



> PROTECTION OF POWER SUPPLY LINES

> ATSUB SERIES

> ATSUB-2P TN

Compact protection for TN single-phase power supply lines



- > **AT-8010 ATSUB-2P 15 TN**: peak current 15 kA. U_n 230 V
- > **AT-8009 ATSUB-2P 40 TN**: peak current 40 kA. U_n 230 V
- > **AT-8011 ATSUB-2P 65 TN**: peak current 65 kA. U_n 230 V
- > **AT-8012 ATSUB-2P 15-120 TN**: peak current 15 kA. U_n 120 V
- > **AT-8013 ATSUB-2P 40-120 TN**: peak current 40 kA. U_n 120 V
- > **AT-8014 ATSUB-2P 65-120 TN**: peak current 65 kA. U_n 120 V
- > **AT-8053 ATSUB-4P 15-300 TN**: peak current 15 kA. U_n 300 V
- > **AT-8054 ATSUB-4P 40-300 TN**: peak current 40 kA. U_n 300 V
- > **AT-8055 ATSUB-4P 65-300 TN**: peak current 65 kA. U_n 300 V
- > **AT-8015 ATSUB-2P 15-400 TN**: peak current 15 kA. U_n 400 V
- > **AT-8016 ATSUB-2P 40-400 TN**: peak current 40 kA. U_n 400 V

Effective protection against transient overvoltages for TN type electrical supply lines. Medium protection according to the cascade protection recommended in the Spanish Low Voltage Regulations (REBT ITC23).

> NOMENCLATURE

ATSUB 2P - **40** - **400** TN
 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 **type 1, 2 and 3** protectors 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.
- > Compact protection with removable modules for quick replacement in case of breakage.
- > Their activation causes no interruption in power supply.
- > Thermodynamic mechanical warning and remote alarm. When the warning light is yellow, the cartridge is in good condition. If not, replace.

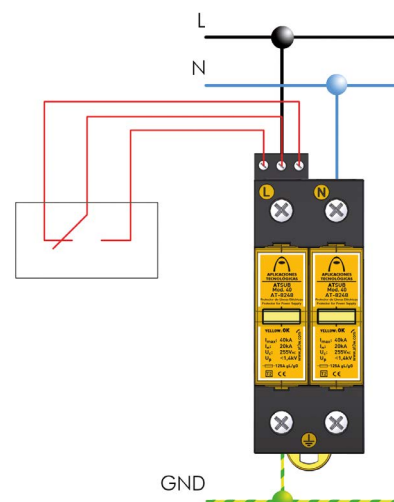
ATSUB series protectors have been tested in **official and independent laboratories**, obtaining their characteristics according to relevant standards (shown in the table). It is possible to select a protector for the alternating voltage suitable for each particular case. For example, the technical datasheets 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 voltage 300 V), and wind generator voltages (line voltage 690 V and line – ground voltage 400 V).

> INSTALLATION

They are installed **in parallel** with the low voltage line, with connections to the phases to be protected, neutral and ground. 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.



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.



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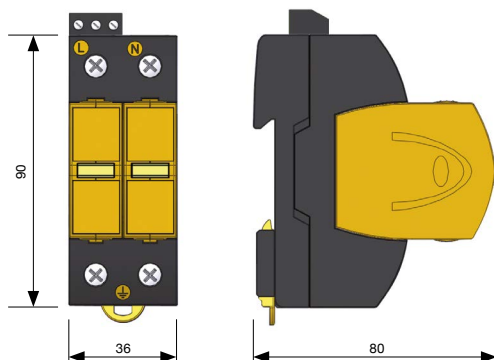
> ATSUB SERIES

> TECHNICAL DATASHEET

Reference:		ATSUB-2P 15 TN AT-8010	ATSUB-2P 40 TN AT-8009	ATSUB-2P 65 TN AT-8011
Protection categories according to the REBT:		I, II, III, IV		II, III, IV
Type of tests according to EN 61643-11:		Type 2 + 3	Type 2	Type 1 + 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 per pole (8/20 μs wave):	I _n	5 kA	20 kA	30 kA
Maximum discharge current per pole (8/20 μs wave):	I _{max}	15 kA	40 kA	65 kA
Protection level at I _n (8/20 μs wave):	U _p (I _n)	1200 V	1400 V	1600 V
Protection level per wave 1.2/50 μs:	U _p	700 V	700 V	900 V
Protection level for 5 kA; 8/20 μs wave:		900 V	1000 V	1100 V
Impulse current per pole (10/350 μs):	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)		
No. of poles:		2		
Dimensions:		36 x 90 x 80 mm (2 modules 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		
Voltage-free contact for the remote control				
Connection:		Max. single-stranded/multi-stranded section: 1.5 mm ²		
Contact output:		Switch		
Operating voltage:		250 V _{AC} (Maximum operating voltage of the alarm power supply)		
Maximum current:		2 A (Maximum current of the alarm power supply)		
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



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Reference:		ATSUB-2P 15-120 TN AT-8012	ATSUB-2P 40-120 TN AT-8013	ATSUB-2P 65-120 TN AT-8014
Protection categories according to the REBT:		I, II, III, IV		II, III, IV
Type of tests according to EN 61643-11:		Type 2 + 3	Type 2	Type 1 + 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
Maximum discharge current per pole (8/20 μs wave):	I _{max}	15 kA	40 kA	65 kA
Protection level, 8/20 μs wave at I _n :	U _p (I _n)	1200 V	1400 V	1600 V
Protection level for 1.2/50 μs wave:	U _p	700 V	700 V	900 V
Protection level 5 kA; 8/20 μs wave:		900 V	1000 V	1100 V
Impulse current per pole (10/350 μs):	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)		
No. of poles:		2		
Dimensions:		36 x 90 x 80 mm (2 modules 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/GND:		Min/Max multi-stranded section: 4 / 35 mm ² Min/Max single-stranded section: 1 / 35 mm ²		
Voltage-free contact for the remote control				
Connection:		Max. single-stranded/multi-stranded section: 1.5 mm ²		
Contact output:		Switch		
Operating voltage:		250 V _{AC} (Maximum working voltage of the alarm power supply)		
Maximum current:		2 A (Maximum current of the alarm power supply)		
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

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



> PROTECTION OF POWER SUPPLY LINES

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Reference:		ATSUB-2P 15-300 TN AT-8053	ATSUB-2P 40-300 TN AT-8054	ATSUB-2P 65-300 TN AT-8055
Protection categories according to the REBT:		I, II, III, IV		II, III, IV
Type of tests according to EN 61643-11:		Type 2 + 3	Type 2	Type 1 + 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
Maximum discharge current per pole (8/20 μs wave):	I _{max}	15 kA	40 kA	65 kA
Protection level, 8/20 μs wave at I _n :	U _p (I _n)	1400 V	1500 V	1800 V
Protection level for 1.2/50 μs wave:	U _p	900 V	900 V	1100 V
Protection level 5 kA; 8/20 μs wave:		1100 V	12000 V	1300 V
Impulse current per pole (10/350 μs):	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)		
No. of poles:		2		
Dimensions:		36 x 90 x 80 mm (2 modules 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/GND:		Min/Max multi-stranded section: 4 / 35 mm ² Min/Max single-stranded section: 1 / 35 mm ²		
Voltage-free contact for the remote control				
Connection:		Max. single-stranded/multi-stranded section: 1.5 mm ²		
Contact output:		Switch		
Operating voltage:		250 V _{AC} (Maximum working voltage of the alarm power supply)		
Maximum current:		2 A (Maximum current of the alarm power supply)		
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

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



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Reference:		ATSUB-2P 15-400 TN AT-8015	ATSUB-2P 40-400 TN AT-8016
Protection categories according to the REBT:		I, II, III, IV	
Type of tests according to EN 61643-11:		Type 2 + 3	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
Maximum discharge current per pole (8/20 μs wave):	I _{max}	15 kA	40 kA
Protection level, 8/20 μs wave at I _n :	U _p (I _n)	2100 V	2300 V
Protection level for 1.2/50 μs wave:	U _p	1800 V	1800 V
Protection level 5 kA; 8/20 μs wave:		1900 V	2000 V
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)	
No. of poles:		2	
Dimensions:		36 x 90 x 80 mm (2 modules 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	
Voltage-free contact for the remote control			
Connection:		Max. single-stranded/multi-stranded section: 1.5 mm ²	
Contact output:		Switch	
Operating voltage:		250 V _{AC} (Maximum working voltage of the alarm power supply)	
Maximum current:		2 A (Maximum current of the alarm power supply)	
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-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