



## &gt; PROTECTION OF POWER SUPPLY LINES

## &gt; ATSUB SERIES

## &gt; ATSUB-3P TNC

Compact protector for TNC three-phase power supply lines



- > **AT-8070 ATSUB-3P-NR 15 TNC:** peak current 15 kA.  $U_n$  230 V
- > **AT-8071 ATSUB-3P-NR 40 TNC:** peak current 40 kA.  $U_n$  230 V
- > **AT-8072 ATSUB-3P-NR 65 TNC:** peak current 65 kA.  $U_n$  230 V
- > **AT-8073 ATSUB-3P-NR 15-120 TNC:** peak current 15 kA.  $U_n$  120 V
- > **AT-8074 ATSUB-3P-NR 40-120 TNC:** peak current 40 kA.  $U_n$  120 V
- > **AT-8075 ATSUB-3P-NR 65-120 TNC:** peak current 65 kA.  $U_n$  120 V

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

## &gt; NOMENCLATURE

ATSUB-3P-NR **40** - **120** TNC

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 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 for quick replacement in the event of breakage.
- > They do not cause any interruption to the 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, 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.



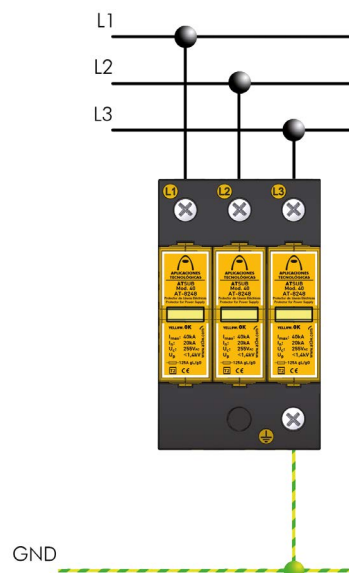
**Connection to earth is a must.** Earthing in the whole installation must be bonded either directly or by a spark gap and resistance should be lower than 10  $\Omega$ . If the indications on this datasheet are not fulfilled during use or installation of the protectors, the protection provided by this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

## &gt; 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.





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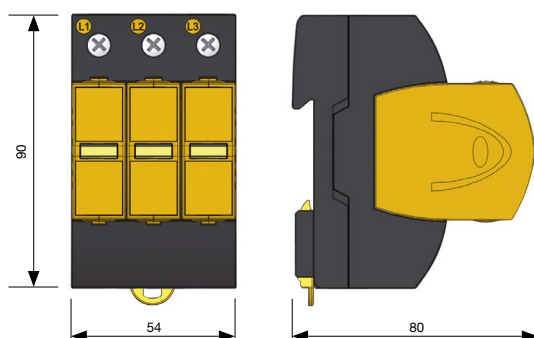
## &gt; ATSUB SERIES

## &gt; TECHNICAL DATASHEET

Reference:		ATSUB-3P 15 TNC AT-8070	ATSUB-3P 40 TNC AT-8071	ATSUB-3P 65 TNC AT-8072
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
Nominal voltage:	U <sub>n</sub>	230 V <sub>AC</sub>		
Maximum continuous operating voltage:	U <sub>c</sub>	275 V <sub>AC</sub>		
Nominal frequency:		50 - 60 Hz		
Nominal discharge current (8/20 μs wave):	I <sub>n</sub>	5 kA	20 kA	30 kA
Maximum discharge current per pole (8/20 μs wave):	I <sub>max</sub>	15 kA	40 kA	65 kA
Protection level, 8/20 μs wave at I <sub>n</sub> :	U <sub>p</sub> (I <sub>n</sub> )	1200 V	1400 V	1600 V
Protection level for 1.2/50 μs wave:	U <sub>p</sub>	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 <sub>imp</sub>	-		15 kA
Combined wave voltage:	U <sub>o.c.</sub>	6 kV	-	
Response time:	t <sub>r</sub>	< 25 ns		
Backup fuse <sup>(1)</sup> :		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:		3		
Dimensions:		54 x 90 x 80 mm (3 modules DIN 43880)		
Fixing:		DIN Rail		
Enclosure material:		Polyamide		
Enclosure protection:		IP20		
Insulation resistance:		> 10 <sup>14</sup> 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 <sup>2</sup> Min/Max single-stranded section: 1 / 35 mm <sup>2</sup>		
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

## &gt; DIMENSIONS (MM)



## &gt; 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-3P-NR 15-120 TNC AT-8073	ATSUB-3P-NR 40-120 TNC AT-8074	ATSUB-3P-NR 65-120 TNC AT-8075
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 <sub>n</sub>	120 V <sub>AC</sub>		
Maximum continuous operating voltage:	U <sub>c</sub>	150 V <sub>AC</sub>		
Nominal frequency:		50 - 60 Hz		
Nominal discharge current (8/20 μs wave):	I <sub>n</sub>	5 kA	20 kA	30 kA
Maximum discharge current per pole (8/20 μs wave):	I <sub>max</sub>	15 kA	40 kA	65 kA
Protection level, 8/20 μs wave at I <sub>n</sub> :	U <sub>p</sub> (I <sub>n</sub> )	1200 V	1400 V	1600 V
Protection level for 1.2/50 μs wave:	U <sub>p</sub>	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 <sub>imp</sub>	-		15 kA
Combined wave voltage:	U <sub>o.c.</sub>	6 kV	-	
Response time:	t <sub>r</sub>	< 25 ns		
Backup fuse <sup>(1)</sup> :		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:		3		
Dimensions:		54 x 90 x 80 mm (3 modules DIN 43880)		
Fixing:		DIN Rail		
Enclosure material:		Polyamide		
Enclosure protection:		IP20		
Insulation resistance:		> 10 <sup>14</sup> 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 <sup>2</sup> Min/Max single-stranded section: 1 / 35 mm <sup>2</sup>		
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

## &gt; 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.