

AT82P Series - ATSUB-P 20/40/60/N

ATSUB-P

Single-pole protection for power supply lines

Efficient protection against transient overvoltages for electrical supply lines with or without neutral, using a metal oxide varistors. Medium protection according to coordinated stages protection recommended in Regulation of Low Voltajes (RBT2002 ITC23).

AT82P SERIES - ATSUB-P
20/40/60/N

It's provided with removable cartridges that allows its replacement in case of fault thus without changing the base.

Tested and certified as **Class I** and **II** according to regulations IEC61643-1, EN61643-11. Suitable for **Categories I, II, III** and **IV** equipment according to RBT2002.

- Coordinable with other SPDs such as ATSHOCK, ATSHIELD and ATCOVER series.
- Made up of zinc oxide varistors able to withstand very high currents.
- Short response time.
- Don't produce deflagration.
- Single-pole protection.
- Their activation causes no interruption in power supply.
- Small sized modular protection.
- Thermodynamic control device and light alarm for each phase.
- Suitable connectors for any type of connection.

AT82P Series SPDs have been tested in **official and independent laboratories**, obtaining their characteristics according to relevant standards (shown in the table).

There exists the possibility of selecting a protector for the working voltage in each particular case. In the technical datasheet, we have included as common examples the optimal SPDs for **wind generators** (Line-to-Line voltage of 690V and Line-to-Ground voltage of 400V).

ATSUB-R 60 - 400

Max. discharge current in kA

Voltage line - ground



INSTALLATION

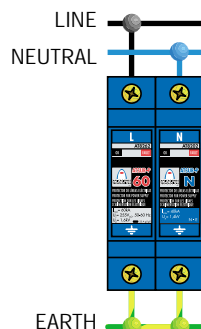
They are installed **in parallel** with the low voltage line, with connections to the phase that is to be protected to neutral and/or ground.

The **power should be disconnected** during the installation of the SPD.

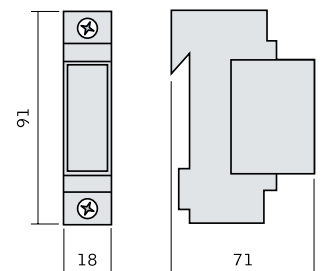
When ATSUB are installed as middle protection, they must be separated by at least 10 meter cable or, if this is not possible, by a decoupling inductor ATLINK, in order to achieve a **correct coordination** between them.

Their installation is recommended in places where important overvoltages can occur and when lines are connected to very sensitive equipment that can not withstand big overvoltages.

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.



Minimum protection for TT systems. It is also recommended to install an ATSUB protector between each line and neutral, specially in TN-C and TN-S systems.




AT8222 ATSUB-P 20:

max discharge current of 20kA

AT8242 ATSUB-P 40:

max discharge current of 40kA

AT8262 ATSUB-P 60:

max discharge current of 60kA

AT8202 ATSUB-P N

for neutral to ground protection

ACCESSORIES


AT8248 ATSUB-P MODULE 40: I_{max} 40kA

AT8249 ATSUB-P MODULE 40-400: U_n 400V

AT8228 ATSUB-P MODULE 20: I_{max} 20kA

AT8229 ATSUB-P MODULE 20-400: U_n 400V

AT8268 ATSUB-P MODULE 60: I_{max} 60kA

AT8269 ATSUB-P MODULE 60-400: U_n 400V

AT8205 ATSUB-P MODULE N: neutral-earth

Reference	ATSUB-P 20 ATSUB-P 40 ATSUB-P 60 ATSUB-P N			
	AT8222	AT8242	AT8262	AT8202
Protection categories according to RBT2002:	I, II, III, IV		II, III, IV	I, II, III, IV
Nominal voltage: U_n	220V _{AC} (L-G)			-
Maximum continuous operating voltage: U_c	255V _{AC} (L-G)			-
Nominal frequency:	50/60Hz			
Nominal discharge current (wave 8/20μs): I_n	10kA	20kA	30kA	20kA
Maximum discharge current (8/20μs wave): I_{max}	20kA	40kA	60kA	40kA
Protection level at I_n (8/20μs): $U_p(I_n)$	1200V	1400V	1600V	1400V
Protection level (1,2/50μs): U_p	700V	700V	900V	700V
Protection level for 5kA 8/20μs:	900V	1000V	1100V	1000V
Response time: t_r	< 25ns			
Capacity: C	4,5pF			
Back-up fuse ⁽¹⁾ :	125A gL/gG	125A gL/gG	160A gL/gG	-
Maximum short-circuit current:	25kA /50Hz (for maximum fuse)			
Working temperature: ϑ	-55°C to +85°C			
SPD location:	Indoor			
Type of connection:	Parallel (one port)			
Mounting method:	Fixed			
Dimensions:	18 x 91 x 71mm (1 mod. DIN43880)			
Fixing:	DIN rail			
Enclosure material:	Polycarbonate			
Enclosure protection:	IP20			
Insulation resistance:	> 10 ¹⁴ Ω			
Autoextinguish enclosure:	V-0 type according to UNE-EN 60707 (UL94)			
Connections L/N/G:	Max/Min section multi-stranded: 16 / 45mm ² (5/1 AWG) Max/Min section single-stranded: 4 / 45mm ² (11/1 AWG)			

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.




AT8226 ATSUB-P 20-400:

 max discharge current of 20kA for 400 V_{AC}
AT8246 ATSUB-P 40-400:

 max discharge current of 40kA for 400 V_{AC}
AT8266 ATSUB-P 60-400:

 max discharge current of 60kA for 400 V_{AC}
AT8202 ATSUB-P N

for neutral to ground protection

Reference	ATSUB-P20-400 ATSUB-P40-400 ATSUB-P60-400 ATSUB-PN			
	AT8226	AT8246	AT8266	AT8202
Protection categories according to RBT2002:	I, II, III, IV		II, III, IV	I, II, III, IV
Nominal voltage: U_n	400V _{AC} (L-G)			–
Maximum continuous operating voltage: U_c	460V _{AC} (L-G)			–
Nominal frequency:	50/60Hz			
Nominal discharge current (wave 8/20 μ s): I_n	10kA	20kA	30kA	20kA
Maximum discharge current (8/20 μ s wave): I_{max}	20kA	40kA	60kA	40kA
Protection level at I_n (8/20 μ s): $U_p(I_n)$	2100V	2300V	2500V	1400V
Protection level (1,2/50 μ s): U_p	1800V	1800V	1900V	700V
Protection level for 5kA 8/20 μ s:	1900V	2000V	2100V	1000V
Response time: t_r	< 25ns			
Capacity: C	4,5pF			
Back-up fuse ⁽¹⁾ :	125A gL/gG	125A gL/gG	160A gL/gG	–
Maximum short-circuit current:	25kA /50Hz (for maximum fuse)			
Working temperature: ϑ	-55°C to +85°C			
SPD location:	Indoor			
Type of connection:	Parallel (one port)			
Mounting method:	Fixed			
Dimensions:	18 x 91 x 71mm (1 mod. DIN43880)			
Fixing:	DIN rail			
Enclosure material:	Polycarbonate			
Enclosure protection:	IP20			
Insulation resistance:	> 10 ¹⁴ Ω			
Autoextinguish enclosure:	V-0 type according to UNE-EN 60707 (UL94)			
Connections L/N/G:	Max/Min section multi-stranded: 16 / 45mm ² (5/1 AWG) Max/Min section single-stranded: 4 / 45mm ² (11/1 AWG)			

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