AT89 Series - ATPV

ATPV

Protection box for Photovoltaic installations

AT89 SERIES- ATPV

AT8901 ATPV:
prepared for induced overvoltages in photovoltaic panels

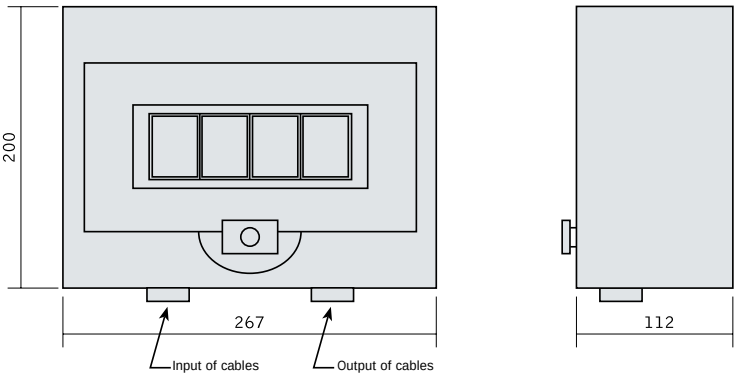
+F : Boxes including backup fuses .

Photovoltaic installations are prone to lightning strikes due to their location in open areas.

ATPV Box series are designed to client's requirements in order to best protect the photovoltaic panels and all the elements involved, such as the power inverter. Each ATPV box must be carefully conceived by an expert team as many parameters are involved.
Some elements inside the box are MOVs specially selected for each electrical installation to be protected.

ATPV Surge Protective Devices are to be installed **in parallel** without affecting the normal working conditions.
In addition, protective fuses against short circuits can be incorporated in the same box.

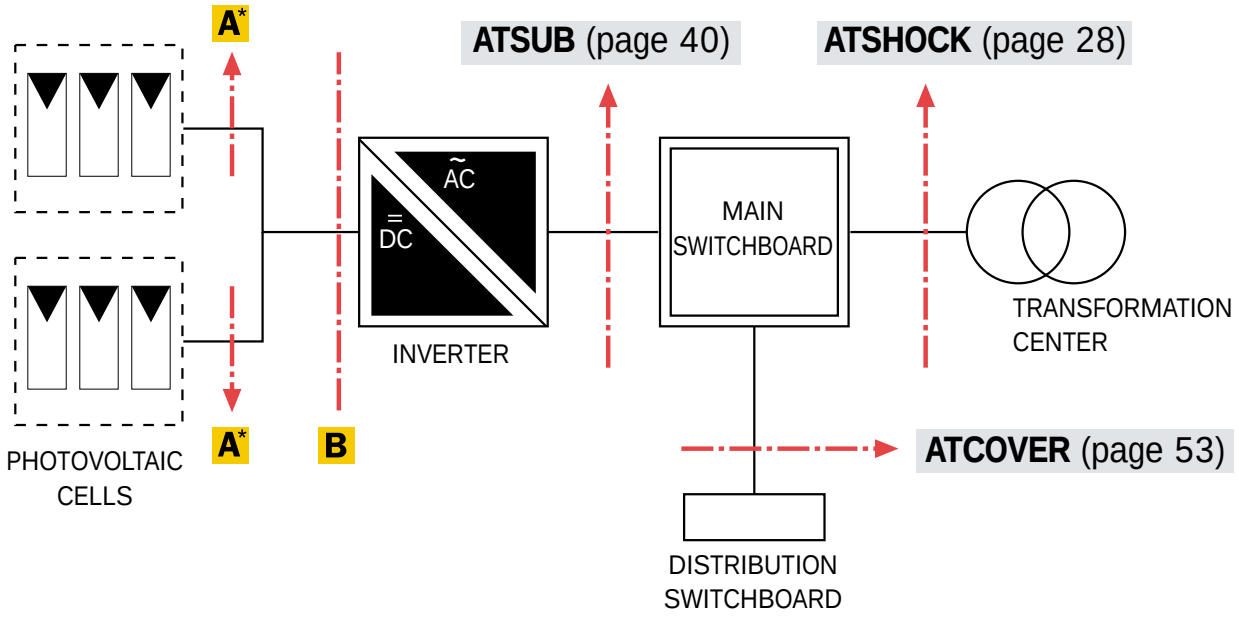
Compact box, easy to install and with the same advantages as Aplicaciones Tecnológicas S.A.'s SPDs give: robust, quick, reliable and tested according current standards (IEC61643-1, EN61643-11 and NF-C-61-0740) in **official independent laboratories**.



INSTALLATION
*ATPV boxes are to be installed **in parallel** with the Low Voltage supply line, connected to line, neutral and ground. **Fuses or circuit breakers must be present** upstream. They will be disconnected during the installation for working security. If this protection does not exist, fuses must be installed in series with the box.*

***Earth connection** is a must. Earthing in all the installation must be bonded either directly or by a spark gap and resistance should be lower than 10Ω. If the indications of this datasheet are not fulfilled during the use or installation of the SPDs, the protection assured by this device could be endangered.*

PROTECTIÓN OF A PHOTOVOLTAIC INSTALLATION WITH AND WITHOUT LIGHTNING PROTECTION SYSTEM (LPS)



A* WITH LPS**

CLASS I and II
(coordinated protection)

ATVOLT(p.81) or **ATPV**(p.86) depending on maximum voltage

A* WITHOUT LPS**

CLASS I
(coarse protection)

ATSHOCK (page 28)

B WITH LPS**

CLASS II
(medium protection)

ATPV (page 86)

B WITHOUT LPS**

CLASS II
(medium protection)

ATPV (page 86)

***Protection A:** will be necessary if the distance is superior than 10m.*
****LPS:** Lightning Protection System.*

As shown on the diagram above, two cases may exist:

1) With External Lightning Protection System: If distance between panels and inverter is bigger more than 10m, a ATVOLT or an ATPV should be placed depending on the outcoming voltage from the panel. An ATPV must be placed at the inverter input.

2) Without External Lightning Protection System: A robust ATSHOCK SPD should be used in order to withstand direct lightning strike current. An ATPV must be placed at the inverter input.

Electrical installation should be protected as follows:

- A medium ATSUB protector should be placed in the main switchboard.
- If generated power is used for local needs, it is recommended to place a tight protector ATCOVER in the distribution board in order to avoid high residual voltages.
- If generated power is to export to the electrical network through an owned transformation center, a ATSHOCK should be placed in order to avoid transient overvoltages in the line.

AT8901 ATPV: prepared for induced overvoltages in photovoltaic panels

		ATPV
Reference		**AT8901**
Protection categories according to RBT2002:		I, II, III, IV
Nominal voltage:	U_n	500V_{DC}
Nominal discharge current (8/20µs wave):	I_n	20kA
Maximum discharge current (8/20µs wave):	I_{max}	40kA
Protection level at In, 8/20µs wave:	$U_p(I_n)$	4kV
Protection level for 1,2/50µs wave:		3,5kV
Response time:	t_r	< 25ns
Backup fuse(1):		125A gL/gG
Maximum short-circuit current:		25kA (for maximum fuse)
Dimensions:		200 x 267 x 112 mm
Fixing:		Wall or vertical support
Working Temperature:	ϑ	-55ºC to +85ºC
Enclosure material:		Autoextinguishing, isolating
Fire resistance:		650ºC according to IEC 695-2-1
Enclosure protection:		IP65 according to IEC 60.529
Impact protection:		IK09 according to EN 50.102
Connections L/N/G:		Maximum section 25mm^2 (AWG 3)

Certificated tests according to: IEC 61643-1 / NFC 61-0740 / EN 61643-11 / IEC 61312-3

Complies with requirements of: UL 1449

Relevant standards : UNE21186 / NFC 17102 / UNE21185 / IEC61024-1 / IEC61312-3

(1) Needed in cases where there is no equal or less nominal current installed “upstream” from the protector