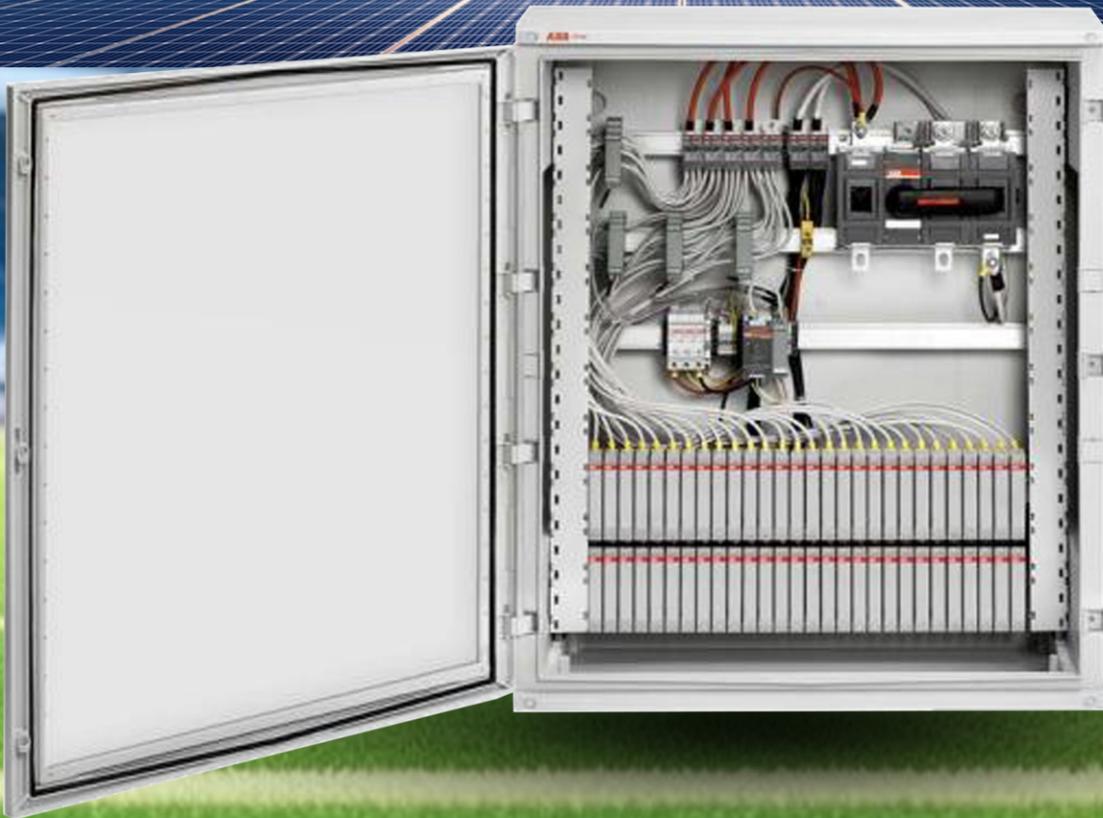


# 1500VDC String Combiner Box with SMU



**01** String combiners range

**02** 1500vdc string combiners with monitoring



# String combiners for solar photovoltaic systems

A plug and play solution for photovoltaic solar installations

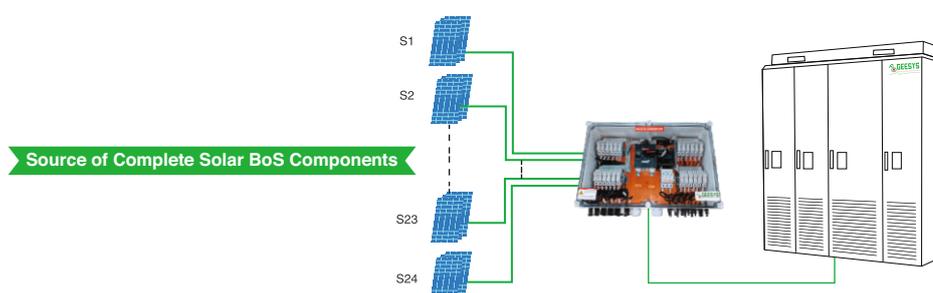
In a photovoltaic system the modules are arranged in strings and fields depending on the type of inverter used, the total power and the technical characteristics of the modules. The connection of modules in series is made on the modules themselves, while the parallel connection of the strings is made inside string boxes that accommodate, along with the interconnection systems, also the overcurrent protection devices, disconnectors and surge protection devices. The string boxes form subsystems that can be standardized according to the number of strings, voltage and rated current. ABB offers different product ranges, each dedicated to specific installation conditions with typical configurations.

**String boxes without monitoring** The installation of a photovoltaic system often occurs in complex logistic situations, critical from the environmental and time perspective. The availability of tested and certified pre-assembled components allows the installer to avoid unnecessary on-site assembly, wiring and certification activities for the string boxes. String boxes enclose functions such as string protection, protection against overvoltage and disconnect, with components suitable for the string's various voltage levels and the number of connected strings.

**String boxes with monitoring** The string monitoring is an important function in running medium and large size installations, since it allows to improve the efficiency and maintenance of the system. ABB offers a series of pre-wired string boxes for all installation conditions: they are equipped both with devices necessary for string protection, surge protection and disconnection, and with components for string current and monitoring as standard. Optionally we can also integrate to measure voltage inside the combiners.

**Design, production, quality and service** An essential factor in determining the success of a photovoltaic system is the accurate selection of its components, with particular attention to connections, and protections from the modules to the inverters. As the photovoltaic system has to perform for more than 25 years in harsh environments, the products used should be considered of high quality and as a good investment for long lasting performance. The string combiners are particularly important as they are usually installed under the photovoltaic panels and therefore exposed to the most harsh environment.

- ⚡ GEESYS combiners host GEESYS components specifically made for photovoltaic applications, making it easy during maintenance to rely on one single producer and supplier, from components to the whole system.
- ⚡ Capacity to deliver all over the world at your site
- ⚡ Comprehensive documentation for easy assembly at site
- ⚡ Service and support through GEESYS local sales organization worldwide



# Technical Specifications

## 1500vdc Solar String Combiner Box - SMU

Models	OD101-M	OD102-M
Rated Voltage	1000 VDC	
Rated Insulation Voltage	4KV	
<b>Input</b>		
No of DC Inputs	8 - 32	
+Ve Inputs	15/30A (10x38) gPV Fuse	
-Ve Inputs	15/30A (10x38) gPV Fuse	15/30A Tinned Copper Bus
Max Current in Isc	15 / 30A	
Max Current in Imp	10 / 20A	
Conductor Size, mm <sup>2</sup>	4-6 mm <sup>2</sup>	
Cable Entry	MC4 Connectors	
<b>Output</b>		
No of DC Outputs	1	
DC Isolation	Integrated	
Max Current in A	200...630A	
Conductor Size, mm <sup>2</sup>	1.2 x Max. Current, Tinned Copper Bus	
Cable Clamping Area	16 - 28mm	
Cable Entry	Polyamide/Metal Glands	
<b>Protections</b>		
DC Overvoltage Protection	SPD, Type-1+2, 50kA, Y	
Grounding Connection	Direct connection to SPD max. 16mm <sup>2</sup>	
Cable Entry	(6-13)mm, Polyamide Gland	
<b>String Monitoring</b>		
Max Current per String	4 Multiples, Max. 24 Channel Hall Effect CT, 20A	
Current Measurement	-30...+30A, Offset Current : $\leq \pm 0.1$ , Accuracy : 1% FSD	
Voltage Measurement	1 Channel (300-1000V DC), Accuracy $\pm 20C$ for full scales	
Internal Temperature Measurement	Type : NTC, Range : (40-100) <sup>o</sup> C, Accuracy $\pm 2^o$ C for full scales	
Data Communication (Isolated)	RS 485 Modbus RTU Protocol, 2.5KV Isolation, Half Duplex	
Communication Baud Rate	2400/4800/9600/19200/38400 bps	
I/O's	DI:2, DO:1; AI:2; Temp Input: 1 RTD PT100 3 Wire	
Auxiliary Power Supply	220V AC/150-1000V DC	
<b>General</b>		
Ingress Protection	IP65/66	
Enclosure Type	PC/FRP, Opaque Cover*	
Structure Mounting	Yes	
Bus Bar	Tinned Copper Bus*	
Operating Conditions	Temp " -20 to +60 <sup>o</sup> C; RH : 0-95% Non-condensing	
Types of Protections	Short Circuit, Overload & Over Voltage	
Rated Imp. with Stand Voltage	8KV DC	
Electrical Insulation	Totally Insulated	
UV Resistance	Yes	
Compliance Standards	UTE C 15-712-1, IEC61439-2, 60364, 60947-3, 60364-7-712, 61439-1, UL 98A	
Design Life	25 Years +	

