## **eSV CONNECT**

# FASTENING & GROUNDING CLIP FOR FRAMED MODULES AND STEEL STRUCTURES





Screwless and tool-free clipped fastening solutions provide fast and simple assembly. It allows customers to reduce the overall cost of renewable energies.

# PowAR Snap® S

# COMBINED PV MODULE FASTENING & GROUNDING CLIP











APPLICATIONS

MODULES

## **BENEFITS**

#### ))) PERFORMING

Conforms to UL STD 2703 (Ed.2015)

Tested by accredited laboratories and qualified by major module manufacturers High protection against corrosion and lightening

Grounding continuity of the string preserved when a module is dismounted for maintenance Anti-theft designed

#### ))) QUICK

Fastening and grounding in a single operation 1 module installed within 30 seconds<sup>(1)</sup>

#### ))) EASY TO USE

Tool-free set up

Minimal training required

Intuitive: the "click" signals job is properly done

Friendly: no need for climbing on structure, panels can be inserted from underneath the array

#### ))) COST SAVING

Lower overall costs of the PV installation

Lower land investment and structure savings thanks to minimized inter module gap: up to 3% more modules per available surface Lower maintenance costs: Screw-less, no periodic torque control required

Hot spot risk reduction for PV modules thanks to elastic mechanical clamping<sup>(2)</sup>

(2) Mechanical shocks and daily thermal cycles often induce micro-cracks within cells, leading to hot spots and power output degradation.

<sup>(1)</sup> According to field tests results available on demand

# **eSV CONNECT**



#### ·· Powar Snap® S: Fastening & Grounding Clip for Framed Modules and Steel Structures ··········•

TECHNICAL SPECIFICATIONS





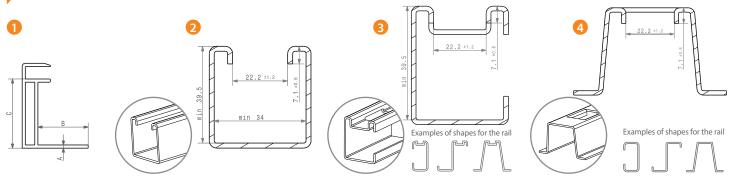




POWAR Snap*   SIDER REMOVAL TOOL   BEMOVAL TOOL						
ARTICLE N°   24413000   232579001   244429001   235216001				STOPPER	SLIDER REMOVAL TOOL	
MATERIAL			PowAR Snap® S	PowAR Snap® S	For roof top	For ground mount
Marterial		ARTICLE N°	244133000	232579001	244429001	235216001
WEIGHT IN G TEMPERATURE RESISTANCE HUMIDITY RESISTANCE HUMIDITY RESISTANCE Conforms to UL 2703 (2015) section 17  Conforms to UL 2703 (2015) section 18  MECHANICAL RESISTANCE  MECHANICAL RESISTANCE  MICHANICAL RESISTANCE  Compliant with IEC 61215-10.16:2005 Conforms to UL 2703 (2015) section 21  No red rust after 1000 hours salt spray acc. ISO 9227: 2012 (NS5)  Compliant with IEC 60439-1:2004 8.2.4.1 after 240 hours salt spray, acc. EN 60068-2-11:1999 after sulfur dioxide (SO2) acc. EN ISO 6988:1995 Conforms to UL 2703 (2015) Sections 2.2.1a and 22.1b  LIGHTNING RESISTANCE  Compliant with IEC 60439-1:2004 8.2.4.1 after 20k-V8-20µs current pulse  Module with frame thickness A between 1.5 and 2.7mm, minimum lip length B of 16mm and minimum frame height C of 30mm (see technical drawing 1)  Standard Strut rails 41x41mm wide (see technical drawing 2) or steel rails with square punch (see technical drawing 3) or with specific punch (see technical drawing 4)  Delivered with 2 self-threading /		MATERIAL			Metal assembly	Metal assembly
WEIGHT IN G TEMPERATURE RESISTANCE HUMIDITY RESISTANCE HUMIDITY RESISTANCE Conforms to UL 2703 (2015) section 17  Conforms to UL 2703 (2015) section 18  MECHANICAL RESISTANCE  MECHANICAL RESISTANCE  MICHANICAL RESISTANCE  Compliant with IEC 61215-10.16:2005 Conforms to UL 2703 (2015) section 21  No red rust after 1000 hours salt spray acc. ISO 9227: 2012 (NS5)  Compliant with IEC 60439-1:2004 8.2.4.1 after 240 hours salt spray, acc. EN 60068-2-11:1999 after sulfur dioxide (SO2) acc. EN ISO 6988:1995 Conforms to UL 2703 (2015) Sections 2.2.1a and 22.1b  LIGHTNING RESISTANCE  Compliant with IEC 60439-1:2004 8.2.4.1 after 20k-V8-20µs current pulse  Module with frame thickness A between 1.5 and 2.7mm, minimum lip length B of 16mm and minimum frame height C of 30mm (see technical drawing 1)  Standard Strut rails 41x41mm wide (see technical drawing 2) or steel rails with square punch (see technical drawing 3) or with specific punch (see technical drawing 4)  Delivered with 2 self-threading /	DUCT DE		with basecoat with aluminum-rich organic	with basecoat with aluminum-rich	-	-
TEMPERATURE RESISTANCE  Conforms to UL 2703 (2015) section 17  LOAD +5400/-2400 Pa compliant with IEC 61215-10.16:2005 Conforms to UL 2703 (2015) section 21  CORROSION RESISTANCE  CORROSION RESISTANCE  GROUNDING CONTINUITY  Compliant with IEC 60439-1:2004 8.2.4.1 after 240 hours salt spray, acc. EN 60068-2-11:1999 after sulfur dioxide (502) acc. EN 8150 6988:1995 Conforms to UL 2703 (2015) sections 22.1a and 22.1b  LIGHTNING RESISTANCE  PMODULE SPECIFICATIONS  RAIL SPECIFICATIONS  Standard Strut rails 41x41mm or 41x62mm (see technical drawing 1)  Standard Strut rails 41x41mm or 41x62mm (see technical drawing 2) or steel rails with square punch (see technical drawing 4)  Delivered with 2 self-threading /  Delivered with 2 self-threading /  Delivered with 2 self-threading /	PRO		44x48x34	49x52x50	200x50x140	280x130x40
RESISTANCE HUMIDITY RESISTANCE Conforms to UL 2703 (2015) section 18  Load +5400/-2400 Pa compliant with IEC 61215-10.16:2005 Conforms to UL 2703 (2015) section 21  Max. Load 1000 daN (suitable for 6 x PV 60 cells modules loaded at 5400 Pa with a 20° tilt angle)  No red rust after 720 hours salt spray acc. ISO 9227: 2012 (NSS)  RESISTANCE RESISTANCE CORROSION RESISTANCE  CORROSION RESISTANCE CORROSION RESISTANCE  CORROSION RES		WEIGHT IN G	33,4	103	292	500
RESISTANCE  Conforms to UL 2703 (2015) section 18  Load +5400/-2400 Pa compliant with IEC 61215-10.16:2005 Conforms to UL 2703 (2015) section 21  CORROSION RESISTANCE  ROUNDING CONTINUITY  Compliant with IEC 60439-1:2004 8.2.4.1 after 240 hours salt spray, acc. EN 60068-2-11:1999 after sulfur dioxide (SO2) acc. EN ISO 6988:1995 Conforms to UL 2703 (2015) sections 22.1a and 22.1b  LIGHTNING RESISTANCE  Module with frame thickness A between 1,5 and 2,2mm, minimum lip length B of 16mm and minimum frame height C of 30mm (see technical drawing 1)  Standard Strut rails 41x41mm or 41x62mm (see technical drawing 3) or with square punch (see technical drawing 4)  ACCESSORIES  Max. Load 1000 daN (suitable for 6 x PV 60 cells modules loaded at 5400 Pa with a 20° tilt angle)  Max. Load 1000 daN (suitable for 6 x PV 60 cells modules loaded at 5400 Pa with a 20° tilt angle)  Max. Load 1000 daN (suitable for 6 x PV 60 cells modules loaded at 5400 Pa with a 20° tilt angle)  Move of x PV 60 cells modules loaded at 5400 Pa with a 20° tilt angle)  No red rust after 1000 hours salt spray acc. EN 60068-2-11:1999 after sulfur dioxide (SO2) acc. EN 150 6988:1995 Conforms to UL 2703 (2015) section 22.1a and 22.1b  LIGHTNING RESISTANCE  Module with IEC 60439-1:2004 8.2.4.1 after 20kA/8-20µs current pulse  Module with frame thickness A between 1,5 and 2,2mm, minimum Ilp length B of 16mm and minimum frame height C of 30mm (see technical drawing 1)  Standard Strut rails 41xm wide (see technical drawing 2) or steel rails with specific punch (see technical drawing 3) or with specific punch (see technical drawing 4)  ACCESSORIES  Delivered with 2 self-threading /			Conforms to UL 2703 (2015) section 17	-	-	-
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after 240 hours salt spray, acc. EN 60068-2-11:1999 after sulfur dioxide (SO2) acc. EN ISO 6988:1995 Conforms to UL 2703 (2015) sections 22.1a and 22.1b  LIGHTNING RESISTANCE  Compliant with IEC 60439-1:2004 8.2.4.1 after 20kA/8-20µs current pulse  Module with frame thickness A between 1,5 and 2,2mm, minimum lip length B of 16mm and minimum frame height C of 30mm (see technical drawing 1)  Standard Strut rails 41x41mm or 41x62mm (see technical drawing 2) or steel rails with square punch (see technical drawing 3) or with specific punch (see technical drawing 4)  Delivered with 2 self-threading /	CES		with IEC 61215-10.16:2005	for 6 x PV 60 cells modules loaded	-	-
after 240 hours salt spray, acc. EN 60068-2-11:1999 after sulfur dioxide (SO2) acc. EN ISO 6988:1995 Conforms to UL 2703 (2015) sections 22.1a and 22.1b  LIGHTNING RESISTANCE  Compliant with IEC 60439-1:2004 8.2.4.1 after 20kA/8-20µs current pulse  Module with frame thickness A between 1,5 and 2,2mm, minimum lip length B of 16mm and minimum frame height C of 30mm (see technical drawing 1)  Standard Strut rails 41x41mm or 41x62mm (see technical drawing 2) or steel rails with square punch (see technical drawing 3) or with specific punch (see technical drawing 4)  Delivered with 2 self-threading /	FORMAN				-	-
PV MODULE SPECIFICATIONS  PV MODULE SPECIFICATIONS  RAIL SPECIFICATIONS  RAIL SPECIFICATIONS  RAIL SPECIFICATIONS  RAIL SPECIFICATIONS  RAIL SPECIFICATIONS  RAIL SPECIFICATIONS  ACCESSORIES  ACCESSORI	PER		after 240 hours salt spray, acc. EN 60068-2-11:1999 after sulfur dioxide (SO2) acc. EN ISO 6988:1995 Conforms to UL 2703 (2015)	-	-	-
PV MODULE SPECIFICATIONS  1,5 and 2,2mm, minimum lip length B of 16mm and minimum frame height C of 30mm (see technical drawing 1)  RAIL SPECIFICATIONS  Standard Strut rails 41x41mm or 41x62mm (see technical drawing 2) or steel rails with square punch (see technical drawing 3) or with specific punch (see technical drawing 4)  ACCESSORIES  1,5 and 2,2mm, minimum lip length B of 16mm Module with frame  -  Standard Strut rails 41mm wide (see technical drawing 2)  Standard Strut rails 41mm wide (see technical drawing 2)  Delivered with 2 self-threading /				-	-	-
ACCESSORIES Delivered with 2 self-threading /	ENT		1,5 and 2,2mm, minimum lip length B of 16mm and minimum frame height C of 30mm	Module with frame	-	-
	ENVIRONM		(see technical drawing 2) or steel rails with square punch (see technical drawing 3) or with		-	-
			-	· ·	-	-

Product Information disclosed in this "data sheet" can be modified without any previous notice.

### PV MODULE FRAME AND RAIL SPECIFICATIONS



Factory: 01/100, Valliammai Nagar, Kovur, Chennai – 600 128.

Reg Office: Plot 30, 8th Street, S1 Rajeshwari Apartment, Madha Nagar, Chennai - 600 125.

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