ABB solar inverters

Product manual
PVS-100/120-TL
(100 to 120 kW)

Characteristics and technical data

Table: Technical Data	PVS-100-TL	PVS-120-TL
Input		
Absolute maximum input voltage (Vmax,abs)	1000 V	
Input start-up voltage (Vstart)	420 V (400 - 500 V)	
Input operating interval (Vdcmin...Vdcmax)	360 - 1000V	
Rated input voltage (Vdcr)	620 Vdc	720 Vdc
Input nominal power(Pdcr)	102000 W	123000 W
Number of independent MPPT	6	
MPPT DC voltage range (VMPPTmin ... VMPPTmax) to Pacr	480 - 850 Vdc	570 - 850 Vdc
Maximum DC input power for each MPPT (Pmppt,max)	17500 W [480V≤VMPPT≤850V]	20500 W [570V≤VMPPT≤850V]
Maximum DC input current for each MPPT (Idcmax)	36 A	
Maximum short circuit current for each MPPT (Iscmax)	50 A	
Maximum return current (AC side vs DC side)	Negligible in normal operating conditions (1)	
Number of DC input pairs for each MPPT	4	
Type of input DC connectors	PV quick fit connector (2)	
Type of photovoltaic panels that can be connected at input according to IEC 61730	Class A	
Input protection		
Reverse polarity protection	Yes, from current limited source	
Input over voltage protection for each MPPT - modular surge arrester	Type 2 with monitoring	
Photovoltaic array isolation control	as per IEC62109	
DC switch rating for each MPPT	50 A / 1000 V (3)	
Fuse rating (versions with fuses)	15 A (gPV/1000 Vdc) (4)	
String current monitoring	SX2: Individual string current monitoring (24ch); SX: Input current monitoring per MPPT (6ch)	
Output		
AC Connection to the grid	Three phase 3W+PE or 4W+PE	
Nominal AC Output Power (Pacr @cosφ=1)	100 000 W	120 000 W
Maximum AC Output Power (Pacmax @cosφ=1)	100 000 W	120 000 W
Maximum apparent Output power (Smax)	100 000 VA	120 000 VA
Rated AC Output Voltage (Vacr)	400 V	480 V
Output voltage range (Vacmin...Vacmin)	320...480 V (5)	384...576 V (5)
Maximum output current (Iacmax)	145 A	
Contribution to short-circuit current	155 A	
Rated Output Frequency (fr)	50 Hz / 60 Hz	
Output Frequency Range (fmin...fmax)	45...55 Hz / 55…65 Hz (6)	
Nominal power factor and setting interval	> 0.995, 0...1 inductive/capacitive with maximum Smax	
Total harmonic distortion of current	<3%	
Maximum AC cable section allowed	185 mm² copper/aluminum	
AC Connections Type	Busbar for lug connections with M10 bolts (provided); Single core cable gland plate with 5 individual AC cable glands: 4 x M40: Ø 19...28mm (with reduced cable entry 15...23mm), 1 x M25: Ø 10...17mm	
Output protection		
Anti-islanding Protection	Active frequency drift combined with RoCoF techniques as per IEC 62116	
Maximum external AC overcurrent protection	225 A	
Output overvoltage protection - Modular surge arresters	Type 2 with monitoring	
Operating performance		
Maximum Efficiency (ηmax)	98.4%	98.9%
Weighted Efficiency (EURO)	98.2%	98.6%

Table: Technical Data	PVS-100-TL	PVS-120-TL
Communication		
Embedded communication interfaces	1x RS485, 2x Ethernet (RJ45), WLAN (IEEE802.11 b/g/n @ 2,4 GHz)	
User Interface	4 LEDs, Web User Interface, Mobile APP	
Communication protocol	Modbus RTU/TCP (Sunspec compliant)	
Commissioning tool	Web User Interface, Mobile APP	
Remote monitoring services	Aurora Vision® monitoring portal	
Advanced features	Embedded logging, direct telemetry data transferring to ABB cloud	
Environmental		
Ambient temperature range	-25...+60°C /-13...140°F with derating above 40°C / 104 °F	
Storage temperature	-40°C...+85°C / -40°F...185°F	
Relative Humidity	4…100 % with condensation	
Typical noise emission pressure	68 dB(A) @ 1 m	
Maximum operating altitude	2000 m / 6560 ft	
Environmental pollution degree classification for external environments	3	
Environmental class	Outdoor	
Climatic category according to IEC 60721-3-4	4K4H	
Physical		
Environmental Protection Rating	IP 66 (IP54 for the cooling section)	
Cooling System	Forced air	
Dimensions (H x W x D)	867x1086x419 mm / 34.2”x42.7”x16.5” for -SX model 867x1086x458 mm / 34.2”x42.7”x18.0” for -SX2 model	
Weight	70kg / 154 lbs for power module ; ~55kg / 121 lbs for Wiring box Overall max ~125 kg / 276 lbs	
Assembly System	Mounting bracket vertical & horizontal support	
Overvoltage rating as per IEC 62109-1	II (DC input) III (AC output)	
Safety		
Safety class	I	
Insulation Level	Transformerless	
Marking	CE	
Safety, EMC and Radio Spectrum Standards	IEC/EN 62109-1, IEC/EN 62109-2, EN 61000-6-2, EN 61000-6-4, EN 61000-3-11, EN 61000-3-12, EN 301 489-1, EN 301 489-17, EN 300 328, EN 62311	
Grid standard (check the availability with your sales channel)	CEI0-16, IEC 61727, IEC 62116, UTE C 15 712-1, JORDAN IRR-DCC-MV, IEC 60068, IEC 61683	
Accessories		
Assembly accessories	PVS Installation Kit AC multicore cable gland plate (Supports M63 Ø 34…45mm + M25 Ø 10...17mm)	

1. In the event of a fault, limited by the external protection envisaged on the AC circuit
2. 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.
3. 75A 5 cycles according to standard IEC60947.3 Table D.5
4. Maximum fuse size supported 20 A. Additionally one string input per MPPT supports 32 A fuse sizes for connecting two strings per input
5. The output voltage range may vary according to the grid standard of the country of installation
6. The output frequency range may vary according to the grid standard of the country of installation

Note. Features not specifically mentioned in this data sheet are not included in the product

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