current	92 A
Rated output frequency (f_r)	50 Hz / 60 Hz
Output frequency range ($f_{min}...f_{max}$)	47...53 Hz / 57...63 Hz ³⁾
Nominal power factor and adjustable range	> 0.995; 0...1 inductive/capacitive with maximum Sn
Total current harmonic distortion	<3%
Maximum AC cable	95mm ² copper/aluminum
AC connection type	Screw terminal block, cable gland
Output protection	
Anti-islanding protection	According to local standard
Maximum external AC overcurrent protection	100 A
Output overvoltage protection - plug in modular surge arrester	Type 2
Operating performance	
Maximum efficiency (η_{max})	98.5%
CN efficiency	98.3%
Euro efficiency	98.0%
Communication	
Embedded communication interfaces	3x RS485, 2X Ethernet (RJ45), WLAN (IEEE802.11 b/g/n @ 2,4 GHz)
Communication protocol	Modbus RTU / TCP (Sunspec compliant); Aurora Protocol
Remote monitoring services	Standard level access to Aurora Vision monitoring portal Integrated Web User Interface; Display (option);
Advanced features	Embedded logging and direct transferring of data to Cloud
Environmental	
Ambient temperature range	-25...+60°C (-13...140 °F) with derating above 45 °C (113 °F)
Relative humidity	4%... 100% condensing
Sound pressure level, typical	75 dB(A) @1 m
Maximum operating altitude	4000 m (13123 ft) with derating above 2000 m / 6561 ft

ABB PVS-60-TL-CN string inverter block diagram



Technical data and types

Type code	PVS-60-TL-CN
Physical	
Environmental protection rating	IP65 (IP54 for cooling section)
Cooling	Forced air
Dimension (H x W x D)	750 mm x 1100 mm x 261.5 mm / 29.5" x 43.3" x 10.27"
Weight	70 kg / 154 lbs (SX version)
Mounting system	Wall bracket
Safety	
Isolation level	Transformerless
Marking	CQC
Safety and EMC standard	EN/IEC 62109-1, EN/IEC 62109-2, NB/T-32004-2013
Grid standard	GB/T19964-2012

¹⁾ Please refer to the document "String inverters – Product manual appendix" available at www.abb.com/solarinverters for information on the quick-fit connector brand and model used in the inverter

²⁾ The AC voltage range may vary depending on specific country grid standards

³⁾ 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 ABB representative or visit:

www.abb.com/solarinverters
www.abb.com

We reserve the right to make technical
changes or modify the contents of this
document without prior notice. With
regard to purchase orders, the agreed
particulars shall prevail. ABB AG does not
accept any responsibility whatsoever for
potential errors or possible lack of
information in this document.

We reserve all rights in this document and
in the subject matter and illustrations
contained therein. Any reproduction,
disclosure to third parties or utilization of
its contents – in whole or in parts – is
forbidden without prior written consent of
ABB AG. Copyright© 2017 ABB
All rights reserved

