



> PROTECTION OF POWER SUPPLY LINES

> ATSUB SERIES

> ATSUB-PR

Single-pole and pluggable protection for power supply lines



- > **AT-8223 ATSUB-PR 15:** peak current 15 kA. U_n 230 V
- > **AT-8243 ATSUB-PR 40:** peak current 40 kA. U_n 230 V
- > **AT-8263 ATSUB-PR 65:** peak current 65 kA. U_n 230 V
- > **AT-8203 ATSUB-PR N:** for neutral-ground protection
- > **AT-8293 ATSUB-PR 15-120:** peak current 15 kA. U_n 120 V
- > **AT-8294 ATSUB-PR 40-120:** peak current 40 kA. U_n 120 V
- > **AT-8295 ATSUB-PR 65-120:** peak current 65 kA. U_n 120 V
- > **AT-8059 ATSUB-PR 15-300:** peak current 15 kA. U_n 300 V
- > **AT-8060 ATSUB-PR 40-300:** peak current 40 kA. U_n 300 V
- > **AT-8061 ATSUB-PR 65-300:** peak current 65 kA. U_n 300 V
- > **AT-8227 ATSUB-PR 15-400:** peak current 15 kA. U_n 400 V
- > **AT-8247 ATSUB-PR 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-PR **65** - **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 ITC-BT-23.

- > 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.
- > Does 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 with 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 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).

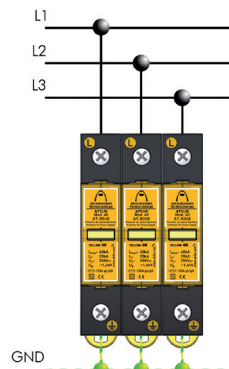
> INSTALLATION

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-PR 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.



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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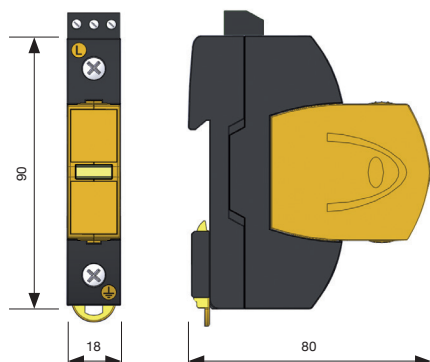
> ATSUB SERIES

> TECHNICAL DATASHEET

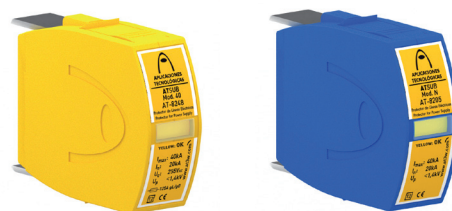
Reference:		ATSUB-PR 15 AT-8223	ATSUB-PR 40 AT-8243	ATSUB-PR 65 AT-8263	ATSUB-PR N AT-8203
Protection categories according to the REBT:		I, II, III, IV		II, III, IV	I, II, III, IV
Type of tests according to EN 61643-11:		Type 2 + 3	Type 2	Type 1 + 2	Type 2
Nominal voltage:	U _n	230 V _{AC}			-
Maximum 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 for 8/20 μs wave to I _n :	U _p (I _n)	1200 V	1400 V	1600 V	1400 V
Protection level per wave 1.2/50 μs:	U _p	700 V	700 V	900 V	700 V
Protection level for 5 kA; 8/20 μs wave:		900 V	1000 V	1100 V	1000 V
Impulse current (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)			
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			
Voltage-free contact for the remote control					
Connection:		Max. single-stranded/multi-stranded section: 1.5mm ²			
Contact output:		Switch			
Operating voltage:		250 V _{AC} (Maximum working voltage of the alarm 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
- > AT-8205 ATSUB Mod. N: neutral-ground



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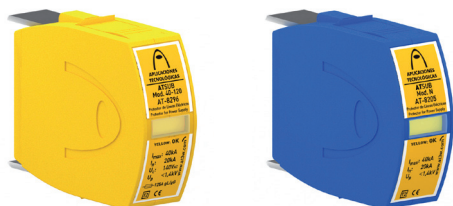
> ATSUB SERIES

> TECHNICAL DATASHEET

Reference:		ATSUB-PR 15-120 AT-8293	ATSUB-PR 40-120 AT-8294	ATSUB-PR 65-120 AT-8295	ATSUB-PR N AT-8203
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 for 8/20 μs wave to I _n :	U _p (I _n)	1200 V	1400 V	1600 V	1400 V
Protection level per wave 1.2/50 μs:	U _p	700 V	700 V	900 V	700 V
Protection level for 5 kA; 8/20 μs wave:		900 V	1000 V	1100 V	1000 V
Impulse current (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)			
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			
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

> 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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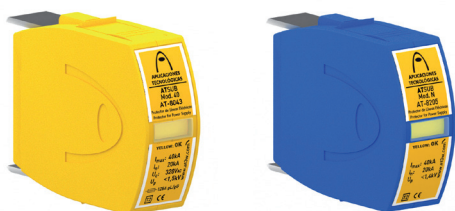
> ATSUB SERIES

> TECHNICAL DATASHEET

Reference:		ATSUB-PR 15-300 AT-8059	ATSUB-PR 40-300 AT-8060	ATSUB-PR 65-300 AT-8061	ATSUB-PR N AT-8203	
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 for 8/20 μs wave to I _n :	U _p (I _n)	1400 V	1500 V	1800 V	1400 V	
Protection level per wave 1.2/50 μs:	U _p	900 V	900 V	1100 V	700 V	
Protection level for 5 kA; 8/20 μs wave:		1100 V	1200 V	1300 V	1000 V	
Impulse current (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)				
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				
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

> 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 Tecnológicas, S.A. Technical Department.



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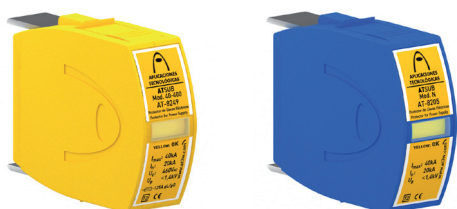
> ATSUB SERIES

> TECHNICAL DATASHEET

Reference:		ATSUB-PR 15-400 AT-8227	ATSUB-PR 40-400 AT-8247	ATSUB-PR N AT-8203
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 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 for 8/20 μs wave to I _n :	U _p (I _n)	2100 V	2300 V	2100 V
Protection level per wave 1.2/50 μs:	U _p	1800 V	1800 V	1800 V
Protection level for 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 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		
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

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

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