



> PROTECTION OF POWER SUPPLY LINES

> ATSUB SERIES

> ATSUB-4P TNS

Compact protection for TNS three-phase power supply lines



- > **AT-8000 ATSUB-4P 15 TNS**: peak current 15 kA. U_n 230 V
- > **AT-8001 ATSUB-4P 40 TNS**: peak current 40 kA. U_n 230 V
- > **AT-8002 ATSUB-4P 65 TNS**: peak current 65 kA. U_n 230 V
- > **AT-8003 ATSUB-4P 15-120 TNS**: peak current 15 kA. U_n 120 V
- > **AT-8004 ATSUB-4P 40-120 TNS**: peak current 40 kA. U_n 120 V
- > **AT-8005 ATSUB-4P 65-120 TNS**: peak current 65 kA. U_n 120 V
- > **AT-8050 ATSUB-4P 15-300 TNS**: peak current 15 kA. U_n 300 V
- > **AT-8051 ATSUB-4P 40-300 TNS**: peak current 40 kA. U_n 300 V
- > **AT-8052 ATSUB-4P 65-300 TNS**: peak current 65 kA. U_n 300 V
- > **AT-8006 ATSUB-4P 15-400 TNS**: peak current 15 kA. U_n 400 V
- > **AT-8007 ATSUB-4P 40-400 TNS**: peak current 40 kA. U_n 400 V

Effective protection against transient overvoltages for electrical supply lines with neutral type TNS using metal oxide varistors. Medium protection according to the cascade protection recommended in the Spanish Low Voltage Regulations (REBT ITC23).

> NOMENCLATURE

ATSUB 4P - 40 - 400 TNS

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 GUA-BT-23 from the REBT. Suitable for **categories I, II, III and IV equipment** according to the REBT.

- > Can be coordinated with other ATSHOCK, ATSHIELD and ATCOVER series protectors.
- > 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 enabling quick replacement in the event of breakage.
- > Does not, at any time, cause interruption to the power supply lines.
- > 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 and independent laboratories**, obtaining their characteristics according to relevant standards (shown in the table).

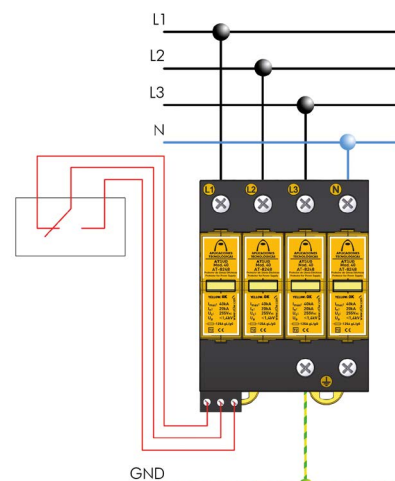
It is possible to select a protector for the alternating voltage suitable for each particular case. For example, the technical datasheets of the optimal protectors for American voltages are also included (line voltage 230 V and line – neutral voltage 120 V), voltages greater than 230 V (line voltage 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 that are to be protected and to 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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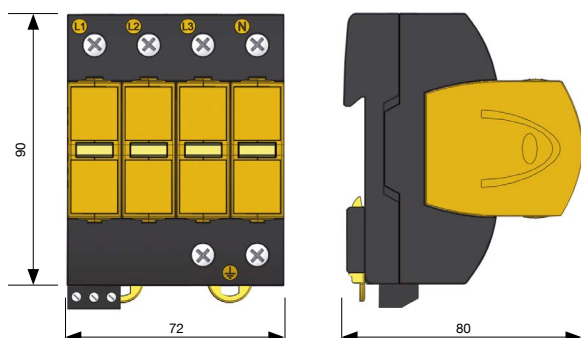
> ATSUB SERIES

> TECHNICAL DATASHEET

Reference:		ATSUB-4P 15 TNS AT-8000	ATSUB-4P 40 TNS AT-8001	ATSUB-4P 65 TNS AT-8002
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	400 V _{AC} (L-L) / 230 V _{AC} (L-GND)		
Maximum continuous operating voltage:	U _c	460 V _{AC} (L-L) / 275 V _{AC} (L-GND)		
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:		4		
Dimensions:		72 x 90 x 80 mm (4 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-4P 15-120 TNS AT-8003	ATSUB-4P 40-120 TNS AT-8004	ATSUB-4P 65-120 TNS AT-8005
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} (L-L) / 120 V _{AC} (L-GND)		
Maximum continuous operating voltage:	U _c	275 V _{AC} (L-L) / 150 V _{AC} (L-GND)		
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 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)		
No. of poles:		4		
Dimensions:		72 x 90 x 80 mm (4 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.



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Reference:		ATSUB-4P 15 -300 TNS AT-8050	ATSUB-4P 40-300 TNS AT-8051	ATSUB-4P 65-300 TNS AT-8052
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	520 V _{AC} (L-L) / 300 V _{AC} (L-GND)		
Maximum continuous operating voltage:	U _c	555 V _{AC} (L-L) / 320 V _{AC} (L-GND)		
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	1200 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 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)		
No. of poles:		4		
Dimensions:		72 x 90 x 80 mm (4 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-4P 15-400 TNS AT-8006	ATSUB-4P 40-400 TNS AT-8007
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	690 V _{AC} (L-L) / 400 V _{AC} (L-GND)	
Maximum continuous operating voltage:	U _c	800 V _{AC} (L-L) / 460 V _{AC} (L-GND)	
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:		4	
Dimensions:		72 x 90 x 80 mm (4 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

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