



> PROTECTION OF POWER SUPPLY LINES

> ATSUB SERIES

> ATSUB-P

Single-pole and pluggable protection for power supply lines



- > **AT-8222 ATSUB-P 15**: peak current of 15 kA. U_n 230 V
- > **AT-8242 ATSUB-P 40**: peak current of 40 kA. U_n 230 V
- > **AT-8262 ATSUB-P 65**: peak current of 65 kA. U_n 230 V
- > **AT-8202 ATSUB-P N**: for neutral-ground protection
- > **AT-8290 ATSUB-P 15-120**: peak current 15 kA. U_n 120 V
- > **AT-8291 ATSUB-P 40-120**: peak current 40 kA. U_n 120 V
- > **AT-8292 ATSUB-P 65-120**: peak current 65 kA. U_n 120 V
- > **AT-8056 ATSUB-P 15-300**: peak current 15 kA. U_n 300 V
- > **AT-8057 ATSUB-P 40-300**: peak current 40 kA. U_n 300 V
- > **AT-8058 ATSUB-P 65-300**: peak current 65 kA. U_n 300 V
- > **AT-8226 ATSUB-P 15-400**: peak current 15 kA. U_n 400 V
- > **AT-8246 ATSUB-P 40-400**: peak current 40 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-P **40** – **400**

Max. discharge voltage in kA Line - ground nominal voltage

It includes removable modules for replacement in the event of a breakdown or fault, without needing to disconnect the wiring. 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.
- > Short response time.
- > Do not produce deflagration.
- > Single-pole protection with removable module.
- > They do not cause any interruption to the power supply.
- > Small size modular protection.
- > Thermodynamic control device, mechanical warning and remote alarm. When the warning light is yellow, the cartridge 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 230 V and line – neutral voltage 120 V), voltages greater than 230 V (line voltage 520 V and line – neutral Current 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.

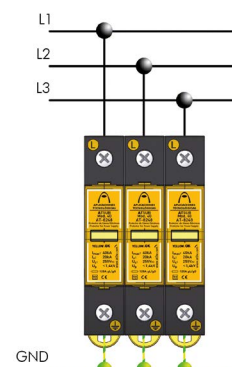
> INSTALLATION

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-P 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-P 15 AT-8222	ATSUB-P 40 AT-8242	ATSUB-P 65 AT-8262	ATSUB-P N AT-8202
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			

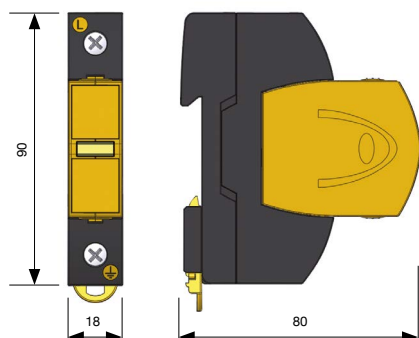
Certificated tests according to: UNE-EN 61643-11

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)



> ACCESSORIES



- > AT-8248 ATSUB Mod. 40: I_{max} 40 kA
- > AT-8228 ATSUB Mod. 15: I_{max} 15 kA
- > AT-8268 ATSUB Mod. 65: I_{max} 65 kA
- > AT-8205 ATSUB Mod. N: neutral-ground



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Reference:		ATSUB-P 15-120 AT-8290	ATSUB-P 40-120 AT-8291	ATSUB-P 65-120 AT-8292	ATSUB-P N AT-8202
Protection categories according to the REBT:		I, 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

> ACCESSORIES

> AT-8296 ATSUB Mod. 40-120: I_{max} 40 kA / U_n 120 V> AT-8297 ATSUB Mod. 15-120: I_{max} 15 kA / U_n 120 V> AT-8298 ATSUB Mod. 65-120: I_{max} 65 kA / U_n 120 V

> AT-8205 ATSUB Mod. N: neutral-ground

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



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> TECHNICAL DATASHEET

Reference:		ATSUB-P 15-300 AT-8056	ATSUB-P 40-300 AT-8057	ATSUB-P 65-300 AT-8058	ATSUB-P N AT-8202
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	1400 V
Protection level for 1.2/50 μs wave:	U _p	900 V	900 V	1100 V	700 V
Protection level 5 kA; 8/20 μs wave:		1100 V	1200 V	1300 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			

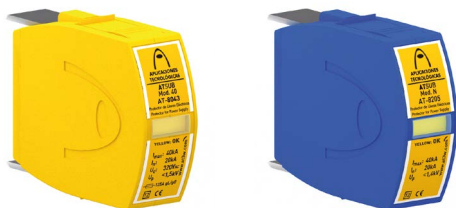
Certificated tests according to: UNE-EN 61643-11

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

> ACCESSORIES



- > AT-8043 ATSUB Mod. 40-300: I_{max} 40 kA / U_n 300 V
- > AT-8044 ATSUB Mod. 15-300: I_{max} 15 kA / U_n 300 V
- > AT-8045 ATSUB Mod. 65-300: I_{max} 65 kA / U_n 300 V
- > AT-8205 ATSUB Mod. N: neutral-ground

For other voltages, get in touch with Aplicaciones
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Reference:		ATSUB-P 15-400 AT-8226	ATSUB-P 40-400 AT-8246	ATSUB-P N AT-8202
Protection categories according to the REBT:		I, II, III, IV		I, II, III, IV
Type of tests according to EN 61643-11:		Type 2 + 3	Type 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	20 kA
Maximum current (8/20 μs wave):	I _{max}	15 kA	40 kA	40 kA
Protection level, 8/20 μs wave at I _n :	U _p (I _n)	2100 V	2300 V	2100 V
Protection level for 1.2/50 μs wave:	U _p	1800 V	1800 V	1800 V
Protection level 5 kA; 8/20 μs wave:		1900 V	2000 V	1900 V
Combined wave voltage:	U _{o.c.}	6 kV	-	
Response time:	t _r	< 25 ns		
Backup fuse ⁽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		

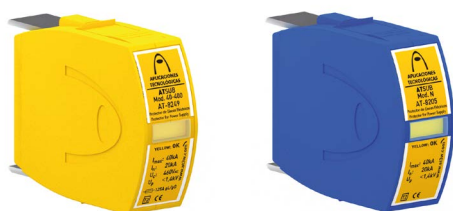
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Complies with requirements of: UL 1449

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

> ACCESSORIES



- > AT-8249 ATSUB Mod. 40-400: I_{max} 40 kA / U_n 400 V
- > AT-8229 ATSUB Mod. 15-400: I_{max} 15 kA / U_n 400 V

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