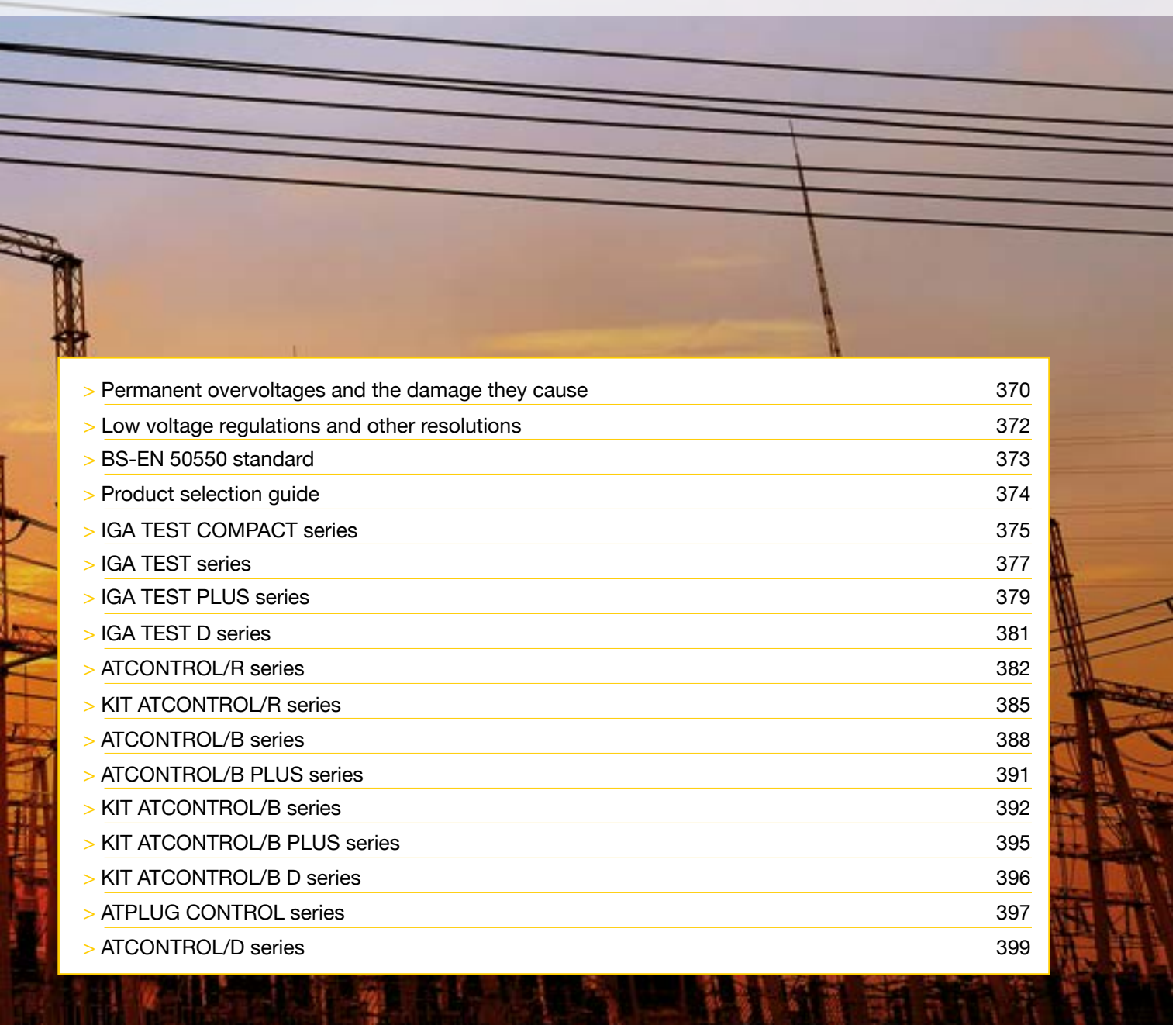
PERMANENT

6

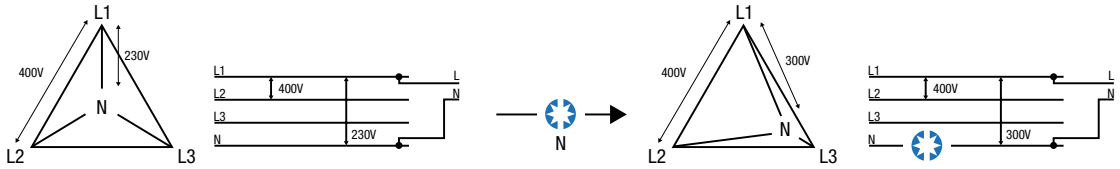
OVERVOLTAGES



> PERMANENT OVERVOLTAGES AND THE DAMAGE THEY CAUSE

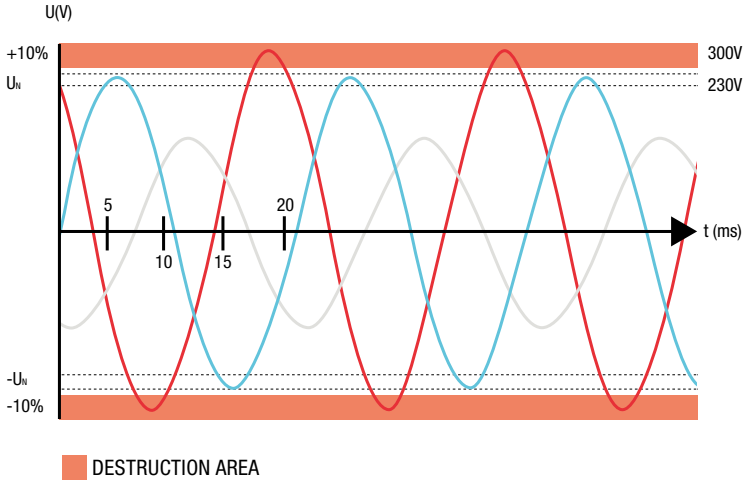
Permanent or temporary overvoltages are increases in potential of over 10 % of the nominal value of the power supply, which remain for several cycles or even permanently.

They are a result of phase decompensation, which is usually caused by the neutral conductor breaking, its faulty connection or faults in transformer centres:



NORMAL POWER SUPPLY NETWORK STATUS

FAULTY NEUTRAL



In order to protect equipments against the effects that these overvoltages may cause, Power Frequency Overvoltage Protectors (POP) must be installed, which disconnect the installation from the power supply network.

Network disconnection can happen in two ways:

> By means of a mains protection device. This device could be a main circuit breaker or a residual current device and must include a shunt release. Reclosing is done manually.

> Self-reclosing device. This device could be a contactor and is very useful in second residences, public lighting and, generally speaking, in non-assisted areas.

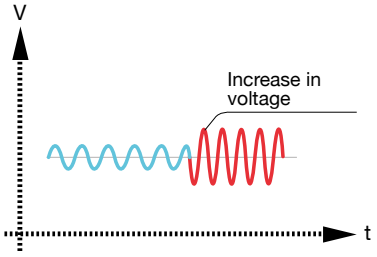
Permanent, temporary or power frequency overvoltages are those that last a relatively long time (several cycles) and may cause damage to the installation and the electrical equipment.

DESTRUCTIVE EFFECTS

Equipment destruction
Fire
Explosion in classified areas
Equipment overheating
Decrease in service life
Power supply interruption

USUAL CAUSES

Faulty neutral connection
Drop in power consumption



> PERMANENT OVERVOLTAGES AND THE DAMAGE THEY CAUSE

> LOW VOLTAGE REGULATIONS AND OTHER RESOLUTIONS

Protection against overvoltages is mandatory according to Article 16.3 of the Spanish Low Voltage Electrotechnical Regulations (REBT). It has usually been interpreted as applying to transient overvoltages given the part of the Regulations where they appear (ITC-BT-23). However, the articles of these Regulations refer to both transient and permanent overvoltages.

> Spanish Low Voltage Regulations 2002. Article 16.3. Receiver installations.

"Protection systems for low voltage indoor or receiver electrical installations should prevent the effects of overcurrents and overvoltages which could arise for various reasons, thereby safeguarding the materials and equipment from the actions and effects of external agents".

Furthermore, since 2005 several regional governments in Spain have approved the individual standards of the power supply companies, which already include the following:

In Andalusia and the Canary Islands, the use of protection devices for transient and permanent overvoltages is already prescribed.

In Catalonia and Aragon, protection devices for permanent and transient overvoltages are mandatory, amongst other things, according to ITC-BT-23.

Other regional governments are also in the process of approving these specific standards.

> The Official Gazette of the Regional Government of Andalusia (BOJA). No. 109 (June 2005). Page 72.

DECISION taken on 5th May 2005 by the Directorate General of Industry, Energy and Mines, whereby the specific standards and the safety and technical conditions of the power supply company Endesa Distribución, S.L.U., are approved in the autonomous community of Andalusia.

2005 Specific standards and safety and technical conditions of SEVILLANA ENDESA. Chapter II. Power supply service entrance and low voltage networking installations. Article 8.2. Composition and characteristics of the distribution boards:

“General and individual protection and control devices will, as a minimum, involve:

- A main circuit breaker…
- A residual current device…
- An all-pole circuit breaker...
- Protectors against overvoltages where, according to article 16.3 of the REBT, the consumer can choose any device with autorecloser when service conditions have returned to normal.”

> Distribution Technical Handbook MT 2.80.12 for IBERDROLA networking installations.

Transient overvoltage protection is to be installed in the distribution board, according to ITC-BT-23 and GUÍA-BT-23 from the REBT. Optionally, the board can also include protection against temporary or permanent overvoltages, with autorecloser recommended.

> Technical Handbook for ENDESA low voltage internal electrical installations

The clause about Meter Centralisation Units indicates that Type 1 surge protectors should be installed, either with multi-polar or single-polar devices. Their minimum impulse current Iimp should be 25 kA between line and neutral and 100 kA between neutral and earth, with a protection level Up ≤ 1,5 kV.

Protection against permanent and transient overvoltages should be installed in the Distribution Board.

> Official Gazette of the Regional Government of Aragon (BOA). No. 6 (December 2009).

ORDER of the 23rd of December 2009, of the Department of Industry, Trade and Tourism, approving the low voltage installation Particular Specifications about of the power supply companies working in the territory of Aragon under the mark ERZ Endesa.

ERZ Endesa particular technical standards (Chapter 3.9.2 Protection and control devices):

“In order to avoid the effects of overvoltages at the installation, the following devices will be installed:

- A main circuit breaker…
- Protectors against permanent overvoltages (mandatory).
- Protectors against transient overvoltages according to TC-BT-23.
- A residual current device…
- An all-pole circuit breaker …”

> Official Gazette of the Canary Islands Regional Government. No. 81 (April 2010).

The specific standards for Unelco Endesa networking installations will be mandatory in the territory of the Canary Islands.

Section 12 of the Specific Standards, ‘General Protection and Control Devices’, states the following:

"A protection device against transient and permanent overvoltages will be mandatory, whereby the consumer may choose any devices with autorecloser when service conditions have returned to normal".

> Official Gazette of Extremadura (DOE) Regional Government. No. 236 (December 2014).

Three months after publication of this standard, the new low voltage receiver installations registered in this Administration will need to be protected against both temporary and transient overvoltages, according to GUÍA-BT-23 from the REBT.

For installations existing prior to publication of this standard, it will also be applicable if said installations undergo major reforms or contract more power.

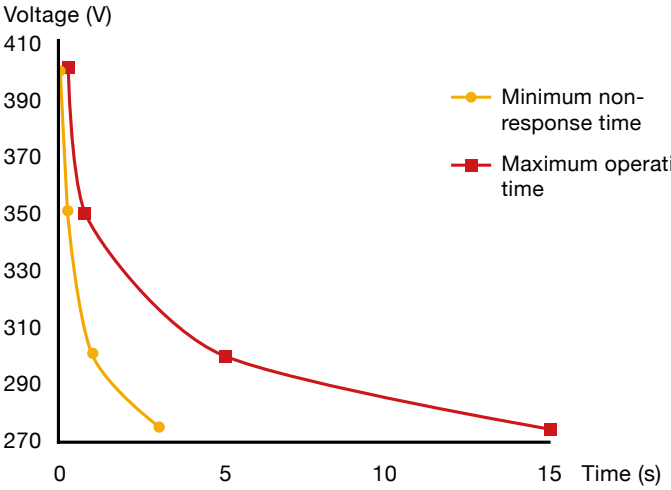
> BS-EN 50550 STANDARD

This standard applies to power frequency overvoltage protection devices (hereafter referred to as “POP”) for household and similar uses intended to be used in combination with a main protective device being either a circuit breaker or a residual current circuit breaker.

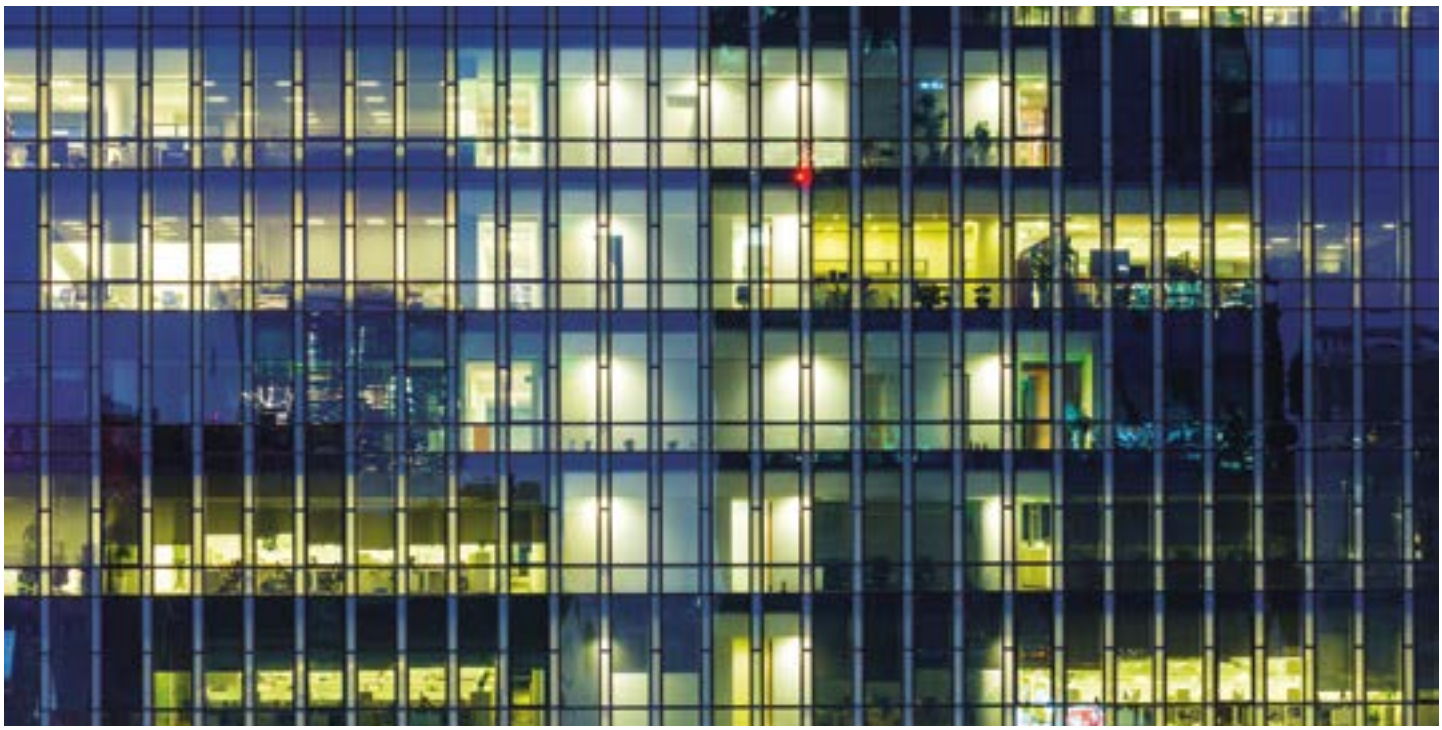
These devices intended to mitigate the effects of power frequency overvoltages between phase and neutral conductor (e.g. caused by loss of neutral conductor in the three phase supply upstream the POP) for downstream equipment.

The characteristics and requirements specified by this standard for POP devices are the following:

- The POP, the shunt release, if applicable, and the main protection device must be from the same manufacturer or brand to ensure correct operation.
- The protection conductor of the installation cannot be live when the POP is operating.
- The POP shall not create or simulate a fault current to operate the MPD.
- It shall be connected either to the MPDs input terminals only or to its output terminals only, but not to both.
- It must meet the following tripping curve:



Voltage	Maximum time	Minimum time
275 V	15.00 s	3.00 s
300 V	5.00 s	1.00 s
350 V	0.75 s	0.25 s
400 V	0.20 s	0.07 s



> SELECTION GUIDE

Is transient overvoltage included?

Yes

Is main protective device included?

Yes

	Single-phase	Three-phase
Self-reclosing	 **KIT ATCONTROL/R PT-M** AT-8756/AT-8757	 **KIT ATCONTROL/R PT-T** AT-8754/AT-8755
Non self-reclosing	 **IGA TEST COMPACT M** AT-8951, AT-8952, AT-8954, AT-9070/AT-9075	 **IGA TEST COMPACT T** AT-8950, AT-8953, AT-8955, AT-9081, AT9095/AT-9099
	 **KIT ATCONTROL/B PT-M** AT-8711/AT-8715	 **KIT ATCONTROL/B PT-T** AT-8716/AT-8720

No

Shunt release	 **ATCONTROL/R PT-M** AT-8704	 **ATCONTROL/B PT-M 1DIN** AT-8880	 **ATCONTROL/B PT-T** AT-8702
Contactor	 **ATCONTROL/R PT-M** AT-8758	 **ATCONTROL/R PT-M 1DIN** AT-8764	 **ATCONTROL/R PT-T** AT-8770

No

Is main protective device included?

Yes

Self-reclosing	 **KIT ATCONTROL/R P-M** AT-8750/AT-8751	 **KIT ATCONTROL/R P-T** AT-8752/AT-8753
Non self-reclosing	 **IGATEST M** AT-9000/AT-9005, AT-9052/AT-9054	 **IGATEST T** AT-9006/AT-9010, AT-9055/AT-9058

No

Shunt release	 **ATCONTROL/B P-M** AT-8703	 **ATCONTROL/B P-M 1DIN** AT-8881	 **ATCONTROL/R P-T** AT-8701
Contactor	 **ATCONTROL/R P-M** AT-8759	 **ATCONTROL/R P-M 1DIN** AT-8763	 **ATCONTROL/R P-T** AT-8760

> IGA TEST COMPACT series

> IGA TEST COMPACT M

Compact single-phase transient and temporary overvoltage protector with integrated miniature circuit breaker

POP EN 50550

IGA TEST COMPACT protectors cut off the power supply when they detect a permanent overvoltage, (for example, a fault in the neutral), thus protecting the equipment installed downstream.

To restore the main circuit breaker, it is necessary to reconnect the protective coil in advance using the RESET button.

Moreover, **IGA TEST COMPACT** protectors also actuate when they detect a transient overvoltage, driving the current to earth and reducing the voltage to a level that does not damage the connected equipment.

Tested and certified as a **Type 2** protector in **official and independent laboratories** according to standards IEC 61643-11 and GUÍA-BT-23 from the REBT.

It has a thermodynamic control device that disconnects from the electrical network in case of deterioration, and also a warning system for transient overvoltages. When the warning light is green, the protector is in good condition. If not, replace.

The integrated MCB is available for the most usual nominal currents: 6, 10, 16, 20, 25, 32, 40, 50 and 63 A.

> INSTALLATION

They must be installed **in series** with the low voltage line, between the Power Control Circuit Breaker (ICP) and the Residual Current Device (ID), thereby connecting it to earth.

Installation should be carried out **without power running through the line**.

The protector is formed by a protective coil for permanent overvoltage that includes a transient overvoltage protector, together with a Miniature Circuit Breaker (MCB).

> TECHNICAL DATASHEET

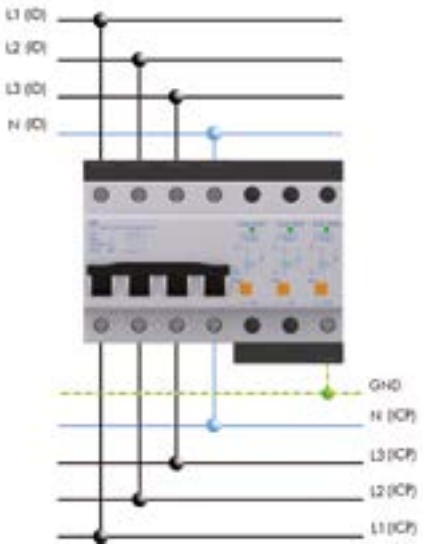
		IGA TEST COMPACT M 6 / 10 / 16 / 20 / 25 / 32 / 40 / 50 / 63								
Reference:		AT-8954	AT-8952	AT-8951	AT-9070	AT-9071	AT-9072	AT-9073	AT-9074	AT-9075
Nominal current:		6 A	10 A	16 A	20 A	25 A	32 A	40 A	50 A	63 A
Nominal voltage:	U_n	230 V_{AC}								
Maximum overvoltage:		400 V_{AC}								
Actuation voltage:	U_a	265 - 280 V_{AC}								
Actuation time:		@275 V → 8 - 10 s / @400 V → 0.1 - 0.2 s								
Maximum short-circuit current:		6 kA								
Test type according to IEC 61643-11:		Type 2								
Nominal Discharge Current:	I_n	5 kA								
Maximum current:	I_{max}	15 kA								
Protection level:	U_p	1.5 kV								
Dimensions:		51 x 81 x 65 mm (3 modules DIN 43880)								
Cable range:		Minimum / Maximum section: 1.5 / 16 mm^2								
Tests certified according to standards: BS-EN 60898, BS-EN 50550, IEC 61643-11										

> IGA TEST COMPACT series

> IGA TEST COMPACT T

Compact three-phase protector against transient and permanent overvoltages with integrated miniature circuit breaker

POP
EN 50550



IGA TEST COMPACT protectors cut off the power supply when they detect a permanent overvoltage, (for example, a fault in the neutral), thus protecting the equipment installed downstream.

To restore the main circuit breaker, it is necessary to reconnect the protective coils in advance using the RESET buttons. Reclosing will always be carried out from the most external coil to the one closest to the MCB.

Moreover, **IGA TEST COMPACT** protectors also actuate when they detect a transient overvoltage, driving the current to earth and reducing the voltage to a level that does not damage the connected equipment.

Tested and certified as a **type 2** protector in **official and independent laboratories** according to standards IEC 61643-11 and GUÍA-BT-23 from the REBT.

It has a thermodynamic control device that disconnects from the electrical network in case of deterioration, and also a warning system for transient overvoltages. When the warning light is green, the protector is in good condition. If not, replace.

The integrated MCB is available for the most usual nominal currents: 6, 10, 16, 20, 25, 32, 40, 50 and 63 A.

> INSTALLATION

They must be installed **in series** with the low voltage line, between the Power Control Circuit Breaker (ICP) and the Residual Current Device (ID), thereby connecting it to earth.

Installation should be carried out **without power running through the line**.

The protector is formed by protective coils for permanent protection which include protection against transient overvoltages and are linked to a miniature circuit breaker (MCB).

> TECHNICAL DATASHEET

Reference:		IGA TEST COMPACT T 6 / 10 / 16 / 25 / 32 / 40 / 50 / 63								
		AT-8955	**AT-8953**	**AT-8950**	**AT-9081**	**AT-9095**	**AT-9096**	**AT-9097**	**AT-9098**	**AT-9099**
Nominal current:		6 A	10 A	16 A	20 A	25 A	32 A	40 A	50 A	63 A
Nominal voltage:	U_n	230 V_{AC}								
Maximum overvoltage:		400 V_{AC}								
Actuation voltage:	U_a	265 - 280 V_{AC}								
Actuation time:		@275 V → 8 - 10 s / @400 V → 0.1 - 0.2 s								
Maximum short-circuit current:		6 kA								
Test type according to IEC 61643-11:		Type 2								
Nominal Discharge Current:	I_n	5 kA								
Maximum current:	I_{max}	15 kA								
Protection level:	U_p	1.5 kV								
Dimensions:		123 x 81 x 65 mm (7 modules DIN 43880)								
Cable range:		Minimum / Maximum section: 1.5 / 16 mm^2								
Tests certified according to standards: BS-EN 60898, BS-EN 50550, IEC 61643-11										

> IGA TEST series

> IGA TEST M

Compact single-phase protector against permanent overvoltages with integrated miniature circuit breaker

IGA TEST protectors actuate when they detect a permanent overvoltage (for example, a fault in the neutral), protecting the equipment installed downstream.

To restore the main circuit breaker, it is necessary to reconnect the protective coil in advance using the RESET button.

IGA TEST permanent overvoltage protectors can be used together with **ATSUB-D** transient overvoltage protectors.

The integrated MCB is available for the most usual nominal currents: 6, 10, 16, 20, 25, 32, 40, 50 and 63 A.

> INSTALLATION

They must be installed **in series** with the low voltage line, between the power control circuit breaker (ICP) and the residual current device (ID).

Installation should be carried out **without power running through the line**.

The protective coil must be installed between the line and the neutral, which connects to the residual current breaker (ID).

The protector is formed by a protective coil for permanent overvoltage linked to a miniature circuit breaker (MCB).

> TECHNICAL DATASHEET

Reference:		IGA TEST M 6 **AT-9052**	IGA TEST M 10 **AT-9000**	IGA TEST M 16 **AT-9053**	IGA TEST M 20 **AT-9054**	IGA TEST M 25 **AT-9001**	IGA TEST M 32 **AT-9002**	IGA TEST M 40 **AT-9003**	IGA TEST M 50 **AT-9004**	IGA TEST M 63 **AT-9005**
Nominal current:		6 A	10 A	16 A	20 A	25 A	32 A	40 A	50 A	63 A
Nominal voltage:	U_n	230 V_{AC}								
Maximum overvoltage:		400 V_{AC}								
Actuation voltage:	U_a	265 - 280 V_{AC}								
Actuation time:		@275 V_{AC} → 8 - 10 s / @400 V_{AC} → 0.1 - 0.2 s								
Maximum short-circuit current:		6 kA								
Dimensions:		51 x 81 x 65 mm (3 modules DIN 43880)								
MCB cable range:		Minimum / Maximum section: 1.5 / 25 mm^2								
Cable range:		Minimum / Maximum section: 1.5 / 2.5 mm^2 (single-stranded) or 4 mm^2 (multi-stranded)								

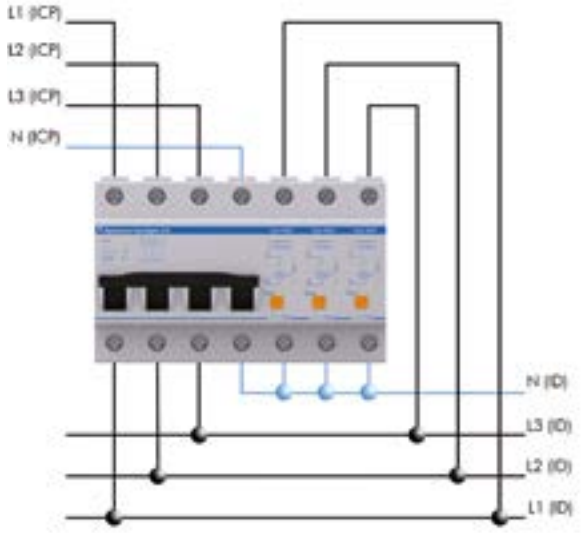
Tests certified according to standards: BS-EN 50550, BS-EN 60898

> IGA TEST series

> IGA TEST T

Three-phase protector against permanent overvoltages with integrated miniature circuit breaker

POP
EN 50550



IGA TEST series protectors cut off the power supply when they detect a permanent overvoltage (for example, a fault in the neutral), thus protecting the equipment installed downstream.

To restore the main circuit breaker, it is necessary to reconnect the protective coils in advance using the RESET buttons. Reclosing will always be carried out from the most external coil to the one closest to the MCB.

IGA TEST permanent overvoltage protectors can be used together with ATSUB-D transient overvoltage protectors.

The integrated MCB is available for the most usual nominal currents: 6, 10, 16, 20, 25, 32, 40, 50 and 63 A.

> INSTALLATION

They must be installed **in series** with the low voltage line, between the power control circuit breaker (ICP) and the residual current device (ID).

Installation should be carried out **without power running through the line**.

The protective coils are to be installed between the lines connected to the residual current breaker and the neutral.

The protector is formed by protective coils for permanent overvoltage linked to a miniature circuit breaker (MCB).

> TECHNICAL DATASHEET

Reference:		IGA TEST T 6 **AT-9055**	IGA TEST T 10 **AT-9056**	IGA TEST T 16 **AT-9057**	IGA TEST T 20 **AT-9058**	IGA TEST T 25 **AT-9006**	IGA TEST T 32 **AT-9007**	IGA TEST T 40 **AT-9008**	IGA TEST T 50 **AT-9009**	IGA TEST T 63 **AT-9010**
Nominal current:		6 A	10 A	16 A	20 A	25 A	32 A	40 A	50 A	63 A
Nominal voltage:	U_n	230 V_{AC}								
Maximum overvoltage:		400 V_{AC}								
Actuation voltage:	U_a	265 - 280 V_{AC}								
Actuation time:		@275 V_{AC} → 8 - 10 s / @400 V_{AC} → 0.1 - 0.2 s								
Maximum short-circuit current:		6 kA								
Dimensions:		123 x 81 x 65 mm (7 modules DIN 43880)								
MCB cable range:		Minimum / Maximum section: 1.5 / 25 mm^2								
Coil cable range:		Minimum / Maximum section: 1.5 / 2.5 mm^2 (single-stranded) or 4 mm^2 (multi-stranded)								

Tests certified according to standards: BS-EN 50550, BS-EN 60898

> IGA TEST PLUS series

> IGA TEST M PLUS

Single-phase protector against permanent overvoltages and undervoltages with integrated miniature circuit breaker

IGA TEST PLUS series protectors cut off the power supply when they detect a permanent overvoltage or undervoltage, (for example, a fault in the neutral), thus protecting the equipment installed downstream.

To restore the main circuit breaker, it is necessary to reconnect the protective coil in advance using the RESET button.

IGA TEST PLUS protectors against permanent overvoltages can be installed together with **ATSUB-D** transient overvoltage protectors.

The integrated MCB is available for the most usual nominal currents: 25, 32, 40, 50 and 63 A.

> INSTALLATION

They must be installed **in series** with the low voltage line, between the power control circuit breaker (ICP) and the residual current device (ID).

Installation should be carried out **without power running through the line**.

The protective coil must be installed between the line and the neutral, which connects to the residual current breaker (ID).

The protector is formed by a protective coil for permanent overvoltages linked to a miniature circuit breaker (MCB).

> TECHNICAL DATASHEET

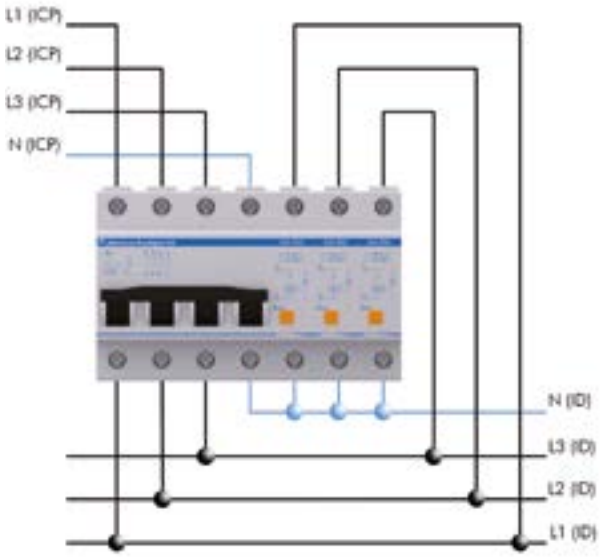
Reference:		IGA TEST M 25 PLUS **AT-9031**	IGA TEST M 32 PLUS **AT-9032**	IGA TEST M 40 PLUS **AT-9033**	IGA TEST M 50 PLUS **AT-9034**	IGA TEST M 63 PLUS **AT-9035**
Nominal current:		25 A	32 A	40 A	50 A	63 A
Nominal voltage:	U_n	230 V_{AC}				
Maximum overvoltage:		400 V_{AC}				
Minimum operating voltage:		60 V_{AC}				
Actuation voltage:	U_a	265 - 280 V_{AC} / 195 - 210 V_{AC}				
Actuation time:		@275 V_{AC} → 8-10 s / @400 V_{AC} → 0,1-0,2 @200 V_{AC} → 0,8 s / @80 V_{AC} → 0,2				
Maximum short-circuit current:		6 kA				
Dimensions:		51 x 81 x 65 mm (3 modules DIN 43880)				
MCB cable range:		Minimum / Maximum section: 1.5 / 25 mm^2				
Coil cable range:		Minimum / Maximum section: 1.5 / 2.5 mm^2 (single-stranded) or 4 mm^2 (multi-stranded)				

Tests certified according to standards: BS-EN 60898, BS-EN 50550

> IGA TEST PLUS series

> IGA TEST T PLUS

Three-phase permanent overvoltage and undervoltage protector with integrated miniature circuit breaker



IGA TEST PLUS series protectors cut off the power supply when they detect a permanent overvoltage or undervoltage, (for example, a fault in the neutral), thus protecting the equipment installed downstream.

To restore the main circuit breaker, it is necessary to reconnect the protective coils in advance using the RESET buttons. Reclosing will always be carried out from the most external coil to the one closest to the MCB.

IGA TEST permanent overvoltage protectors can be used together with ATSUB-D transient overvoltage protectors..

The integrated MCB is available for the most usual nominal currents: 25, 32, 40, 50 and 63 A.

> INSTALLATION

They must be installed **in series** with the low voltage line, between the power control circuit breaker (ICP) and the residual current device (ID).

Installation should be carried out **without power running through the line**.

The protective coils are to be installed between the lines connected to the residual current breaker and the neutral.

The protector is formed by protective coils for permanent overvoltages linked to a main circuit breaker (MCB).

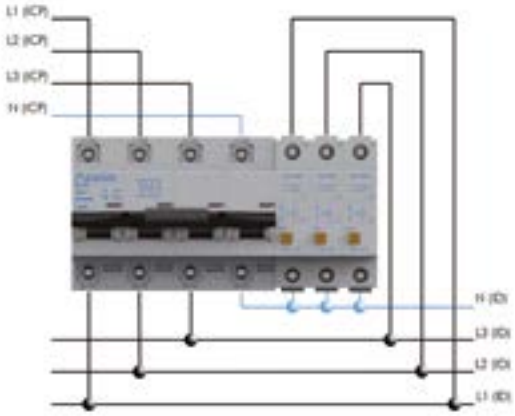
> TECHNICAL DATASHEET

Reference:		IGA TEST T 25 PLUS **AT-9036**	IGA TEST T 32 PLUS **AT-9037**	IGA TEST T 40 PLUS **AT-9038**	IGA TEST T 50 PLUS **AT-9039**	IGA TEST T 63 PLUS **AT-9040**
Nominal current:		25 A	32 A	40 A	50 A	63 A
Nominal voltage:	U_n	230 V_{AC}				
Maximum overvoltage:		400 V_{AC}				
Minimum operating voltage:		60 V_{AC}				
Actuation voltage:	U_a	265 - 280 V_{AC} / 195 - 210 V_{AC}				
Actuation time:		@275 V_{AC} → 8-10 s / @400 V_{AC} → 0,1-0,2 s @200 V_{AC} → 0,8 s / @80 V_{AC} → 0,2 s				
Maximum short-circuit current:		6 kA				
Dimensions:		123 x 81 x 65 mm (7 modules DIN 43880)				
MCB cable range:		Minimum / Maximum section: 1.5 / 25 mm^2				
Coil cable range:		Minimum / Maximum section: 1.5 / 2.5 mm^2 (single-stranded) or 4 mm^2 (multi-stranded)				
Tests certified according to standards: BS-EN 50550, BS-EN 60898						

> IGA TEST D series

> IGA TEST T D

Three-phase permanent overvoltage protector with integrated D curve main circuit breaker



IGA TEST D series protectors cut off the power supply when they detect a permanent overvoltage (for example, a fault in the neutral), thus protecting the equipment installed downstream.

To restore the main circuit breaker, it is necessary to reconnect the protective coils in advance using the RESET buttons. Reclosing will always be carried out from the most external coil to the one closest to the MCB.

IGA TEST PLUS protectors against permanent overvoltages can be installed together with **ATSUB-D** transient overvoltage protectors.

The integrated D curve MCB is available in the most usual nominal currents: 63, 80, 100 and 125 A.

> INSTALLATION

They must be installed **in series** with the low voltage line, between the power control circuit breaker (ICP) and the residual current device (ID).

Installation should be carried out **without power running through the line**.

The protective coil must be installed between the line and the neutral, which connects to the residual current breaker (ID).

The protector is formed by a protective coils for permanent overvoltages linked to a D curve main circuit breaker (MCB).

> TECHNICAL DATASHEET

Reference:		IGA TEST T 63 D **AT-9076**	IGA TEST T 80 D **AT-9077**	IGA TEST T 100 D **AT-9078**	IGA TEST T 125 D **AT-9079**
Nominal current:		63 A	80 A	100 A	125 A
Nominal voltage:	U_n	230 V_{AC}			
Maximum overvoltage:		400 V_{AC}			
Actuation voltage:	U_a	265 - 280 V_{AC}			
Actuation time:		@275 V_{AC} → 8-10 s / @400 V_{AC} → 0,1-0,2 s			
Maximum short-circuit current:		10 kA			
Dimensions:		160 x 81 x 65 mm (9 modules DIN 43880)			
MCB cable range:		Minimum / Maximum section: 1.5 / 25 mm^2			
Coil cable range:		Minimum / Maximum section: 1.5 / 2.5 mm^2 (single-stranded) or 4 mm^2 (multi-stranded)			

Tests certified according to standards: BS-EN 60898, BS-EN 50550

> ATCONTROL/R series

> ATCONTROL/R P(T)-M

Self-configurable self-reclosing permanent and transient overvoltage protector for single-phase power supply lines

> PERMANENT OVERVOLTAGES

ATCONTROL/R P series protectors actuate when they detect a permanent overvoltage by tripping the connected contactor (normally open) (S1, S2). This contactor disconnects the line, thus protecting any equipment installed downstream. When the permanent overvoltage comes to a halt, the protector reconnects the contactor.

The warning system for permanent overvoltages consists of two luminous indicators: green (correct power supply) and red (overvoltage). It has a test button to check that installation has been executed correctly.

> TRANSIENT OVERVOLTAGES

ATCONTROL/R PT protectors also actuate when they detect a transient overvoltage, diverting the current to earth and reducing the voltage to a level that does not damage the connected equipment.

Tested and certified as a **type 2** protector in **official and independent laboratories** according to standards IEC 61643-11 and GUÍA-BT-23 from the REBT. Appropriate for category I, II, III and IV equipment according to REBT (ITC-BT-23).

It has a thermodynamic control device that disconnects from the electrical network in case of deterioration, and also a warning system for transient overvoltages. When the warning is yellow, the protector is in good condition. If not, replace.

> INSTALLATION

They must be installed **in parallel** with the low voltage supply line, downstream from the main circuit breaker, connected to the phase, neutral and ground. The contactor should be installed in series with the low voltage supply line, downstream from the protector. Installation should be carried out without power in the line.

Connect the S1 and S2 terminals to the contactor, always without voltage.

This protector is self-configurable. It automatically detects the voltage and programmes the permanent overvoltage limits.

> TECHNICAL DATASHEET

Reference:		ATCONTROL/R P-M **AT-8759**	ATCONTROL/R PT-M **AT-8758**
Nominal voltage:	U_n	120 or 230 V_{AC}	
Maximum overvoltage:	U_c	400 V_{AC}	
Actuation voltage:	U_a	150 or 275 V_{AC}	
Actuation time:		@150 V_{AC} → 3 - 5 s / @230 V_{AC} → 0.1 - 0.2 s @275 V_{AC} → 3 - 5 s / @400 V_{AC} → 0.1 - 0.2 s	
Test type according to UNE-EN61643-11:		-	Type 2
Nominal discharge current (8/20 µs wave):	I_n	-	5 kA
Maximum discharge current (8/20 µs wave):	I_{max}	-	15 kA
Protection level (wave 1.2/50 µs):	U_p	-	1.1 kV
Backup fuse(1):		-	80 A gL/gG
Dimensions:		36 x 90 x 80 mm (2 modules DIN 43880)	
S1, S2 cable range:		Maximum section: 1.5 mm²	
Protector cable range:		Minimum / Maximum section: 2.5 / 35 mm²	
Tests certified according to standards: IEC 61643-11 Relevant standards: UNE 21186, NF C 17-102, IEC 62305			

(1) Required when there is no equal or less nominal current protection installed upstream from the protector.

> ATCONTROL/R series

> ATCONTROL/R P(T)-M 1DIN

Self-configurable self-reclosing permanent and transient overvoltage protector for single-phase power supply lines

> PERMANENT OVERVOLTAGES

ATCONTROL/R P-M 1DIN series protectors actuate when they detect a permanent overvoltage, tripping the connected contactor (normally open) (S1, S2). This contactor disconnects the line, thus protecting any equipment installed downstream. When the permanent overvoltage comes to a halt, the protector reconnects the contactor.

The warning system for permanent overvoltages consists of two luminous indicators: green (correct power supply) and red (overvoltage). It has a test button to check that installation has been executed correctly.

> TRANSIENT OVERVOLTAGES

ATCONTROL/R PT-M 1DIN protectors also actuate when they detect a transient overvoltage, driving the current to earth and reducing the voltage to a level that does not damage the connected equipment.

Tested and certified as a **type 2** protector in **official and independent laboratories** according to standards IEC 61643-11 and GUÍA-BT-23 from the REBT. Appropriate for category I, II, III and IV equipment according to REBT (ITC-BT-23).

It has a thermodynamic control device that disconnects from the electrical network in case of deterioration, and also a warning system for transient overvoltages. When the warning light is red, replace the protector.

> INSTALLATION

They must be installed **in parallel** with the low voltage supply line, downstream from the MCB, connected to the phase, neutral and ground. The contactor should be installed **in series** with the low voltage supply line, downstream from the protector. Installation should be carried out without power in the line.

Connect the S1 and S2 terminals to the contactor, always without voltage.

This protector is self-configurable. It automatically detects the voltage and programmes the permanent overvoltage limits.

> TECHNICAL DATASHEET

Reference:		ATCONTROL/R P-M 1DIN **AT-8763**	ATCONTROL/R PT-M 1DIN **AT-8764**
Nominal voltage:	U_n	120 or 230 V_{AC}	
Maximum overvoltage:	U_c	400 V_{AC}	
Actuation voltage:	U_a	150 or 275 V_{AC}	
Actuation time:		@150 V_{AC} → 3 - 5 s / @230 V_{AC} → 0.1 - 0.2 s @275 V_{AC} → 3 - 5 s / @400 V_{AC} → 0.1 - 0.2 s	
Test type according to UNE-EN61643-11:		-	Type 2
Nominal discharge current (8/20 µs wave):	I_n	-	5 kA
Maximum discharge current (8/20 µs wave):	I_{max}	-	15 kA
Protection level (wave 1.2/50 µs):	U_p	-	1.1 kV
Backup fuse(1):		-	80 A gl/gG
Dimensions:		18 x 90 x 80 mm (2 modules DIN 43880)	
S1, S2 cable range:		Maximum section: 2.5 mm^2	
Protector cable range:		Maximum section: 6 mm^2	

Tests certified according to standards: IEC 61643-11
Relevant standards: UNE 21186, NF C 17-102, IEC 62305

(1) Required when there is no equal or less nominal current protection installed upstream from the protector.

> ATCONTROL/R series

> ATCONTROL/R P(T)-T

Self-configurable self-reclosing permanent and transient overvoltage protector for three-phase power supply lines

> PERMANENT OVERVOLTAGES

ATCONTROL/R P series protectors actuate when they detect a permanent overvoltage by tripping the connected contactor (normally open) (S1, S2). This contactor disconnects the line, thus protecting any equipment installed downstream. When the permanent overvoltage comes to a halt, the protector reconnects the contactor.

The warning system for permanent overvoltages consists of two luminous indicators: green (correct power supply) and red (overvoltage). It has a test button to check that installation has been executed correctly.

> TRANSIENT OVERVOLTAGES

ATCONTROL/R PT protectors also actuate when they detect a transient overvoltage, diverting the current to earth and reducing the voltage to a level that does not damage the connected equipment.

Tested and certified as a **type 2** protector in **official and independent laboratories** according to standards IEC 61643-11 and GUÍA-BT-23 from the REBT. Appropriate for category I, II, III and IV equipment according to REBT (ITC-BT-23).

It has a thermodynamic control device that disconnects from the electrical network in case of deterioration, and also a warning system for transient overvoltages. When the warning is yellow, the protector is in good condition. If not, replace.

> INSTALLATION

They must be installed **in parallel** with the low voltage supply lines, downstream from the MCB, connected to the phase, neutral and ground. The contactor should be installed **in series** with the low voltage supply lines, downstream from the protector. Installation should be carried out without power in the line.

Connect the S1 and S2 terminals to the contactor, always without voltage.

This protector is self-configurable. It automatically detects the voltage and programmes the permanent overvoltage limits.

> TECHNICAL DATASHEET

Reference:		ATCONTROL/R P-T **AT-8760**	ATCONTROL/R PT-T **AT-8770**
Nominal voltage:	U_n	120 or 230 V_{AC}	
Maximum overvoltage:	U_c	400 V_{AC}	
Actuation voltage:	U_a	150 or 275 V_{AC}	
Actuation time:		@150 V_{AC} → 3 - 5 s / @230 V_{AC} → 0.1 - 0.2 s @275 V_{AC} → 3-5 s / @400 V_{AC} → 0.1-0.2 s	
Test type according to UNE-EN61643-11:		-	Type 2
Nominal discharge current (8/20 µs wave):	I_n	-	15 kA
Maximum discharge current (8/20 µs wave):	I_{max}	-	40 kA
Protection level (wave 1.2/50 µs):	U_p	-	1.4 kV
Backup fuse(1):		-	80 A gL/gG
Dimensions:		72 x 90 x 80 mm (4 modules DIN 43880)	
S1, S2 cable range:		Maximum section: 1.5 mm^2	
Protector cable range:		Minimum / Maximum section: 2.5 / 35 mm^2	

Tests certified according to standards: IEC 61643-11
Relevant standards: UNE 21186, NF C 17-102, IEC 62305

(1) Required when there is no equal or less nominal current protection installed upstream from the protector.

> KIT ATCONTROL/R series

> KIT ATCONTROL/R P(T)-M

Complete kit including self-reclosing single-phase permanent and transient overvoltage protector and contactor

POP
EN 50550

> PERMANENT OVERVOLTAGES

ATCONTROL/R P series protectors actuate when they detect a permanent overvoltage by tripping the connected contactor (normally open) (S1, S2). This contactor disconnects the line, thus protecting any equipment installed downstream. When the permanent overvoltage comes to a halt, the protector reconnects the contactor.

The warning system for permanent overvoltages consists of two luminous indicators: green (correct power supply) and red (overvoltage). It has a test button to check that installation has been executed correctly.

> TRANSIENT OVERVOLTAGES

ATCONTROL/R PT protectors also actuate when they detect a transient overvoltage, diverting the current to earth and reducing the voltage to a level that does not damage the connected equipment.

Tested and certified as a **type 2** protector in **official and independent laboratories** according to standards IEC 61643-11 and GUÍA-BT-23 from the REBT. Appropriate for category I, II, III and IV equipment according to REBT (ITC-BT-23).

It has a thermodynamic control device that disconnects from the electrical network in case of deterioration, and also a warning system for transient overvoltages. When the warning is yellow, the protector is in good condition. If not, replace.

> INSTALLATION

It is to be installed **in parallel** with the low voltage supply line, downstream from the main circuit breaker (IGA), connected to line, neutral and ground. The contactor should be installed **in series** with the low voltage supply line, downstream from the protector. Installation should be carried out without power in the line.

Connect the S1 and S2 terminals to the contactor, always without voltage.

> TECHNICAL DATASHEET

Reference:		KIT ATCONTROL/R P-M 20 **AT-8750**	KIT ATCONTROL/R P-M 63 **AT-8751**	KIT ATCONTROL/R PT-M 20 **AT-8756**	KIT ATCONTROL/R PT-M 63 **AT-8757**
Nominal current:		Up to 20 A	Up to 63 A	Up to 20 A	Up to 63 A
Nominal voltage:	U_n	230 V_{AC}			
Maximum overvoltage:	U_c	400 V_{AC}			
Actuation voltage:	U_a	275 V_{AC}			
Actuation time:		@275 V_{AC} → 3 - 5 s / @400 V_{AC} → 0.1 - 0.2 s			
Test type according to UNE-EN61643-11:		-		Type 2	
Nominal discharge current (8/20 µs wave):	I_n	-		5 kA	
Maximum discharge current (8/20 µs wave):	I_{max}	-		15 kA	
Protection level (wave 1.2/50 µs):	U_p	-		1.1 kV	
Contactor dimensions:		18 x 81 x 65 mm (1 module DIN 43880)	36 x 81 x 65 mm (2 modules DIN 43880)	18 x 81 x 65 mm (1 module DIN 43880)	36 x 81 x 65 mm (2 modules DIN 43880)
Dimensions:		36 x 90 x 80 mm (2 modules DIN 43880)			
Contactor cable range:		Minimum / Maximum section: 1 / 6 mm^2	Minimum / Maximum section: 1 / 16 mm^2	Minimum / Maximum section: 1 / 6 mm^2	Minimum / Maximum section: 1 / 16 mm^2
S1, S2 cable range:		Minimum / Maximum section: 1 / 1.5 mm^2			
Protector cable range:		Minimum / Maximum section: 2.5 / 35 mm^2			

Tests certified according to standards: BS-EN 50550, IEC 61643-11
Relevant standards: UNE 21186, NF C 17-102, IEC 62305

> KIT ATCONTROL/R series

> KIT ATCONTROL/R P(T)-M 1DIN

Complete kit including self-reclosing single-phase permanent and transient overvoltage protector and contactor

POP
EN 50550

> PERMANENT OVERVOLTAGES

ATCONTROL/R P-M 1DIN series protectors actuate when they detect a permanent overvoltage, tripping the connected contactor (normally open) (S1, S2). This contactor disconnects the line, thus protecting any equipment installed downstream. When the permanent overvoltage comes to a halt, the protector reconnects the contactor.

The warning system for permanent overvoltages consists of two luminous indicators: green (correct power supply) and red (overvoltage). It has a test button to check that installation has been executed correctly.

> TRANSIENT OVERVOLTAGES

The **ATCONTROL/R PT-M 1DIN** protectors also actuate when they detect a transient overvoltage, driving the current to earth and reducing the voltage to a level that does not damage the connected equipment.

Tested and certified as a **type 2** protector in **official and independent laboratories** according to standards IEC 61643-11 and GUÍA-BT-23 from the REBT. Appropriate for category I, II, III and IV equipment according to REBT (ITC-BT-23).

It has a thermodynamic control device that disconnects from the electrical network in case of deterioration, and also a warning system for transient overvoltages. When the warning light is red, replace the protector.

> INSTALLATION

It is to be installed **in parallel** with the low voltage supply line, downstream from the main circuit breaker (IGA), connected to lines, neutral and ground. The contactor should be installed **in series** with the low voltage supply line, downstream from the protector. Installation should be carried out without power in the line.

Connect the S1 and S2 terminals to the contactor, always without voltage.

> TECHNICAL DATASHEET

Reference:		KIT ATCONTROL/R P-M 1DIN 20 **AT-8767**	KIT ATCONTROL/R P-M 1DIN 63 **AT-8768**	KIT ATCONTROL/R PT-M 1DIN 20 **AT-8769**	KIT ATCONTROL/R PT-M 1DIN 63 **AT-8771**
Nominal current:		Up to 20 A	Up to 63 A	Up to 20 A	Up to 63 A
Nominal voltage:	U_n	230 V_{AC}			
Maximum overvoltage:	U_c	400 V_{AC}			
Actuation voltage:	U_a	275 V_{AC}			
Actuation time:		@275 V_{AC} → 3 - 5 s / @400 V_{AC} → 0.1 - 0.2 s			
Test type according to UNE-EN61643-11:		-		Type 2	
Nominal discharge current (8/20 µs wave):	I_n	-		5 kA	
Maximum discharge current (8/20 µs wave):	I_{max}	-		15 kA	
Protection level (wave 1.2/50 µs):	U_p	-		1.1 kV	
Contactor dimensions:		18 x 81 x 65 mm (1 module DIN 43880)	36 x 81 x 65 mm (2 modules DIN 43880)	18 x 81 x 65 mm (1 module DIN 43880)	36 x 81 x 65 mm (2 modules DIN 43880)
Dimensions:		18 x 90 x 80 mm (1 module DIN 43880)			
Contactor cable range:		Minimum / Maximum section: 1 / 6 mm^2	Minimum / Maximum section: 1 / 16 mm^2	Minimum / Maximum section: 1 / 6 mm^2	Minimum / Maximum section: 1 / 16 mm^2
S1, S2 cable range:		Minimum / Maximum section: 1 / 2.5 mm^2			
Protector cable range:		Minimum / Maximum section: 1 / 6 mm^2			

Tests certified according to standards: BS-EN 50550, IEC 61643-11
Relevant standards: UNE 21186, NF C 17-102, IEC 62305

> KIT ATCONTROL/R series

> KIT ATCONTROL/R P(T)-T

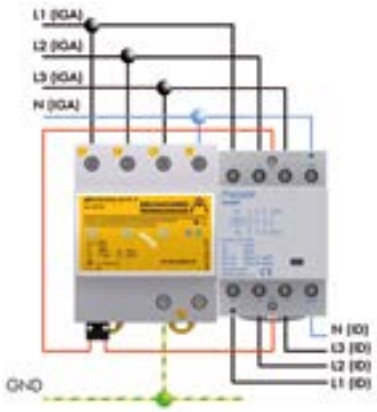
Complete kit including self-reclosing three-phase permanent and transient overvoltage protector and contactor

POP
EN 50550

> PERMANENT OVERVOLTAGES

ATCONTROL/R P series protectors actuate when they detect a permanent overvoltage by tripping the connected contactor (normally open) (S1, S2). This contactor disconnects the line, thus protecting any equipment installed downstream. When the permanent overvoltage comes to a halt, the protector reconnects the contactor.

The warning system for permanent overvoltages consists of two luminous indicators: green (correct power supply) and red (overvoltage). It has a test button to check that installation has been executed correctly.



> TRANSIENT OVERVOLTAGES

ATCONTROL/R PT protectors also actuate when they detect a transient overvoltage, diverting the current to earth and reducing the voltage to a level that does not damage the connected equipment.

Tested and certified as a **type 2** protector in **official and independent laboratories** according to standards IEC 61643-11 and GUÍA-BT-23 from the REBT. Appropriate for category I, II, III and IV equipment according to REBT (ITC-BT-23).

It has a thermodynamic control device that disconnects from the electrical network in case of deterioration, and also a warning system for transient overvoltages. When the warning is yellow, the protector is in good condition. If not, replace.

> INSTALLATION

It is to be installed **in parallel** with the low voltage supply line, downstream from the main circuit breaker (IGA), connected to lines, neutral and ground. The contactor should be installed **in series** with the low voltage supply line, downstream from the protector. Installation should be carried out without power in the line.

Connect the S1 and S2 terminals to the contactor, always without voltage.

> TECHNICAL DATASHEET

Reference:		KIT ATCONTROL/R P-T 25 **AT-8752**	KIT ATCONTROL/R P-T 63 **AT-8753**	KIT ATCONTROL/R PT-T 25 **AT-8754**	KIT ATCONTROL/R PT-T 63 **AT-8755**
Nominal current:		Up to 25 A	Up to 63 A	Up to 25 A	Up to 63 A
Nominal voltage:	U_n	230 V_{AC}			
Maximum overvoltage:	U_c	400 V_{AC}			
Actuation voltage:	U_a	275 V_{AC}			
Actuation time:		@275 V_{AC} → 3 - 5 s / @400 V_{AC} → 0.1 - 0.2 s			
Test type according to UNE-EN61643-11:		-		Type 2	
Nominal discharge current (8/20 µs wave):	I_n	-		15 kA	
Maximum discharge current (8/20 µs wave):	I_{max}	-		40 kA	
Protection level (wave 1.2/50 µs):	U_p	-		1.4 kV	
Contactor dimensions:		36 x 81 x 65 mm (2 modules DIN 43880)	54 x 81 x 65 mm (3 modules DIN 43880)	36 x 81 x 65 mm (2 modules DIN 43880)	54 x 81 x 65 mm (3 modules DIN 43880)
Dimensions:		72 x 90 x 80 mm (4 modules DIN 43880)			
Contactor cable range:		Minimum / Maximum section: 1 / 10 mm^2	Minimum / Maximum section: 1 / 16 mm^2	Minimum / Maximum section: 1 / 10 mm^2	Minimum / Maximum section: 1 / 16 mm^2
S1, S2 cable range:		Minimum / Maximum section: 1 / 1.5 mm^2			
Protector cable range:		Minimum / Maximum section: 2.5 / 35 mm^2			

Tests certified according to standards: BS-EN 50550, IEC 61643-11
Relevant standards: UNE 21186, NF C 17-102, IEC 62305

> ATCONTROL/B Series

> ATCONTROL/B P(T)-M

Self-configurable single-phase permanent and transient overvoltage protector

> PERMANENT OVERVOLTAGES

ATCONTROL/B PT-M protector trips the connected shunt release (S1, S2) when it detects a permanent overvoltage. The shunt release causes the circuit breaker linked to trip, protecting the equipment installed downstream.

The warning system for permanent overvoltages consists of two luminous indicators: green (correct power supply) and red (overvoltage). It has a test button to check that installation has been executed correctly.

> TRANSIENT OVERVOLTAGES

The **ATCONTROL/B PT-M** protectors also actuate when they detect a transient overvoltage, driving the current to earth and reducing the voltage to a level that does not damage the connected equipment.

Tested and certified as a **type 2** protector in **official and independent laboratories** according to standards IEC 61643-11 and GUÍA-BT-23 from the REBT. Appropriate for category I, II, III and IV equipment according to REBT (ITC-BT-23).

It has a thermodynamic control device that disconnects from the electrical network in case of deterioration, and also a warning system for transient overvoltages. When the warning is yellow, the protector is in good condition. If not, replace.

> INSTALLATION

Installation should be carried out **without power running through the line**. They must be installed **in parallel** with the low voltage supply line, downstream from the circuit breaker, and connected to line, neutral and ground. Connect the S1 and S2 terminals, always without voltage, to the shunt release acting on the circuit breaker.

This protector is self-configurable. It automatically detects the voltage and programmes the permanent overvoltage limits.

> TECHNICAL DATASHEET

Reference:		ATCONTROL/B P-M **AT-8703**	ATCONTROL/R PT-M **AT-8704**
Nominal voltage:	U_n	120 or 230 V_{AC}	
Maximum overvoltage:	U_c	400 V_{AC}	
Actuation voltage:	U_a	150 - 275 V_{AC}	
Actuation time:		@150 V_{AC} → 3 - 5 s / @230 V_{AC} → 0.1 - 0.2 s @275 V_{AC} → 3 - 5 s / @400 V_{AC} → 0.1 - 0.2 s	
Nominal voltage for the shunt release:		110 - 415 V_{AC} / 110 - 250 V_{DC}	
Test type according to IEC 61643-11:		-	Type 2
Nominal discharge current (8/20 µs wave):	I_n	-	5 kA
Maximum discharge current (8/20 µs wave):	I_{max}	-	15 kA
Protection level (wave 1.2/50 µs):	U_p	-	1.1 kV
Backup fuse(1):		-	80 A gL/gG
Dimensions:		36 x 90 x 80 mm (2 modules DIN 43880)	
S1, S2 cable range:		Maximum section: 1.5 mm^2	
Cable range:		Minimum / Maximum section: 2.5 / 35 mm^2	

Tests certified according to standards: IEC 61643-11
Relevant standards: UNE 21186, NF C 17-102, IEC 62305

(1) Required when there is no equal or less nominal current protection installed upstream from the protector.

> ATCONTROL/B Series

> ATCONTROL/B P(T)-M 1DIN

Self-configurable single-phase permanent and transient overvoltage protector

> PERMANENT OVERVOLTAGES

ATCONTROL/B PT-M 1DIN protector actuates when it detects a permanent overvoltage, tripping the shunt release (S1, S2). The shunt release causes the m circuit breaker to trip, protecting the equipment installed downstream.

The warning system for permanent overvoltages consists of two luminous indicators: green (correct power supply) and red (overvoltage). It has a test button to check that installation has been executed correctly.

> TRANSIENT OVERVOLTAGES

ATCONTROL/B PT-M 1DIN protector also actuates when it detects a transient overvoltage, driving the current to earth and reducing the voltage to a level that does not damage the connected equipment.

Tested and certified as a **type 2** protector in **official and independent laboratories** according to standards IEC 61643-11 and GUÍA-BT-23 from the REBT. Suitable for categories I, II, III and IV equipment according to ITC-BT-23 from the REBT.

It has a thermodynamic control device that disconnects from the electrical network in case of deterioration, and also a warning system for transient overvoltages. When the warning light is red, replace the protector.

> INSTALLATION

Installation should be carried out **without power running through the line**. They must be installed **in parallel** with the low voltage supply line, downstream from the linked circuit breaker, connected to line, neutral and ground. Connect the S1 and S2 terminals, always without voltage, to the shunt release acting on the circuit breaker.

This protector is self-configurable. It automatically detects the voltage and programmes the permanent overvoltage limits.

> TECHNICAL DATASHEET

Reference:		ATCONTROL/B P-M 1DIN **AT-8881**	ATCONTROL/B PT-M 1DIN **AT-8882**
Nominal voltage:	U_n	120 or 230 V_{AC}	
Maximum overvoltage:	U_c	400 V_{AC}	
Actuation voltage:	U_a	150 - 275 V_{AC}	
Actuation time:		@150 V_{AC} → 3 - 5 s / @230 V_{AC} → 0.1 - 0.2 s @275 V_{AC} → 3 - 5 s / @400 V_{AC} → 0.1 - 0.2 s	
Nominal voltage for the shunt release:		110 - 415 V_{AC} / 110 - 250 V_{AC}	
Test type according to IEC 61643-11:		-	Type 2
Nominal discharge current (8/20 µs wave):	I_n	-	5 kA
Maximum discharge current (8/20 µs wave):	I_{max}	-	15 kA
Protection level (wave 1.2/50 µs):	U_p	-	1.1 kV
Backup fuse(1):		-	80 A gL/gG
Dimensions:		18 x 90 x 80 mm (1 module DIN 43880)	
S1, S2 cable range:		Maximum section: 2.5 mm^2	
Cable range:		Maximum section: 6 mm^2	

Tests certified according to standards: IEC 61643-11
Relevant standards: UNE 21186, NF C 17-102, IEC 62305

(1) Required when there is no equal or less nominal current protection installed upstream from the protector.

> ATCONTROL/B Series

> ATCONTROL/B P(T)-T

Self-configurable three-phase permanent and transient overvoltage protector

> PERMANENT OVERVOLTAGES

ATCONTROL/B PT-T series protectors trip the connected shunt release (S1, S2) when they detect a permanent overvoltage. The shunt release causes the circuit breaker to trip, protecting the equipment installed downstream.

The warning system for permanent overvoltages consists of two luminous indicators: green (correct power supply) and red (overvoltage). It has a test button to check that installation has been executed correctly.

> TRANSIENT OVERVOLTAGES

The **ATCONTROL/B PT-T** protector also actuates when it detects a transient overvoltage, driving the current to earth and reducing the voltage to a level that does not damage the connected equipment.

Tested and certified as a **type 2** protector in **official and independent laboratories** according to standards IEC 61643-11 and GUÍA-BT-23 from the REBT. Suitable for categories I, II, III and IV equipment according to ITC-BT-23 from the REBT.

It has a thermodynamic control device that disconnects from the electrical network in case of deterioration, and also a warning system for transient overvoltages. When the warning is yellow, the protector is in good condition. If not, replace.

> INSTALLATION

The power should be **disconnected** during the installation of the SPD. They must be installed **in parallel** with the low voltage supply line, downstream from the associated circuit breaker, and connected to lines, neutral and ground. Connect the S1 and S2 terminals, always without voltage, to the shunt release acting on the circuit breaker.

This protector is self-configurable. It automatically detects the voltage and programmes the permanent overvoltage limits.

> TECHNICAL DATASHEET

Reference:		ATCONTROL/B P-T **AT-8701**	ATCONTROL/B PT-T **AT-8702**
Nominal voltage:	U_n	120 or 230 V_{AC}	
Maximum overvoltage:	U_c	400 V_{AC}	
Actuation voltage:	U_a	150 or 275 V_{AC}	
Actuation time:		@150 V_{AC} → 3 - 5 s / @230 V_{AC} → 0.1 - 0.2 s @275 V_{AC} → 3 - 5 s / @400 V_{AC} → 0.1 - 0.2 s	
Nominal voltage for the shunt release:		110 - 415 V_{AC} / 110 - 250 V_{DC}	
Type of tests according to UNE- EN 61643-11:		-	Type 2
Nominal current (8/20 µs wave):	I_n	-	15 kA
Maximum discharge current (8/20 µs wave):	I_{max}	-	40 kA
Protection level (wave 1.2/50 µs):	U_p	-	1.4 kV
Backup fuse(1):		-	80 A gL/gG
Dimensions:		72 x 90 x 80 mm (4 modules DIN 43880)	
S1, S2 cable range:		Maximum section: 1.5 mm^2	
Cable range:		Minimum / Maximum section: 2.5 / 35 mm^2	

Tests certified according to standards: IEC 61643-11
Relevant standards: UNE 21186, NF C 17-102, IEC 62305

(1) Required when there is no equal or less nominal current protection installed upstream from the protector.

> ATCONTROL/B PLUS series

> ATCONTROL/B P(T)-T PLUS

Self-configurable three-phase permanent and transient overvoltage and undervoltage protector

> PERMANENT OVERVOLTAGES

The ATCONTROL/B series protectors trip the connected shunt release (S1, S2) when they detect a permanent overvoltage or undervoltage. The shunt release causes the circuit breaker to trip, protecting the equipment installed downstream.

The warning system for permanent overvoltages and undervoltages consists of two indicator lights: green (correct power supply) and red (overvoltage). It has a test button to check that installation has been executed correctly.

> TRANSIENT OVERVOLTAGES

The **ATCONTROL/B** protectors also actuate when they detect a transient overvoltage, driving the current to earth and reducing the voltage to a level that does not damage the connected equipment.

Tested and certified as **type 2 protector** in official and independent laboratories, according to standards IEC 61643-11 and GUÍA-BT-23 from REBT. Suitable for **categories I, II, III** and **IV** equipment according to ITC-BT-23 from the REBT.

It has a thermodynamic control device that disconnects from the electrical network in case of deterioration, and also a warning system for transient overvoltages. When the warning is yellow, the protector is in good condition. If not, replace.

> INSTALLATION

Installation should be carried out without power in the line. They must be installed in parallel with the low voltage supply line, downstream from the associated circuit breaker, and connected to lines, neutral and ground. Connect the S1 and S2 terminals, always without voltage, to the shunt release acting on the circuit breaker.

This protector is self-configurable. It automatically detects the voltage and programmes the permanent overvoltage limits.

> TECHNICAL DATASHEET

Reference:		ATCONTROL/B P-T PLUS **AT-8761**	ATCONTROL/B PT-T PLUS **AT-8762**
Nominal voltage:	U_n	120 or 230 V_{AC}	
Maximum overvoltage:	U_c	400 V_{AC}	
Actuation voltage:	U_a	150 or 275 V_{AC}	
Actuation time:		@150 V_{AC} → 3 - 5 s / @230 V_{AC} → 0.1 - 0.2 s @100 V_{AC} → 3 - 5 s / @80 V_{AC} → 0.1 - 0.2 s @275 V_{AC} → 3 - 5 s / @400 V_{AC} → 0.1 - 0.2 s @200 V_{AC} → 3 - 5 s / @80 V_{AC} → 0.1 - 0.2 s	
Nominal voltage for the shunt release:		110 - 415 V_{AC} / 110 - 250 V_{DC}	
Type of tests according to UNE- EN 61643-11:		-	Type 2
Nominal current (8/20 µs wave):	I_n	-	15 kA
Maximum discharge current (8/20 µs wave):	I_{max}	-	40 kA
Protection level (wave 1.2/50 µs):	U_p	-	1.4 kV
Backup fuse(1):		-	80 A gL/gG
Dimensions:		72 x 90 x 80 mm (4 modules DIN 43880)	
S1, S2 cable range:		Maximum section: 1.5 mm^2	
Cable range:		Minimum / Maximum section: 2.5 / 35 mm^2	

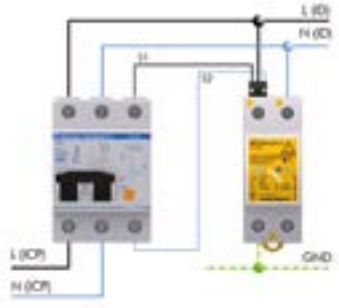
Tests certified according to standards: IEC 61643-11
Relevant standards: UNE 21186, NF C 17-102, IEC 62305

(1) Required when there is no equal or less nominal current protection installed upstream from the protector.

> KIT ATCONTROL/B series

> KIT ATCONTROL/B PT-M

Complete kit including self-configurable single-phase permanent and transient overvoltage protector, shunt release and circuit breaker



> PERMANENT OVERVOLTAGES

ATCONTROL/B series protectors trip the connected shunt release (S1, S2) when they detect a permanent overvoltage. The shunt release causes the circuit breaker to trip, protecting the equipment installed downstream.

The warning system for permanent overvoltages consists of two luminous indicators: green (correct power supply) and red (overvoltage). It has a test button to check that installation has been executed correctly.

> TRANSIENT OVERVOLTAGES

The **ATCONTROL/B** protectors also actuate when they detect a transient overvoltage, driving the current to earth and reducing the voltage to a level that does not damage the connected equipment. Tested and certified as **type 2** protector in official and independent laboratories according to the standard IEC 61643-11 and GUÍA-BT-23 from the REBT. Suitable for **categories I, II, III** and **IV** equipment according to ITC-BT-23 from the REBT.

It has a thermodynamic control device that disconnects from the electrical network in case of deterioration, and also a warning system for transient overvoltages. When the warning is yellow, the protector is in good condition. If not, replace.

> INSTALLATION

They must be installed **in parallel** with the low voltage supply line, downstream from the circuit breaker included in the kit, and connected to line, neutral and ground. Installation should be carried out **without power running through the line**. circuit breaker must be installed **in series** with the low voltage line, between the power control breaker (ICP) and the residual current breaker (ID). Connect the S1 and S2 terminals, always without voltage, to the shunt release included in the kit.

This protector is self-configurable. It automatically detects the voltage and programmes the permanent overvoltage limits.

> TECHNICAL DATASHEET

Reference:		KIT ATCONTROL/B PT-M (6 / 10 / 16 / 20 / 25 / 32 / 40 / 50 / 63)								
		AT-8723	**AT-8724**	**AT-8725**	**AT-8726**	**AT-8711**	**AT-8712**	**AT-8713**	**AT-8714**	**AT-8715**
Nominal current:		6 A	10 A	16 A	20 A	25 A	32 A	40 A	50 A	63 A
Nominal voltage:	U_n	120 or 230 V_{AC}								
Maximum overvoltage:	U_c	400 V_{AC}								
Actuation voltage:	U_a	150 or 275 V_{AC}								
Actuation time:		@150 V_{AC} → 3 - 5 s / @230 V_{AC} → 0.1 - 0.2 s @275 V_{AC} → 3 - 5 s / @400 V_{AC} → 0.1 - 0.2 s								
Nominal voltage for the shunt release:		110 - 415 V_{AC} / 110 - 250 V_{DC}								
Maximum short-circuit current:		6 kA								
Test type according to UNE-EN61643-11:		Type 2								
Protection categories according to the REBT:		I, II, III, IV								
Nominal discharge current (8/20 µs wave):	I_n	5 kA								
Maximum discharge current (8/20 µs wave):	I_{max}	15 kA								
Protection level (wave 1.2/50 µs):	U_p	1.1 kV								
Dimensions:		36 x 90 x 80 mm (2 modules DIN 43880)								
Dimensions MCB+ shunt release:		51 x 81 x 65 mm (3 modules DIN 43880)								
MCB cable range:		Minimum / Maximum section: 1.5 / 25 mm^2								
Coil cable range:		Minimum / Maximum section: 1.5 / 2.5 mm^2 (single-stranded) or 4 mm^2 (multi-stranded)								
Protector cable range:		Minimum / Maximum section: 2.5 / 35 mm^2								

Tests certified according to standards: BS-EN 50550, IEC 61643-11, UNE-EN 60898
Relevant standards: UNE 21186, NF C 17-102, IEC 62305

> KIT ATCONTROL/B series

> KIT ATCONTROL/B PT-M 1DIN

Complete kit including self-configurable single-phase permanent and transient overvoltage protector, shunt release and circuit breaker

> PERMANENT OVERVOLTAGES

ATCONTROL/B 1DIN series protectors trip the connected shunt release (S1, S2) when they detect a permanent overvoltage. The shunt release causes the circuit breaker to trip, protecting the equipment installed downstream.

The warning system for permanent overvoltages consists of two luminous indicators: green (correct power supply) and red (overvoltage). It has a test button to check that installation has been executed correctly.

> TRANSIENT OVERVOLTAGES

The **ATCONTROL/B 1DIN** protectors also actuate when they detect a transient overvoltage, driving the current to earth and reducing the voltage to a level that does not damage the connected equipment.

Tested and certified as **type 2 protector** in **official and independent laboratories,** according to standard IEC 61643-11 and GUÍA-BT-23 from the REBT. Suitable for **categories I, II, III and IV** equipment according to the ITC-BT-23 from the REBT.

It has a thermodynamic control device that disconnects from the electrical network in case of deterioration, and also a warning system for transient overvoltages. When the warning light is red, replace protector.

> INSTALLATION

They must be installed **in parallel** with the low voltage supply line, downstream from the circuit breaker included in the kit, and connected to line, neutral and ground. Installation should be carried out **without power running through the line**.
The circuit breaker must be installed in series with the low voltage line, between the power control breaker (ICP) and the residual current breaker (ID). Connect the S1 and S2 terminals, always without voltage, to the shunt release included in the kit.

This protector is self-configurable. It automatically detects the voltage and programmes the permanent overvoltage limits.

> TECHNICAL DATASHEET

Reference:		KIT ATCONTROL/B PT-M 1DIN (6 / 10 / 16 / 20 / 25 / 32 / 40 / 50 / 63)								
		AT-8887	**AT-8888**	**AT-8889**	**AT-8890**	**AT-8891**	**AT-8883**	**AT-8884**	**AT-8885**	**AT-8886**
Nominal current:		6 A	10 A	16 A	20 A	25 A	32 A	40 A	50 A	63 A
Nominal voltage:	U_n	120 or 230 V_{AC}								
Maximum overvoltage:	U_c	400 V_{AC}								
Actuation voltage:	U_a	150 or 275 V_{AC}								
Actuation time:		@150 V_{AC} → 3 - 5 s / @230 V_{AC} → 0.1 - 0.2 s @275 V_{AC} → 3 - 5 s / @400 V_{AC} → 0.1 - 0.2 s								
Nominal voltage for the shunt release:		110 - 415 V_{AC} / 110 - 250 V_{AC}								
Maximum short-circuit current:		6 kA								
Test type according to UNE-EN61643-11:		Type 2								
Protection categories according to the REBT:		I, II, III, IV								
Nominal discharge current (8/20 µs wave):	I_n	5 kA								
Maximum discharge current (8/20 µs wave):	I_{max}	15 kA								
Protection level (wave 1.2/50 µs):	U_p	1.1 kV								
Dimensions:		18 x 90 x 80 mm (1 module DIN 43880)								
Dimensions MCB+ shunt release:		51 x 81 x 65 mm (3 modules DIN 43880)								
MCB cable range:		Minimum / Maximum section: 1.5 / 25 mm^2								
Coil cable range:		Minimum / Maximum section: 1.5 / 2.5 mm^2 (single-stranded) or 4 mm^2 (multi-stranded)								
Protector cable range:		Maximum section: 6 mm^2								

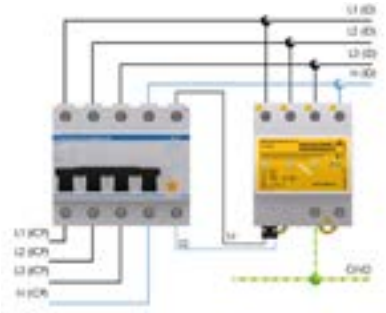
Tests certified according to standards: BS-EN 50550, IEC 61643-11, UNE-EN 60898
Relevant standards: UNE 21186, NF C 17-102, IEC 62305

> KIT ATCONTROL/B series

> KIT ATCONTROL/B PT-T

Complete kit which includes self-configurable three-phase protector against permanent and transient overvoltages, shunt release and circuit breaker

POP
EN 50550



> PERMANENT OVERVOLTAGES

ATCONTROL/B series protectors trip the connected shunt release (S1, S2) when they detect a permanent overvoltage. The shunt release causes the circuit breaker to trip, protecting the equipment installed downstream.

The warning system for permanent overvoltages consists of two luminous indicators: green (correct power supply) and red (overvoltage). It has a test button to check that installation has been executed correctly.

> TRANSIENT OVERVOLTAGES

ATCONTROL/B series protectors trip the connected shunt release (S1, S2) when they detect a transient overvoltage, driving the current to earth and reducing the voltage to a level that does not damage the connected equipment. Tested and certified as **type 2** protector **in official** and **independent laboratories,** according to standard IEC 61643-11 and GUÍA-BT-23 from the REBT. Suitable for **categories I, II, III** and **IV** equipment according to standard ITCBT-23 from the REBT.

It has a thermodynamic control device that disconnects from the electrical network in case of deterioration, and also a warning system for transient overvoltages. When the warning is yellow, the protector is in good condition. If not, replace.

> INSTALLATION

They must be installed **in parallel** with the low voltage supply line, downstream from the circuit breaker included in the kit, and connected to lines, neutral and ground. Installation should be carried out **without power running through the line**.

The circuit breaker must be installed in series with the low voltage line, between the power control breaker (ICP) and the residual current breaker (ID). Connect the S1 and S2 terminals, always without voltage, to the shunt release included in the kit.

This protector is self-configurable. It automatically detects the voltage and programmes the permanent overvoltage limits.

> TECHNICAL DATASHEET

Reference:		KIT ATCONTROL/B PT-T (6 / 10 / 16 / 20 / 25 / 32 / 40 / 50 / 63)								
		AT-8727	**AT-8728**	**AT-8729**	**AT-8730**	**AT-8716**	**AT-8717**	**AT-8718**	**AT-8719**	**AT-8720**
Nominal current:		6 A	10 A	16 A	20 A	25 A	32 A	40 A	50 A	63 A
Nominal voltage:	U_n	120 or 400 V_{AC}								
Maximum overvoltage:	U_c	400 V_{AC}								
Actuation voltage:	U_a	150 or 275 V_{AC}								
Actuation time:		@150 V_{AC} → 3 - 5 s / @230 V_{AC} → 0.1 - 0.2 s @275 V_{AC} → 3 - 5 s / @400 V_{AC} → 0.1 - 0.2 s								
Nominal voltage for the shunt release:		110 - 415 V_{AC} / 110 - 250 V_{DC}								
Maximum short-circuit current:		6 kA								
Test type according to UNE-EN61643-11:		Type 2								
Protection categories according to the REBT:		I, II, III, IV								
Nominal discharge current (8/20 µs wave):	I_n	15 kA								
Maximum discharge current (8/20 µs wave):	I_{max}	40 kA								
Protection level (wave 1.2/50 µs):	U_p	1.4 kV								
Dimensions:		72 x 90 x 80 mm (4 modules DIN 43880)								
Dimensions MCB+ shunt release:		88 x 81 x 65 mm (5 modules DIN 43880)								
MCB cable range:		Minimum / Maximum section: 1.5 / 25 mm^2								
Coil cable range:		Minimum / Maximum section: 1.5 / 2.5 mm^2 (single-stranded) or 4 mm^2 (multi-stranded)								
Protector cable range:		Minimum / Maximum section: 2.5 / 35 mm^2								

Tests certified according to standards: BS-EN 50550, IEC 61643-11, UNE-EN 60898
Relevant standards: UNE 21186, NF C 17-102, IEC 62305

> KIT ATCONTROL/B PLUS series

> KIT ATCONTROL/B PT-T PLUS

Complete kit including self-configurable three-phase permanent and transient overvoltage and undervoltage protector, shunt release and circuit breaker

> PERMANENT OVERVOLTAGES

ATCONTROL/B series protectors trip the connected shunt release (S1, S2) when they detect a permanent overvoltage. The shunt release causes the circuit breaker to trip, protecting the equipment installed downstream.

The warning system for permanent overvoltages consists of two luminous indicators: green (correct power supply) and red (overvoltage). It has a test button to check that installation has been executed correctly.

> TRANSIENT OVERVOLTAGES

ATCONTROL/B series protectors trip the connected shunt release (S1, S2) when they detect a transient overvoltage, driving the current to earth and reducing the voltage to a level that does not damage the connected equipment.

Tested and certified as **type 2** protector **in official** and **independent laboratories,** according to standard IEC 61643-11 and GUÍA-BT-23 from the REBT. Suitable for **categories I, II, III** and **IV** equipment according to standard ITCBT-23 from the REBT.

It has a thermodynamic control device that disconnects from the electrical network in case of deterioration, and also a warning system for transient overvoltages. When the warning is yellow, the protector is in good condition. If not, replace.

> INSTALLATION

They must be installed **in parallel** with the low voltage supply line, downstream from the circuit breaker included in the kit, and connected to lines, neutral and ground. Installation should be carried out **without power running through the line**.

The circuit breaker must be installed in series with the low voltage line, between the power control breaker (ICP) and the residual current breaker (ID). Connect the S1 and S2 terminals, always without voltage, to the shunt release included in the kit.

This protector is self-configurable. It automatically detects the voltage and programmes the permanent overvoltage limits.

> TECHNICAL DATASHEET

Reference:		KIT ATCONTROL/B PT-T (25 / 32 / 40 / 50 / 63) PLUS				
		AT-8776	**AT-8777**	**AT-8778**	**AT-8779**	**AT-8780**
Nominal current:		25 A	32 A	40 A	50 A	63 A
Nominal voltage:	U_n	230 V_{AC} - 400 V_{AC} (L-L)				
Maximum overvoltage:	U_c	400 V_{AC}				
Actuation voltage:	U_a	150 or 275 V_{AC} / 100 or 200 V_{AC}				
Actuation time:		@150 V_{AC} → 3 - 5 s / @230 V_{AC} → 0.1 - 0.2 s @100 V_{AC} → 3 - 5 s / @80 V_{AC} → 0.1 - 0.2 s @275 V_{AC} → 3 - 5 s / @400 V_{AC} → 0.1 - 0.2 s @200 V_{AC} → 3 - 5 s / @80 V_{AC} → 0.1 - 0.2 s				
Nominal voltage for the shunt release:		110 - 415 V_{AC} / 110 - 250 V_{DC}				
Maximum short-circuit current:		6 kA				
Test type according to UNE-EN61643-11:		Type 2				
Nominal discharge current (8/20 µs wave):	I_n	15 kA				
Maximum discharge current (8/20 µs wave):	I_{max}	40 kA				
Protection level (wave 1.2/50 µs):	U_p	1.4 kV				
Dimensions:		72 x 90 x 80 mm (4 modules DIN 43880)				
Dimensions MCB+ shunt release:		88 x 81 x 65 mm (5 modules DIN 43880)				
MCB cable range:		Minimum / Maximum section: 1.5 / 25 mm^2				
Coil cable range:		Minimum / Maximum section: 1.5 / 2.5 mm^2 (single-stranded) or 4 mm^2 (multi-stranded)				
Protector cable range:		Minimum / Maximum section: 2.5 / 35 mm^2				

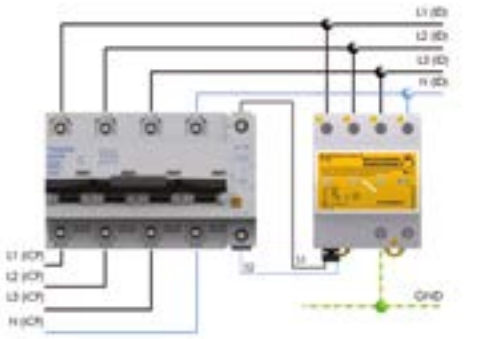
Tests certified according to standards: BS-EN 50550, IEC 61643-11, UNE-EN 60898
Relevant standards: UNE 21186, NF C 17-102, IEC 62305

> KIT ATCONTROL/B D series

> KIT ATCONTROL/B PT-T D

Complete kit including self-configurable three-phase permanent and transient overvoltage protector, shunt release and D curve circuit breaker.

POP
EN 50550



> PERMANENT OVERVOLTAGES

ATCONTROL/B PT-T series protectors trip the connected shunt release (S1, S2) when they detect a permanent overvoltage. The shunt release causes the circuit breaker to trip, protecting the equipment installed downstream.

The warning system for permanent overvoltages consists of two luminous indicators: green (correct power supply) and red (overvoltage). It has a test button to check that installation has been executed correctly.

> TRANSIENT OVERVOLTAGES

ATCONTROL/B PT-T protectors also actuate when they detect a transient overvoltage, driving the current to earth and reducing the voltage to a level that does not damage the connected equipment.

Tested and certified as a **type 2** protector in **official and independent laboratories** according to standards IEC 61643-11 and GUÍA-BT-23 from the REBT. Suitable for categories I, II, III and IV equipment according to ITC-BT-23 from the REBT.

It has a thermodynamic control device that disconnects from the electrical network in case of deterioration, and also a warning system for transient overvoltages. When the warning is yellow, the protector is in good condition. If not, replace.

> INSTALLATION

They must be installed in parallel with the low voltage supply line, downstream from the circuit breaker included in the kit, and connected to lines, neutral and ground. Installation should be carried out without power in the line.

The circuit breaker must be installed in series with the low voltage line, between the power control breaker (ICP) and the residual current breaker (ID). Connect the S1 and S2 terminals, always without voltage, to the shunt release included in the kit.

This protector is self-configurable. It automatically detects the voltage and programmes the permanent overvoltage limits.

> TECHNICAL DATASHEET

Reference:		KIT ATCONTROL/B PT-T (63 / 80 / 100 / 125) D			
		AT-8796	**AT-8797**	**AT-8798**	**AT-8799**
Nominal current:		63 A	80 A	100 A	125 A
Nominal voltage:	U_n	120 or 400 V_{AC}			
Maximum overvoltage:	U_c	400 V_{AC}			
Actuation voltage:	U_a	150 or 275 V_{AC}			
Actuation time:		@150 V_{AC} → 3 - 5 s / @230 V_{AC} → 0.1 - 0.2 s @275 V_{AC} → 3 - 5 s / @400 V_{AC} → 0.1 - 0.2 s			
Maximum short-circuit current:		10 kA			
Test type according to UNE-EN61643-11:		Type 2			
Nominal discharge current (8/20 µs wave):	I_n	15 kA			
Maximum discharge current (8/20 µs wave):	I_{max}	40 kA			
Protection level (wave 1.2/50 µs):	U_p	1.4 kV			
Dimensions:		72 x 90 x 80 mm (4 modules DIN 43880)			
Dimensions MCB+ shunt release:		124 x 81 x 65 mm (7 modules DIN 43880)			
MCB cable range:		Minimum / Maximum section: 1.5 / 35 mm^2			
Coil cable range:		Minimum / Maximum section: 1.5 / 2.5 mm^2 (single-stranded) or 4 mm^2 (multi-stranded)			
Protector cable range:		Minimum / Maximum section: 2.5 / 35 mm^2			

Tests certified according to standards: BS-EN 50550, IEC 61643-11, UNE-EN 60898
Relevant standards: UNE 21186, NF C 17-102, IEC 62305

> ATPLUG CONTROL series

> ATPLUG CONTROL

Plug-in single-phase self-reclosing permanent and transient overvoltage and undervoltage protector.

POP
EN 50550

> PERMANENT OVERVOLTAGES

ATPLUG CONTROL series protectors actuate when they detect a permanent overvoltage or low voltage, disconnecting the power to the outlet. This SPD is plugged directly in the same socket as the load to be protected. When the permanent overvoltage or low voltage come to a halt, the protector reconnects the power supply to the load.

The warning system for permanent overvoltages consists of two luminous indicators: green (correct power supply) and red (overvoltage). It has a test button to check that installation has been executed correctly.

> TRANSIENT OVERVOLTAGES

ATPLUG ATCONTROL protectors also actuate when they detect a transient overvoltage, driving the current to earth and reducing the voltage to a level that does not damage the connected equipment.

Tested and certified as a **type 3** protector in **official and independent laboratories** according to standards IEC 61643-11 and GUÍA-BT-23 from the REBT. Suitable for **categories I, II, III and IV equipment** according to the REBT.

It has a thermodynamic control device that disconnects from the electrical network in case of deterioration, and also a warning system for transient overvoltages. When the green pilot light is lit up, the protector is in good working condition. If not, replace.

> INSTALLATION

To be installed with the loads plugged to the charges that want to be protected.

Its use is recommended in systems where overvoltage sensitive equipments are installed (computers, printers, servers, etc.) and always coordinated with protector type 1 or 2.

> TECHNICAL DATASHEET

Reference:		ATPLUG CONTROL **AT-9608**
Nominal voltage:	U_n	230 V_{AC}
Maximum overvoltage:	U_c	400 V_{AC}
Actuation time:		@275 V_{AC} → 3 - 5 s / @400 V_{AC} → 0.1 - 0.2 s @200 V_{AC} → 3 - 5 s / @80 V_{AC} → 0.1 - 0.2 s
Test type according to UNE-EN61643-11:		Type 3
Nominal discharge current (8/20 µs wave):	I_n	3 kA
Combined wave tension:	$U_{o.c.}$	6 kV
Protection level (wave 1.2/50 µs):	U_p	800 V
Dimensions:		105 x 90 x 59 mm

Tests certified according to standards: BS-EN 50550, IEC 61643-11, UNE-EN 60898
Relevant standards: UNE 21186, NF C 17-102, IEC 62305

> ATPLUG CONTROL series

> ATPLUG CONTROL 120 V

Plug-in single-phase self-reclosing permanent and transient overvoltage and undervoltage protector.

POP
EN 50550

> PERMANENT OVERVOLTAGES

ATPLUG CONTROL series protectors actuate when they detect a permanent overvoltage or low voltage, disconnecting the power to the outlet. This SPD is plugged directly in the same socket as the load to be protected. When the permanent overvoltage or low voltage come to a halt, the protector reconnects the power supply to the load.

The warning system for permanent overvoltages consists of two luminous indicators: green (correct power supply) and red (overvoltage). It has a test button to check that installation has been executed correctly.

> TRANSIENT OVERVOLTAGES

ATPLUG ATCONTROL protectors also actuate when they detect a transient overvoltage, driving the current to earth and reducing the voltage to a level that does not damage the connected equipment.

Tested and certified as **type 3 protector** in **official and independent laboratories,** according to the standard IEC 61643-11 and GUÍA-BT-23 from the REBT. Suitable for **categories I, II, III and IV equipment** according to the REBT.

It has a thermodynamic control device that disconnects from the electrical network in case of deterioration, and also a warning system for transient overvoltages. When the green pilot light is lit up, the protector is in good working condition. If not, replace.

> INSTALLATION

To be installed with the loads plugged to the charges that want to be protected.

Its use is recommended in systems where overvoltage sensitive equipments are installed (computers, printers, servers, etc.) and always coordinated with protector type 1 or 2.

> TECHNICAL DATASHEET

Reference:		ATPLUG CONTROL 120 V **AT-9609**
Nominal voltage:	U_n	120 V_{AC}
Maximum overvoltage:	U_c	230 V_{AC}
Actuation time:		@150 V_{AC} → 3 - 5 s / @230 V_{AC} → 0.1 - 0.2 s @100 V_{AC} → 3 - 5 s / @80 V_{AC} → 0.1 - 0.2 s
Test type according to UNE-EN61643-11:		Type 3
Nominal discharge current (8/20 µs wave):	I_n	3 kA
Combined wave tension:	$U_{o.c.}$	6 kV
Protection level (wave 1.2/50 µs):	U_p	800 V
Dimensions:		105 x 90 x 59 mm

Tests certified according to standards: BS-EN 50550, IEC 61643-11, UNE-EN 60898
Relevant standards: UNE 21186, NF C 17-102, IEC 62305

> ATCONTROL/D series

> ATCONTROL/D M

Self-configurable single-phase permanent and transient overvoltage protector actuating on a 30 mA residual current breaker

> PERMANENT OVERVOLTAGES

ATCONTROL/D protectors actuate when they detect a permanent overvoltage, generating a pulse to earth that trips the associated residual current device, thereby protecting the equipment installed downstream.

The warning system for permanent overvoltages consists of two luminous indicators: green (correct power supply) and red (overvoltage). It has a test button to check that installation has been executed correctly.

Tested and certified as a **type 2** protector in **official and independent laboratories** according to standards IEC 61643-11 and GUÍA-BT-23 from the REBT. Suitable for categories I, II, III and IV equipment according to ITC-BT-23 from the REBT.

It has a thermodynamic control device that disconnects from the electrical network in case of deterioration, and also a warning system for transient overvoltages. When the warning is yellow, the protector is in good condition. If not, replace.

> TRANSIENT OVERVOLTAGES

The **ATCONTROL/D PT-M** protector also actuates when it detects a transient overvoltage driving the current to earth and reducing the voltage to a level that does not damage the connected equipment.

> INSTALLATION

They must be installed in parallel with the low voltage supply line, downstream from the associated residual current breaker, and connected to line, neutral and ground. Installation should be carried out without power in the line.

This protector is self-configurable. It automatically detects the voltage and programmes the permanent overvoltage limits.

> TECHNICAL DATASHEET

Reference:		ATCONTROL/D P-M **AT-8707**	ATCONTROL/D PT-M **AT-8708**
Nominal voltage:	U_n	120 or 230 V_{AC}	
Maximum overvoltage:	U_c	400 V_{AC}	
Actuation voltage:	U_a	150 or 275 V_{AC}	
Actuation time:		@150 V_{AC} → 3 - 5 s / @230 V_{AC} → 0.1 - 0.2 s @275 V_{AC} → 3 - 5 s / @400 V_{AC} → 0.1 - 0.2 s	
Differential sensitivity:		30 mA	
Type of tests according to IEC 61643-11:		-	Type 2
Nominal discharge current (8/20 µs wave):	I_n	-	5 kA
Maximum discharge current (8/20 µs wave):	I_{max}	-	15 kA
Protection level (wave 1.2/50 µs):	U_p	-	1.1 kV
Backup fuse(1):		-	80 A gL/gG
Dimensions:		36 x 90 x 80 mm (2 modules DIN 43880)	
Cable range:		Minimum / Maximum section: 2.5 / 35 mm^2	

Tests certified according to standards: IEC 61643-11
Relevant standards: UNE 21186, NF C 17-102, IEC 62305

(1) Required when there is no equal or less nominal current protection installed upstream from the protector.

> ATCONTROL/D series

> ATCONTROL/D T

Self-configurable three-phase permanent and transient overvoltage protector, actuating on a 30 mA residual current breaker

> PERMANENT OVERVOLTAGES

ATCONTROL/D series protectors actuate whenever they detect a permanent overvoltage, generating a pulse to earth that trips the associated residual current device, thereby protecting the equipment installed downstream.

The warning system for permanent overvoltages consists of two luminous indicators: green (correct power supply) and red (overvoltage). It has a test button to check that installation has been executed correctly.

They have a thermodynamic device that disconnects from the electrical network in case of deterioration, as well as a warning system for transient overvoltages. When the warning is yellow, the protector is in good condition. If not, replace.

> TRANSIENT OVERVOLTAGES

ATCONTROL/D PT-T protectors also actuate when they detect a transient overvoltage driving the current to earth and reducing the voltage to a level that does not damage the connected equipment.

Tested and certified as **type 2 protectors** in **official** and **independent laboratories** according to regulations IEC 61643-11 and GUÍA-BT-23 from the REBT. Suitable for **categories I, II, III** and **IV** equipment according to ITC-BT-23 from the REBT.

> INSTALLATION

They must be installed in parallel with the low voltage supply line, downstream from the residual current device, and connected to lines, neutral and ground. Installation should be carried out without power running through the line.

These protectors are self-configurable. They automatically detect the voltage and programme the permanent overvoltage limits they are to use.

> TECHNICAL DATASHEET

Reference:		ATCONTROL/D P-T **AT-8705**	ATCONTROL/D PT-T **AT-8706**
Nominal voltage:	U_n	120 or 230 V_{AC}	
Maximum overvoltage:	U_c	400 V_{AC}	
Actuation voltage:	U_a	150 or 275 V_{AC}	
Actuation time:		@150 V_{AC} → 3 - 5 s / @230 V_{AC} → 0.1 - 0.2 s @275 V_{AC} → 3 - 5 s / @400 V_{AC} → 0.1 - 0.2 s	
Differential sensitivity:		30 mA	
Type of tests according to IEC 61643-11:		-	Type 2
Nominal discharge current (8/20 µs wave):	I_n	-	15 kA
Maximum discharge current (8/20 µs wave):	I_{max}	-	40 kA
Protection level (wave 1.2/50 µs):	U_p	-	1.4 kV
Backup fuse(1):		-	80 A gL/gG
Dimensions:		72 x 90 x 80 mm (4 modules DIN 43880)	
Cable range:		Minimum / Maximum section: 2.5 / 35 mm^2	
Tests certified according to standards: IEC 61643-11 Relevant standards: UNE 21186, NF C 17-102, IEC 62305			

(1) Required when there is no equal or less nominal current protection installed upstream from the protector.