



> PROTECTION OF POWER SUPPLY LINES

> ATSUB SERIES

> ATSUB

Single-pole protection for power supply lines



- > **AT-8220 ATSUB 15**: peak current 15 kA. U_n 230 V
- > **AT-8240 ATSUB 40**: peak current 40 kA. U_n 230 V
- > **AT-8260 ATSUB 65**: peak current 65 kA. U_n 230 V
- > **AT-8201 ATSUB N**: for neutral-ground protection
- > **AT-8230 ATSUB 15-120**: peak current 15 kA. U_n 120 V
- > **AT-8250 ATSUB 40-120**: peak current 40 kA. U_n 120 V
- > **AT-8270 ATSUB 65-120**: peak current 65 kA. U_n 120 V
- > **AT-8062 ATSUB 15-300**: peak current 15 kA. U_n 300 V
- > **AT-8063 ATSUB 40-300**: peak current 40 kA. U_n 300 V
- > **AT-8064 ATSUB 65-300**: peak current 65 kA. U_n 300 V
- > **AT-8224 ATSUB 15-400**: peak current 15 kA. U_n 400 V
- > **AT-8244 ATSUB 40-400**: peak current 40 kA. U_n 400 V
- > **AT-8264 ATSUB 65-400**: peak current 65 kA. U_n 400 V

Effective protection against transient overvoltages for electrical supply lines with or without neutral, using metal oxide varistors and gas discharge tubes. Protects three-phase TT, TNS, TNC and IT type lines. Medium protection according to the cascade protection recommended in the Spanish Low Voltage Regulations (REBT ITC23).

> NOMENCLATURE

ATSUB **65** - **400**

Max. discharge voltage in kA | Line - ground nominal voltage

Tested and certified as a **type 1, 2 and 3** protector according to the standard EN 61643-11 and GUÍA-BT-23 from the REBT. Suitable for **categories I, II, III and IV equipment** according to the REBT.

- > Can be coordinated with other protectors 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 join the modules using rivets in order to obtain blocks of 2, 3 or 4 elements.
 - > Short response time.
 - > Does not produce deflagration.
 - > Single-pole protection.
 - > They do not cause any interruption to the power supply.
 - > Small size modular protection.
 - > Thermodynamic control device and mechanical warning.
- When the warning light is yellow, the protector is in good condition. If not, replace.

ATSUB series protectors have been tested in **official, independent laboratories**, obtaining their characteristics according to relevant standards (listed in the table). It is possible to select a protector for the alternating voltage suitable for each particular case. For example, the technical datasheets of the optimal protectors for american voltages are also included (line voltage of 230 V and line - neutral voltage of 120 V), voltages greater than 230 V (line voltage 520 V and line - neutral voltage 300 V), and wind generator voltages (line voltage 690 V and line - ground voltage 400 V).



Connection to earth is a must. Earthing in the whole installation must be bonded either directly or by a spark gap and resistance should be lower than 10 Ω . If the indications on this datasheet are not fulfilled during use or installation of the protectors, the protection provided by this device could be compromised.

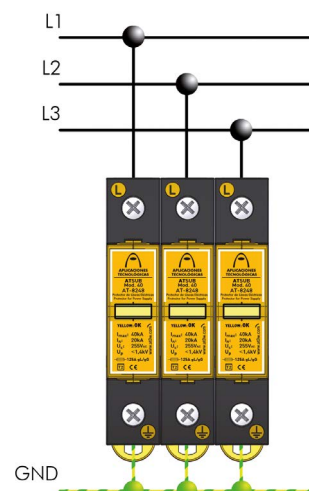
> INSTALLATION

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

Installation should be carried out **without power running through the line**.

When ATSUB protectors are installed as medium protection, they must be separated from the coarse and/or tight protectors by at least 10 metres of cable or, if this is not possible, by an ATLINK decoupling inductor, in order to achieve **correct coordination between them**.

They are recommended for installations where large overvoltages can occur after the main switchboard but which do not supply sensitive equipment.





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> TECHNICAL DATASHEET

Reference:		ATSUB 15 AT-8220	ATSUB 40 AT-8240	ATSUB 65 AT-8260	ATSUB N AT-8201
Protection categories according to the 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	230 V _{AC}			-
Maximum continuous operating voltage:	U _c	275 V _{AC}			-
Nominal frequency:		50 - 60 Hz			
Nominal discharge current (8/20 μs wave):	I _n	5 kA	20 kA	30 kA	20 kA
Maximum current (8/20 μs wave):	I _{max}	15 kA	40 kA	65 kA	40 kA
Protection level, 8/20 μs wave at I _n :	U _p (I _n)	1200 V	1400 V	1600 V	1400 V
Protection level for 1.2/50 μs wave:	U _p	700 V	700 V	900 V	700 V
Protection level 5 kA; 8/20 μs wave:		900 V	1000 V	1100 V	1000 V
Impulse current (10/350 μs wave):	I _{imp}	-		15 kA	-
Combined wave voltage:	U _{o.c.}	6 kV	-		
Response time:	t _r	< 25 ns			
Backup fuses ⁽¹⁾ :		125 A gL/gG			
Maximum short-circuit current:		25 kA (for maximum fuse)			
Working temperature:	ϑ	-40 °C to +70 °C			
Protector location:		Indoor			
Type of connection:		Parallel (one port)			
Dimensions:		18 x 90 x 80 mm (1 module DIN 43880)			
Fixing:		DIN Rail			
Enclosure material:		Polyamide			
Enclosure protection:		IP20			
Insulation resistance:		> 10 ¹⁴ Ω			
Self-extinguishing enclosure:		V-0 Type according to UNE-EN 60707 (UL94)			
Connections L/N/G:		Min/Max multi-stranded section: 4 / 35 mm ² Min/Max single-stranded section: 1 / 35 mm ²			

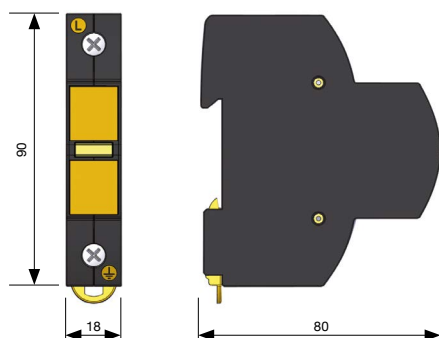
Certificated tests according to: UNE-EN 61643-11

Complies with requirements of: UL 1449

Relevant standards: UNE 21186, NF C 17-102, IEC 62305

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

> DIMENSIONS (MM)





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Reference:		ATSUB 15-120 AT-8230	ATSUB 40-120 AT-8250	ATSUB 65-120 AT-8270	ATSUB N AT-8201
Protection categories according to the 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	120 V _{AC}			-
Maximum continuous operating voltage:	U _c	150 V _{AC}			-
Nominal frequency:		50 - 60 Hz			
Nominal discharge current (8/20 μs wave):	I _n	5 kA	20 kA	30 kA	20 kA
Maximum current (8/20 μs wave):	I _{max}	15 kA	40 kA	65 kA	40 kA
Protection level, 8/20 μs wave at I _n :	U _p (I _n)	1200 V	1400 V	1600 V	1400 V
Protection level for 1.2/50 μs wave:	U _p	700 V	700 V	900 V	700 V
Protection level 5 kA; 8/20 μs wave:		900 V	1000 V	1100 V	1000 V
Impulse current (10/350 μs wave):	I _{imp}	-		15 kA	-
Combined wave voltage:	U _{o.c.}	6 kV	-		
Response time:	t _r	< 25 ns			
Backup fuses ⁽¹⁾ :		125 A gL/gG			
Maximum short-circuit current:		25 kA (for maximum fuse)			
Working temperature:	ϑ	-40 °C to +70 °C			
Protector location:		Indoor			
Type of connection:		Parallel (one port)			
Dimensions:		18 x 90 x 80 mm (1 module DIN 43880)			
Fixing:		DIN Rail			
Enclosure material:		Polyamide			
Enclosure protection:		IP20			
Insulation resistance:		> 10 ¹⁴ Ω			
Self-extinguishing enclosure:		V-0 Type according to UNE-EN 60707 (UL94)			
Connections L/N/G:		Min/Max multi-stranded section: 4 / 35 mm ² Min/Max single-stranded section: 1 / 35 mm ²			

Certificated tests according to: UNE-EN 61643-11

Complies with requirements of: UL 1449

Relevant standards: UNE 21186, NF C 17-102, IEC 62305

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

For other voltages, get in touch with Aplicaciones
Tecnológicas, S.A. Technical Department.



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Reference:		ATSUB 15-300 AT-8062	ATSUB 40-300 AT-8063	ATSUB 65-300 AT-8064	ATSUB N AT-8201
Protection categories according to the 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	300 V _{AC}			-
Maximum continuous operating voltage:	U _c	320 V _{AC}			-
Nominal frequency:		50 - 60 Hz			
Nominal discharge current (8/20 μs wave):	I _n	5 kA	20 kA	30 kA	20 kA
Maximum current (8/20 μs wave):	I _{max}	15 kA	40 kA	65 kA	40 kA
Protection level, 8/20 μs wave at I _n :	U _p (I _n)	1400 V	1500 V	1800 V	2100 V
Protection level for 1.2/50 μs wave:	U _p	900 V	900 V	1100 V	1800 V
Protection level 5 kA; 8/20 μs wave:		1100 V	1200 V	1300 V	1900 V
Impulse current (10/350 μs wave):	I _{imp}	-		15 kA	-
Combined wave voltage:	U _{o.c.}	6 kV	-		
Response time:	t _r	< 25 ns			
Backup fuses ⁽¹⁾ :		125 A gL/gG			
Maximum short-circuit current:		25 kA (for maximum fuse)			
Working temperature:	ϑ	-40 °C to +70 °C			
Protector location:		Indoor			
Type of connection:		Parallel (one port)			
Dimensions:		18 x 90 x 80 mm (1 module DIN 43880)			
Fixing:		DIN Rail			
Enclosure material:		Polyamide			
Enclosure protection:		IP20			
Insulation resistance:		> 10 ¹⁴ Ω			
Self-extinguishing enclosure:		V-0 Type according to UNE-EN 60707 (UL94)			
Connections L/N/G:		Min/Max multi-stranded section: 4 / 35 mm ² Min/Max single-stranded section: 1 / 35 mm ²			

Certificated tests according to: UNE-EN 61643-11

Complies with requirements of: UL 1449

Relevant standards: UNE 21186, NF C 17-102, IEC 62305

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> 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 the 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	400 V _{AC}			-
Maximum continuous operating voltage:	U _c	460 V _{AC}			-
Nominal frequency:		50 - 60 Hz			
Nominal discharge current (8/20 μs wave):	I _n	5 kA	20 kA	30 kA	20 kA
Maximum current (8/20 μs wave):	I _{max}	15 kA	40 kA	65 kA	40 kA
Protection level, 8/20 μs wave at I _n :	U _p (I _n)	2100 V	2300 V	2500 V	2100 V
Protection level for 1.2/50 μs wave:	U _p	1800 V	1800 V	1900 V	1800 V
Protection level 5 kA; 8/20 μs wave:		1900 V	2000 V	2100 V	1900 V
Impulse current (10/350 μs wave):	I _{imp}	-		15 kA	-
Combined wave voltage:	U _{o.c.}	6 kV	-		
Response time:	t _r	< 25 ns			
Backup fuses ⁽¹⁾ :		125 A gL/gG			
Maximum short-circuit current:		25 kA (for maximum fuse)			
Working temperature:	ϑ	-40 °C to +70 °C			
Protector location:		Indoor			
Type of connection:		Parallel (one port)			
Dimensions:		18 x 90 x 80 mm (1 module DIN 43880)			
Fixing:		DIN Rail			
Enclosure material:		Polyamide			
Enclosure protection:		IP20			
Insulation resistance:		> 10 ¹⁴ Ω			
Self-extinguishing enclosure:		V-0 Type according to UNE-EN 60707 (UL94)			
Connections L/N/G:		Min/Max multi-stranded section: 4 / 35 mm ² Min/Max single-stranded section: 1 / 35 mm ²			

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