

Solar inverters

ABB central inverters

PVI-134.0/200.0/267.0/334.0/400.0-TL
134 to 400 kW



This new inverter system is based on extractable 67kW modules of power which reduces the inverter downtime and lowers service costs.

The new extractable module configuration increases power by 67kW.

The inverter systems are pre-configured and pretested before delivery which significantly reduces on-site wiring and testing operations.

Limited losses thanks to the output voltage increased to 380V

Each inverter can be configured in “multi-master” for up to 6 independent MPPT connections if mismatching reduction is needed, or in “master slave” mode with a single MPPT to improve the harvest of the energy in case of single failure.

The inverter, without transformer, reaches 98% of peak efficiency.

Highlights

- Increased output voltage to 380V for limited losses
- Maximum input voltage up to 1000V, reduced DC distribution losses for large scale PV plants
- Reverse polarity protection for each module
- Front extractable DC/AC converters enable easy installation and maintenance procedure with front accessibility to all critical parts

Power and productivity
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Additional highlights

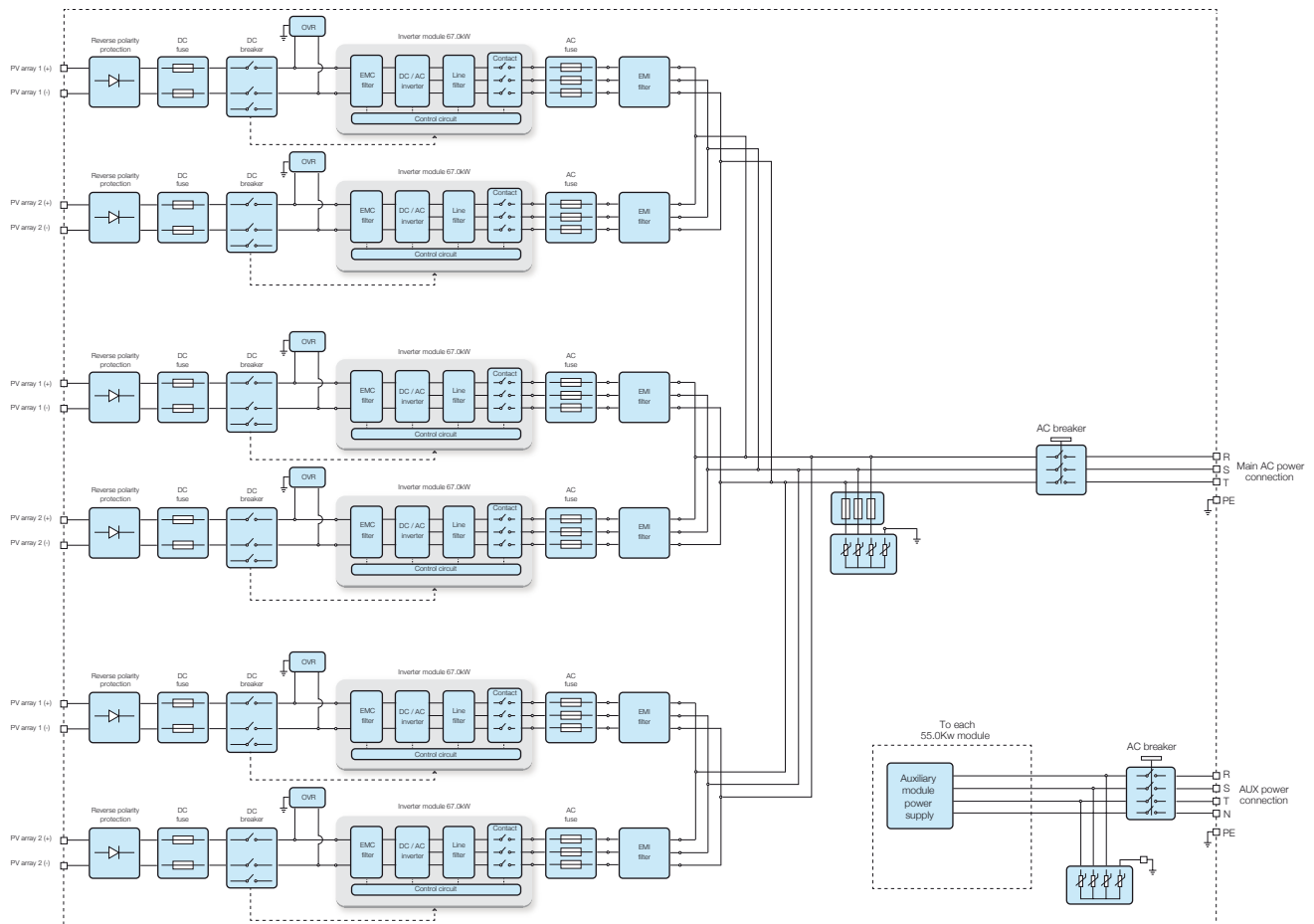
- AC and DC side integrated protection (fuses and OVR) easily replaceable
- High efficiency for increased harvest energy
- Two independent RS-485 communication interfaces for inverter and intelligent string combiner monitoring
- Designed for the direct connection to the MV transformer
- Reduced acoustic noise due to high switching frequency



Technical data and types

Type code	PVI-134.0-TL	PVI-200.0-TL	PVI-267.0-TL	PVI-334.0-TL	PVI-400.0-TL
Input side					
Absolute maximum DC input voltage ($V_{max,abs}$)	1000 V				
MPPT input DC voltage range ($V_{MPPTmin} \dots V_{MPPTmax}$) at V_{acr}	570...950 V				
MPPT input DC range ($V_{MPPTmin} \dots V_{MPPTmax}$) at P_{acr} and V_{acr}	Linear derating from max to 30,6% [800< V_{MPPT} <950V]				
Number of independent MPPT multi-master	2	3	4	5	6
Number of independent MPPT multi-master/slave	1	2	2	3	3
Number of independent MPPT master/slave	1				
Maximum combined DC input current ($I_{dcm,ac}$)	246 A	369 A	492 A	615 A	738 A
Maximum DC input current for each module ($I_{dcm,m}$)	123 A				
Number of DC inputs pairs	2	3	4	5	6
DC connection type	2x185mm ² (M10) +2x300mm ² (M10)	4x185mm ² (M10) +2x300mm ² (M10)	4x185mm ² (M10) +4x300mm ² (M10)	6x185mm ² (M10) +4x300mm ² (M10)	6x185mm ² (M10) +6x300mm ² (M10)
Input protection					
Reverse polarity protection	Yes, with series diode				
Input overvoltage protection - varistor	1 for each input pair, Class II				
Photovoltaic array leakage control, floating neutral, floating panels	No; Proprietary control available ⁽³⁾				
Residual current protection, grounded neutral, floating panels	Not included; dimension output ground fault device with $\Delta I=400mA/module$				
Fuse size for each input pair	125 A / 1000 V				
Output side					
AC grid connection type	Three phases 3W+PE				
Rated AC power ($P_{acr} @ \cos\phi=1$)	134 kW	200 kW	267 kW	334 kW	400 kW
Maximum AC output power ($P_{ac,max} @ \cos\phi=1$)	134 kW	200 kW	267 kW	334 kW	400 kW
Maximum apparent power (S_{max})	148 kVA	222 kVA	296 kVA	371 kVA	440 kVA
Rated grid voltage (V_{acr})	380 V				
AC voltage range ($V_{ac,min} \dots V_{ac,max}$)	323...437 V ⁽¹⁾				
Maximum output current ($I_{ac,max}$)	203 A	304 A	405 A	507 A	608 A
Contributory fault current	225 A	337,5 A	450 A	562,5 A	675 A
Rated frequency (f)	50/60 Hz				
Frequency range ($f_{min} \dots f_{max}$)	47...53 / 57...63 Hz ⁽²⁾				
Nominal power factor and adjustable range	> 0.995 (adj. ± 0.90)				
Total harmonic distortion	< 3% (@ P_{acr})				
AC connection type (for each phase)	2 x 300 mm ² (M12)				
Output protection					
Anti-islanding protection	Yes (IEEE 1547)				
Output overvoltage protection (varistor)	Yes, Class II				
Night time disconnect	No				
AC circuit breaker	50 kA				

Block diagram of PVI-400.0 (multi master)



Technical data and types

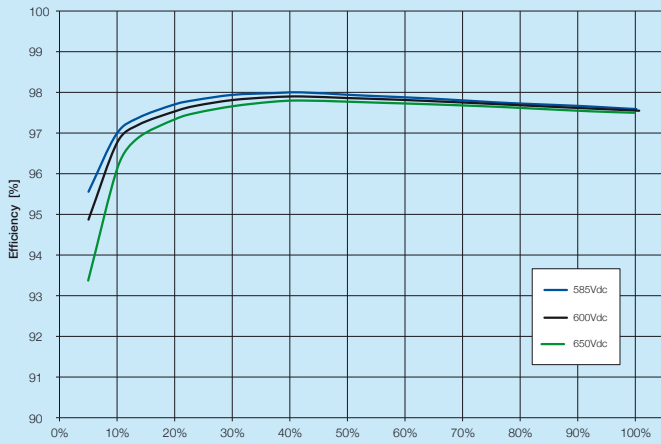
Type code	PVI-134.0-TL	PVI-200.0-TL	PVI-267.0-TL	PVI-334.0-TL	PVI-400.0-TL
Operating performance					
Maximum efficiency (η_{max})	98.0% ⁽⁴⁾				
Weighted efficiency (η_{EURO} / η_{CEC})	97.7% / 97.5% ⁽⁴⁾				
Stand-by consumption/night-time power loss	< 19 W	< 26 W	< 33 W	< 40 W	< 47 W
AC auxiliary supply	3 x 400 Vac +N, 50/60 Hz				
Auxiliary supply consumption	< 0.19% of P_{acr}				
Auxiliary supply consumption without cooling	< 0.18% of P_{acr}				
Inverter switching frequency	18 kHz				
Communication					
Wired local monitoring	PVI-USB-RS232 485 (opt.)				
Remote monitoring	PVI-AEC-EVO (opt.), VSN700 Data Logger (opt.)				
String Combiner	PVI-STRINGCOMB (opt.)				
User interface	16 characters x 2 line LCD display for each module				
Environmental					
Ambient temperature range	-10...+ 60°C/+14...140°F with derating above 50°C/122°F				
Relative humidity	0...95% non condensing				
Noise emission	< 60 db (A) @ 1 m	< 66 db (A) @ 1 m	< 69 db (A) @ 1 m	< 72 db (A) @ 1 m	< 75 db (A) @ 1 m
Maximum operating altitude without derating	1000 m / 3280 ft				
Physical					
Environmental protection rating	IP 20				
Cooling	Air forced				
Required air cooling flow	2400 m ³ /h - 1416 CFM	3200 m ³ /h - 1888 CFM	4000 m ³ /h - 2360 CFM	4800 m ³ /h - 2832 CFM	5600 m ³ /h - 3304 CFM
Dimension (H x W x D)	1077mm x 1250mm x 850mm / 42,4" x 49,2" x 33,5"	1675mm x 1250mm x 850mm / 65,9" x 49,2" x 33,5"	1675mm x 1250mm x 850mm / 65,9" x 42,9" x 33,5"	2184mm x 1250mm x 850mm / 86,0" x 49,2" x 33,5"	2184mm x 1250mm x 850mm / 86,0" x 49,2" x 33,5"
Weight	< 480 kg / 1058 lb	< 680 kg / 1500 lb	< 780 kg / 1720 lb	< 1000 kg / 2205 lb	< 1150 kg / 2535 lb
Weight of the module	< 60 kg / 132 lb				
Safety					
Transformer	No				
Marking	CE (50 Hz only)				
Safety and EMC standard	EN 50178, EN62109-1, EN62109-2, EN61000-6-2, EN61000-6-4, EN61000-3-12				
Grid standard (check your sales channel for availability)	CEI-0-16, BDEW, RD 661/2007, IEEE 1547-2003 P.O.12.3				

1. The AC voltage range may vary depending on specific country grid standard
 2. The Frequency range may vary depending on specific country grid standard

3. Missing symmetry with respect to ground results in AC disconnection (disabled function by default)
 4. Power consumption of the auxiliary services not included

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

Efficiency curves of PVI-400.0-TL



Support and service

ABB supports its customers with dedicated, global service organization in more than 60 countries and strong regional and national technical partner networks providing complete range of life cycle services.

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

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