Solar inverters

ABB monitoring and communications PVI-STRINGCOMB

The String Combiner "PVI-STRINGCOMB", ideal for commercial and utility-grade inverters, ensures the same monitoring accuracy of the PV generator typically achieved with string inverters.

This box can combine up to 10 channels of individual or paired string currents that can be accurately monitored via hall effect sensors.

The system supervisor enables prompt detection of the faulty strings. Any issue on the line is detected promptly and signaled to the managing inverter.

With PVI-STRINGCOMB, the connected strings are protected and controlled

All string combiner boxes include surge protection with removable elements as well as fuse protection for each couple of string channels.
It is available with a fully-integrated DC switch (optional on -S version), fuse and remote controlled DC disconnect function.

It has an integrated DC disconnection switch (-S version) with triggering current or minimum voltage release coil.

Highlights
– Up to 20 strings can be directly connected
– The cartridge fuse on each input provides over-current protection
– 10 Hall-Effect current sensors for fast, precise monitoring and fault diagnostic
– Environmental protection rating of IP65
– RS485 serial bus for communication with ABB's PLUS and ULTRA inverter families

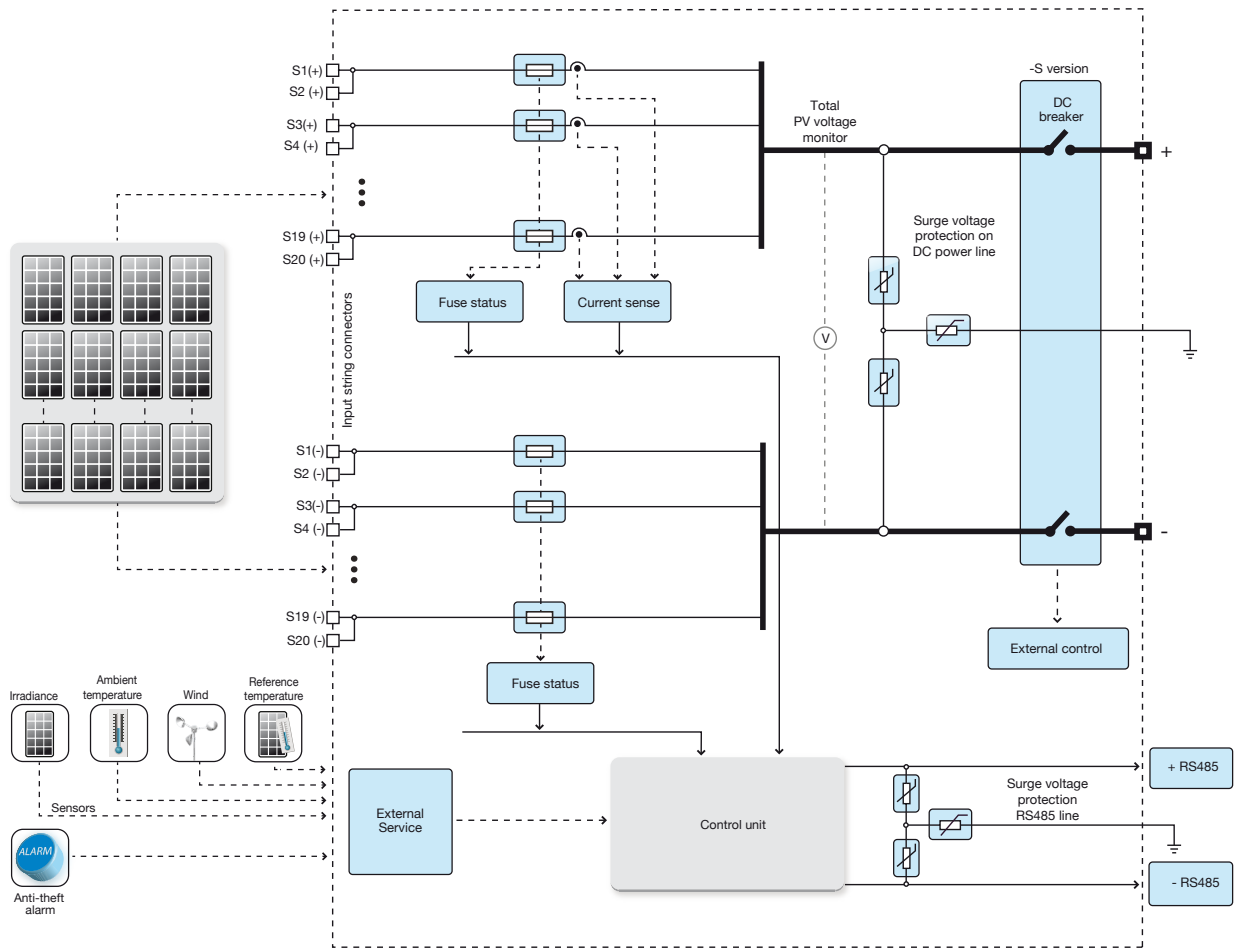Power and productivity
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Additional highlights

– It includes four analogue inputs for external sensors, one built-in cord-type anti-theft device, two digital inputs
– Available fuses: 12A, 16A, 20A, 25A
– Built-in power supply for ambient sensors
– Auxiliary input for external source ("night mode")
– Overvoltage protection on DC power line and RS485 communication line by means of overvoltage surge arresters

Technical data and types

Type code	PVI-STRINGCOMB (125A)	PVI-STRINGCOMB (150A)
Input side		
DC input string voltage range	250…1000 V	250…1000 V
Absolute maximum DC input string voltage	1000 V	1000 V
Maximum DC current for each measurement channel	20 A	20 A
Measurement channels	10	10
DC connection for each measurement channel	2	2
Maximum number of DC connection	20	20
Number of input DC connections for each fuse	2	2
String cable cross section	6 mm^2 max.	6 mm^2 max.
Type of input DC connection	Multicontact MC4 connectors or PG cable gland	Multicontact MC4 connectors or PG cable gland
Output side		
Maximum output current	125 A (100A between 40° and 55°C)	150 A (125A between 40° and 55°C)
Output cable connection [1]	1 x M10 (copper or aluminium cable with M10 terminal)	1 x M10 (copper or aluminium cable with M10 terminal)
Ground cable connection [1]	1 x M8	1 x M8
Output DC switch rating [1]	160 A / 1000 V (opt.)	160 A / 1000 V (opt.)
Communication		
User interface	1 x RS485	1 x RS485
Features		
Anti-theft alarm	Yes	Yes
Anemometer sensor monitoring (opt.)	Yes	Yes
Temperature sensor monitoring (opt.)	Yes	Yes
Reference PV cell monitoring (opt.)	Yes	Yes
Data monitoring		
String currents	Yes	Yes
String fuse status	Yes	Yes
Ambient parameters	Yes	Yes
Overvoltage status	Yes	Yes

Block diagram of PVI-STRINGCOMB

Technical data and types

Type code	PVI-STRINGCOMB (125A)	PVI-STRINGCOMB (150A)
Environmental parameters		
Ambient temperature range	-25…+ 55°C/-13…131°F	-25…+ 55°C/-13…131°F
Relative humidity	0…100% condensing	0…100% condensing
Maximum operating altitude without derating	1000 m / 3280 ft	1000 m / 3280 ft
Environmental protection rating	IP65	IP65
Cooling	Natural	Natural
Enclosure [1]	Fiberglass	Powder-Coated Aluminum
Dimension (H x W x D)	559mm x 757mm x 250mm / 22.0" x 29.8" x 9.8"	650mm x 790mm x 250mm / 25.6" x 31.1" x 9.8"
Weight	< 23 kg / 50.7 lb	< 30 kg / 66.1 lb
Warranty	5 years standard 10/15/20 optional	5 years standard 10/15/20 optional
Compliance		
Marking	CE	CE
Safety and EMC standard	EN 50178, EN61000-6-2, EN61000-6-4	EN 50178, EN61000-6-2, EN61000-6-4
Available products variants		
With input PG cable gland	PVI-STRINGCOMB	PVI-STRINGCOMB
With multicontact MC4 connectors	PVI-STRINGCOMB-MC	PVI-STRINGCOMB-MC
With input PG cable gland and Output Disconnector	PVI-STRINGCOMB-S	PVI-STRINGCOMB-S
With multicontact MC4 connectors and Output Disconnector	PVI-STRINGCOMB-S-MC	PVI-STRINGCOMB-S-MC

1. For the available options refer to the configuration module

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

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:

www.abb.com/solarinverters

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