



PV Vault™

Yielding safety quickly

Power and productivity
for a better world™



Designed with safety in mind



ABB now offers the UL 1741 certified Solar Rapid Shutdown Device, PV Vault™ rated at 600 V DC to meet NEC 690.12 code requirement for string inverters. This product provides a safe solution for emergency responders, homeowners and contractors to eliminate voltage in compliance with NEC 2014 Rapid Shutdown requirements.

The ABB PV Vault™ system requires no extra conduit; minimizing material cost and associated labor.

Shutdown occurs at the rooftop box when utility/inverter power is lost or when the PV control vault power located at or near the inverter is turned off. In areas requiring a dedicated activation switch, an optional stop button is available.

With its slim-line design, the PV Vault™ controller can mount directly to the PV mounting rail and lay parallel to the roofing surface. The NEMA 4X enclosure permits installation angles from 0-90° while maintaining its water-tight seal from accumulating snow or driving rain.

Three models are available to cover all system configurations including a two-string pass-through, a two-string combined and a four-string combined box.

The unique features of each box can be used to maintain the specific configuration of the PV system. Dual outputs in the box maintain the benefits of dual inverter channels, while a single output box is ideal for small PV arrays utilizing one MPPT channel.

To further reduce system cost, string combining models reduce the number of output conductors between the rooftop box and the inverter.

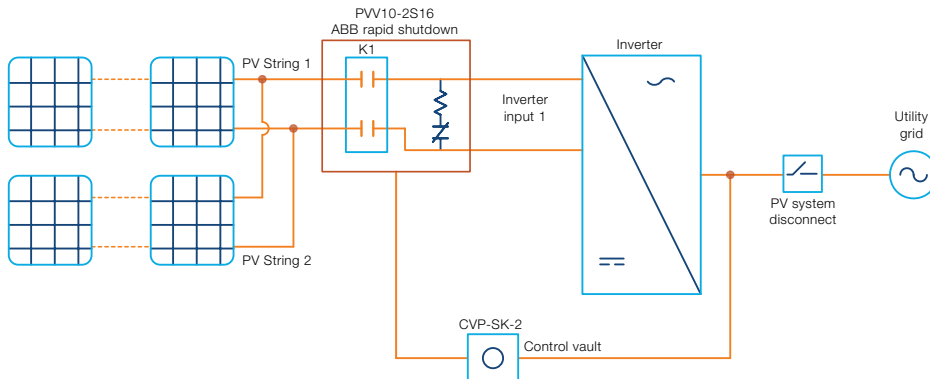
The rapid shutdown boxes includes a disconnect switch to comply with NEC 2014 690.15(C) Direct-Current Combiner Disconnects.

Highlights:

- Meets NEC 690.12 while avoiding the cost of additional conduit, making this solution the most cost-effective rapid shutdown product available
- Enclosure is 9" x 8" x 2" to allow a slim design to fit homeowner's roof design
- Immediately eliminates voltage and current supplied by push string upon deactivation
- NEMA 4X enclosure provides added protection from the harshest weather conditions
- Multiple string combining models provide additional savings by reducing the number of DC conductors to the inverter
- Equipment disconnect included in string combining models provides safety and compliance with NEC 2014 combiner-disconnect requirements
- Certified solar rapid shutdown device: TUV certification; Tested and meets UL 1741 and CSA C22 requirements

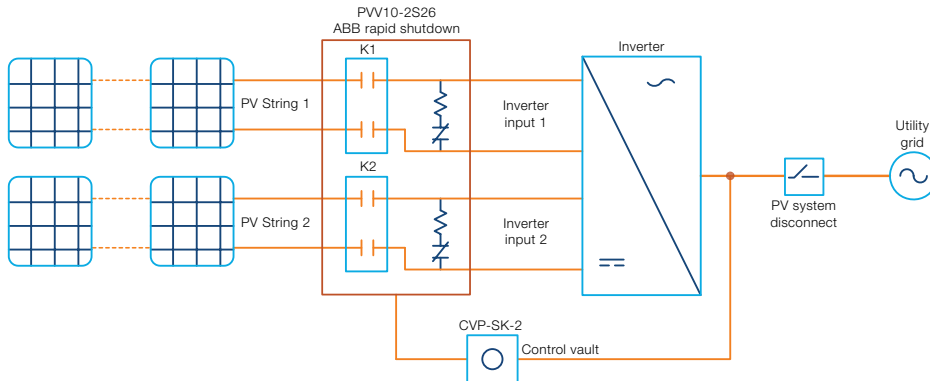
Block diagram for rapid shutdown models

PV Vault: PVV10-2S16. Two input strings, one output. Shown with Control Vault Power Kit.



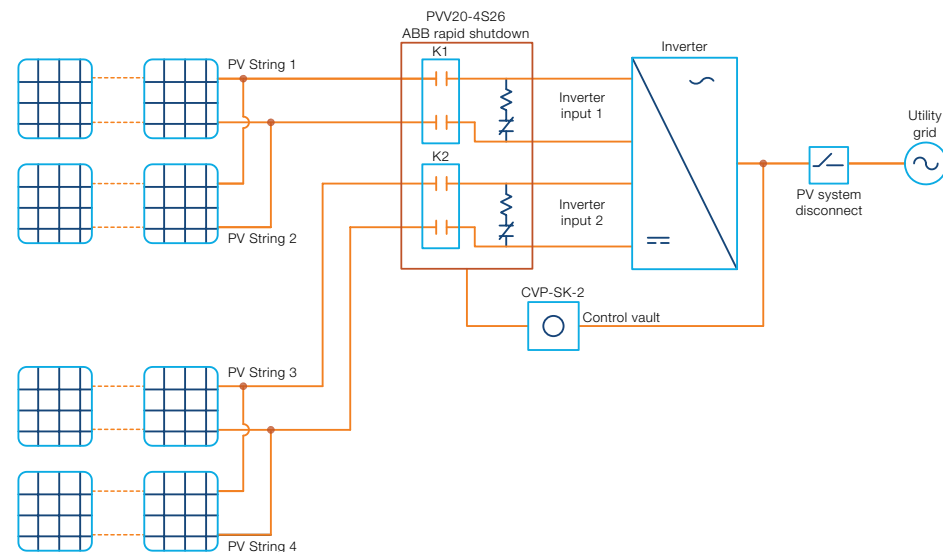
This 2-string model combines the strings to one PV output circuit. The PVV10-2S16 includes a disconnect switch on the front cover to disconnect the PV output conductors from the equipment downstream. Auxillary terminals are provided for connecting to control vault power located at or near inverter box.

PV Vault: PVV10-2S26. Two input strings, two outputs. Shown with Control Vault Power Kit.



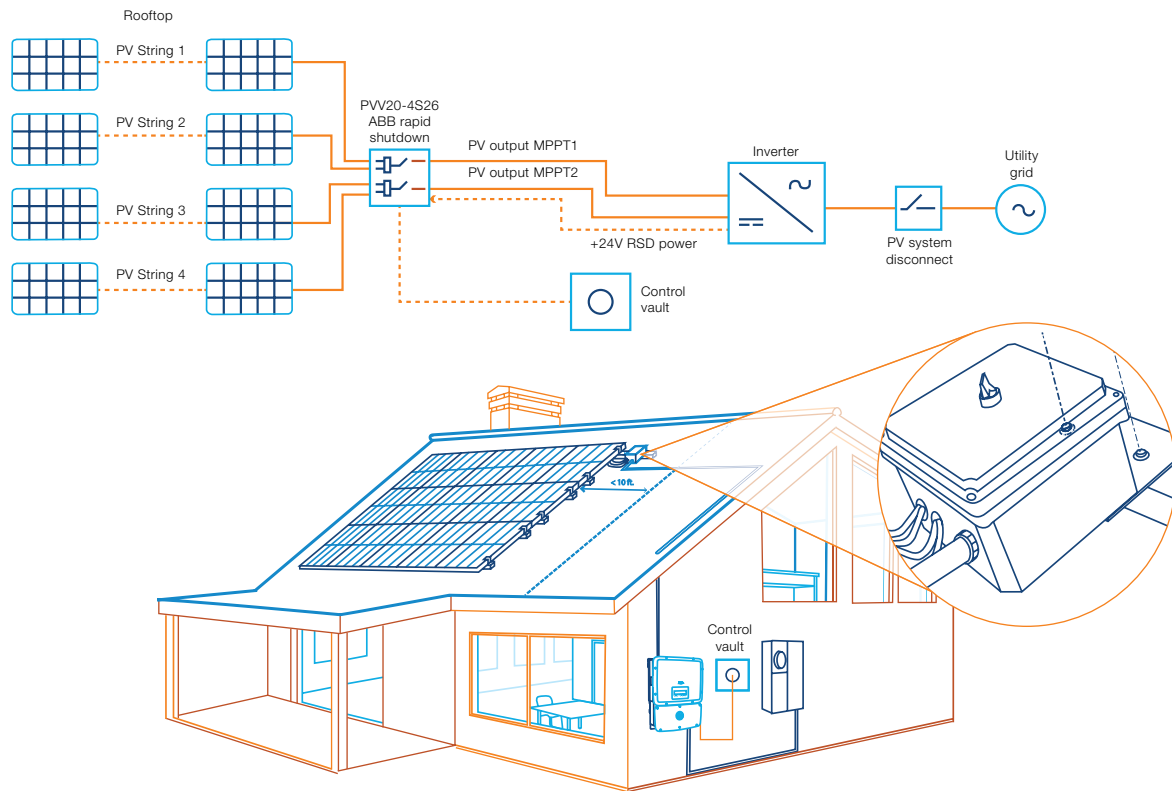
This 2-string model combines 2-strings in two separate PV output circuits (also referred to as pass-through). The PVV10-2S26 includes a disconnect switch on the front cover to disconnect the PV output conductors from the equipment downstream. Auxillary terminals are provided for connecting to control vault power located at or near inverter box.

PV Vault: PVV20-4S26. Four input strings, two outputs. Shown with Control Vault Power Kit.



This 4-string model combines 4-strings into two separate PV output circuits. The PVV20-4S26 includes a disconnect switch on the front cover to connect the PV output conductors from the equipment downstream. Auxillary terminals are provided for connecting to control vault power located at or near inverter box.

Rapid shutdown wiring diagram: 4-string



Technical data and types

Type code	2-string pass-through	2-string combined	4-string combined
PV source conductor input			
Maximum input current (per string)		10 A	
Maximum input voltage		600 V	
Number of input strings	2	2	4
Maximum input conductor size		8 AWG	
PV output conductors output			
Number of output circuits	2	1	2
Maximum output conductor size		6 AWG	
Manual disconnect	N/A	Yes	Yes
Control power			
Power	Input: 100-250VAC; Output: 24VDC/.65A, 15 W		
Maximum power conductor size		12 AWG	
Power off button		Optional	
Environmental		NEMA 4X Enclosure	
Environmental			
Mounting angle		0-90°	
Dimensions (HxWxD)		9" x 8" x 2" (includes mounting tabs)	
Weight	5.8lb.	6lb.	6.2lb.
Operating temperature range		-25 °C to +70 °C	
Enclosure rating		NEMA 4X	
Certifications		UL 1741:2010	
Inverter characteristics			
Power consumption	1.7 W	1.7 W	3.4 W
Maximum input capacitance		1640 µf	
Warranty			
Standard warranty		10 Years	
Available models			
Rooftop box	PVW10-2S26	PVW10-2S16	PVW20-4S26
Control vault - Enclosed 15W 24VDC power		CVP-SK-2*	
Control vault - Enclosed 15W 24VDC power with power off button		CVP-SK-2-OFF*	

* Control vault is required for new installations.

Information in this document is subject to change without notice.

PV Vault™

Yielding safety quickly

The new PV Vault™ rapid shutdown system was designed with first responders, homeowners, and contractors, safety in mind. In combination with UL 1741, the PV Vault™ is designed to meet NEC 690.12 requirements for Rapid Shutdown of PV Systems on Buildings.

- Available for residential applications
- Application for 600 V DC
- Minimal power consumption
- Low profile design with 9" x 8" x 2" dimensions

Durable **quality** **Reliability**

Small profile with durable quality

- Plastic type 4x enclosure for all weather conditions
- Galvanic isolation means no contact to array once de-energized
- Discharges inverter to safe operations within 10 seconds

Improve **installation** **Efficiency**

Ease of installation

- Top, bottom, or side mounting options
- Integral mounting tabs provided for easy installation
- Quick installation with two connections
- Error-free connection with visual identification
- Spring-loaded terminals for quick connection
- Singular design for both two and four string array configurations

Increase **application** **Productivity**

Safety meets productivity

- Optional power off button for quick disconnect of system away from array
- Local on/off selector switch on enclosure
- 2 arrays use 1.7 W consumption
- 4 arrays use 3.4 W consumption



Contact us

ABB

Electrification Products
8155 T&B Boulevard
Memphis, TN 38125
www.abb.com/lowvoltage

USA Technical Support: 888-385-1221
Customer Service: 888-862-3290
7:00 a.m. to 5:30 p.m., CST, Monday – Friday
lvps.support@us.abb.com