

## AT82 Series

# SINGLE-POLE PROTECTOR FOR POWER SUPPLY LINES



## ATSUB

- AT-8220 ATSUB 15: max discharge current of 15kA. 230V
- AT-8240 ATSUB 40: max discharge current of 40kA. 230V
- AT-8260 ATSUB 65: max discharge current of 65kA. 230V
- AT-8201 ATSUB N: for neutral-ground protection
- AT-8230 ATSUB 15-120: max discharge current of 15kA. 120V
- AT-8250 ATSUB 40-120: max discharge current of 40kA. 120V
- AT-8270 ATSUB 65-120: max discharge current of 65kA. 120V
- AT-8224 ATSUB 15-400: max discharge current of 15kA. 400V
- AT-8244 ATSUB 40-400: max discharge current of 40kA. 400V
- AT-8264 ATSUB 65-400: max discharge current of 65kA. 400V

**ATSUB 65 – 400**  
 Max discharge current in kA    Line-ground voltage

Efficient protection against transient overvoltages for electrical supply lines with or without neutral using a metal oxide varistors and gas discharge tubes. It allows protection of three-phase lines **type TT, TNS, TNC and IT. Medium protection** according to coordinated stages protection recommended in Regulation of Low Voltages (REBT ITC23).

Tested and certified as **Type 1, 2 and 3** according to regulations EN 61643-11 and GUIDE-BT-23 from REBT. Suitable for **Categories I, II, III and IV** equipment according to ITC-BT-23 from REBT.

- Coordinable with other SPDs such as ATSHOCK, ATSHIELD and ATCOVER series.
- Made up of zinc oxide varistors and gas discharge tubes able to withstand very high currents.
- It is possible to fix the modules through rivets in order to obtain blocks of 2, 3 or 4 elements.
- Short response time.
- Don't produce deflagration.
- Single-pole protection.
- Their activation causes no interruption in power supply.
- Small size modular protection.
- Thermodynamic control device, mechanical warning and remote alarm.

When the warning is yellow the enclosure is in good shape. If not, replace. AT82 Series SPDs have been tested in **official and independent laboratories**, obtaining their characteristics according to relevant standards (shown in the table).

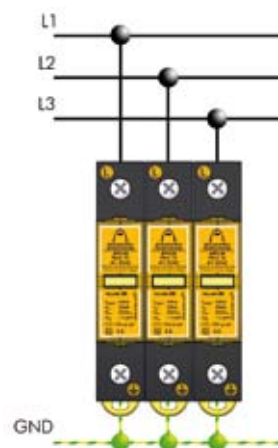
There exists the possibility of selecting a protector for the working voltage in each particular case. In the technical datasheet, we have included as common examples the optimal SPDs for **wind generators** (voltage of 400V) and **equipments using voltages common in the American continent** (Voltage 120V)

## Installation

They are installed **in parallel** with the low voltage line, with connections to the phase that is to be protected and to ground. As an example we show the 3 ATSUB connections in a three-phase power supply line TNC.

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.

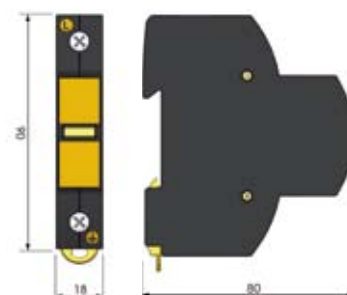
## AT82 Series

### Technical Datasheet

Reference		ATSUB 15 AT-8220	ATSUB 40 AT-8240	ATSUB 65 AT-8260	ATSUB N AT-8201
Protection categories according to REBT:		I, II, III, IV		II, III, IV	I, II, III, IV
Type of tests according to EN 61643-11:		Type 2 + 3	Type 2	Type 1 + 2	Type 2
Nominal voltage:	$U_n$		230V <sub>AC</sub>		-
Maximum working voltage:	$U_c$		255V <sub>AC</sub>		-
Nominal frequency:		50 - 60Hz			
Nominal discharge current (wave 8/20μs):	$I_n$	5kA	20kA	30kA	20kA
Maximum discharge current (8/20μs wave):	$I_{max}$	15kA	40kA	65kA	40kA
Protection level at $I_n$ (8/20μs wave):	$U_p(I_n)$	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
Impulse current (10/350μs wave):	$I_{imp}$		-	15kA	-
Combined wave tension:	$U_{o.c.}$	6kV		-	
Response time:	$t_r$		< 25ns		
Backup fuse <sup>(1)</sup> :			125A gL/gG		
Maximum short-circuit current:			25kA (for maximum fuse)		
Working temperature:	$\vartheta$		-40°C to +70°C		
SPD location:			Indoor		
Type of connection:			Parallel (one port)		
Dimensions:			18 x 90 x 80mm (1 mod. DIN43880)		
Fixing:			DIN rail		
Enclosure material:			Polyamide		
Enclosure protection:			IP20		
Insulation resistance:			> 10 <sup>14</sup> Ω		
Autoextinguish enclosure:			V-0 Type according to UNE-EN 60707 (UL94)		
Connections L/N/GND:			Min/Max section multi-stranded: 4 / 35 mm <sup>2</sup> (11/2 AWG) Min/Max section single-stranded: 1 / 35 mm <sup>2</sup> (17/2 AWG)		
Certificated tests according to: IEC 61643-1, EN 61643-11					
Complies with requirements of: UL 1449					
Relevant standards: UNE 21186, NFC 17102, IEC 62305					

(1) Needed in cases where there is higher nominal current installed "upstream" from the protector.

### Dimensions



## AT82 Series

### Technical Datasheet

Reference		ATSUB 15-400 AT-8224	ATSUB 40-400 AT-8244	ATSUB 65-400 AT-8264	ATSUB N AT-8201
Protection categories according to REBT:		I, II, III, IV		II, III, IV	I, II, III, IV
Type of tests according to EN 61643-11:		Type 2 + 3	Type 2	Type 1 + 2	Type 2
Nominal voltage:	$U_n$		400V <sub>AC</sub>		-
Maximum working voltage:	$U_c$		460V <sub>AC</sub>		-
Nominal frequency:		50 - 60Hz			
Nominal discharge current (wave 8/20μs):	$I_n$	5kA	20kA	30kA	20kA
Maximum discharge current (8/20μs wave):	$I_{max}$	15kA	40kA	65kA	40kA
Protection level at $I_n$ (8/20μs wave):	$U_p(I_n)$	2100V	2300V	2500V	2100V
Protection level (1,2/50μs):	$U_p$	1800V	1800V	1900V	1800V
Protection level for 5kA 8/20μs:		1900V	2000V	2100V	1900V
Impulse current (10/350μs wave):	$I_{imp}$		-	15kA	-
Combined wave tension:	$U_{o.c.}$	6kV		-	
Response time:	$t_r$			< 25ns	
Backup fuse <sup>(1)</sup> :				125A gL/gG	
Maximum short-circuit current:				125kA (for maximum fuse)	
Working temperature:	$\vartheta$			-40°C to +70°C	
SPD location:				Indoor	
Type of connection:				Parallel (one port)	
Dimensions:				18 x 90 x 80mm (1 mod. DIN43880)	
Fixing:				DIN rail	
Enclosure material:				Polyamide	
Enclosure protection:				IP20	
Insulation resistance:				> 10 <sup>14</sup> Ω	
Autoextinguish enclosure:				V-0 Type according to UNE-EN 60707 (UL94)	
Connections L/N/GND:				Min/Max section multi-stranded: 4 / 35 mm <sup>2</sup> (11/2 AWG) Min/Max section single-stranded: 1 / 35 mm <sup>2</sup> (17/2 AWG)	
Certificated tests according to: IEC 61643-1, EN 61643-11					
Complies with requirements of: UL 1449					
Relevant standards: UNE 21186, NFC 17102, IEC 62305					

(1) Needed in cases where there is higher nominal current installed "upstream" from the protector.

For other voltages,  
ask Aplicaciones  
Tecnológicas, S.A.  
technical department.