

MULTI-STAGE Surge Protection

CLASS I+II+III

Innovated Multi-Stage Surge Protection
Single Phase Series Protector
Installation - Plug In

Cascade bi-directional EMI-RFI filtering
of phase (L) and neutral (N) wire

IEC61643-1 Class I+II+III; IEC60939-2

Mobile Base Station

Telecommunication

Broadcast

Computers

Sensitive Electronic

Medical Equipment

Military

Industrial

Residential

 **Surge**
Protection



Plug In Installation

Eight (8) Stages Surge Protector

NEW INNOVATION APPROACH TO SURGE PROTECTION



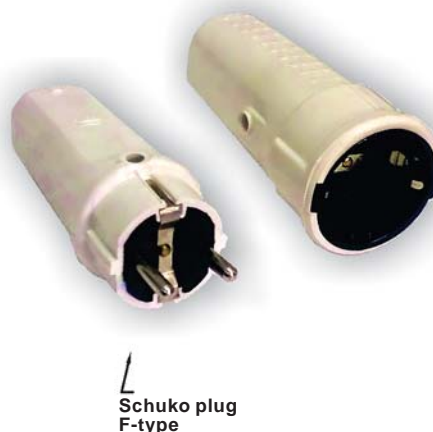
. . . We Care for Safety of Your Electronic Devices



ACDC SURGE PROTECTOR

EIGHT (8) STAGES SERIES PROTECTOR 1/1

PLUG IN INSTALLATION - SCHUKO PLUG



ACDC Surge Protector Type - PS Series

is specifically designed to protect, upgrade and improve functioning of sophisticate equipment as computers, telecommunications, medical, home appliances...

High current capability, up to 25A, makes these protectors ideal equally for low power electrical devices and for industrial high load application.

EASIER SIMPLER BETTER

Installation of ACDC Surge Protectors which have multi-stage design of Class I+II+III in one unit provides maximum protection of electrical devices. Our protector is best choice in cases where the in the front of power grid does not exist any surge protector. According standards IEC 62305-4 & ANSI/IEEE C62.41.1-2 the surge protection of electrical devices requires several surge protectors installed in different boundary protection zones. ACDC Surge protector is all in one and has implemented all protections stages in one unit. Installation is simple and easy applicable for wide branch of professions.

ACDC Surge Protector Type - PS (11; 137; 146)-M Orange Series is compact stand alone multi-stage surge protector consists of 8 (eight) & 25A protection stages that provides effective and reliable protection against surges and transients. The protection device have high grade cascade bi-directional EMI/RFI filtering of phase (L) and neutral (N) wire and special diagnostic for condition of ground.

Application: The scope of applications of ACDC Surge Protectors is quite wide and refers to the protection of electrical devices against impulse surge and high-frequency (electromagnetic) disturbance, oscillation, speaks in network power supply and atmospheric discharge. ACDC protectors have high-grade cascade bidirectional filtering. They are tracking AC waveform eliminating so-called pollution in power AC supply.

These protectors have special design to protect and improve functioning of sophisticate equipment in Telecommunications, Computers, Medical equipment, Military, Home electrical appliances and other.

Technical Specifications: The surge Protector of type ACDC Surge Protector - Orange Series is 8 (eight) stages Single Phase Protector in metal enclosures with applications for load currents of up to 25A.

Investment: Installation of ACDC Surge Protector type - PS is excellent choice for investment in the quality of your power network supply, extended equipment life and reduce their down time and errors.

Reliability: If the stages 2,4 and 6 are out of function, the stages 1,3 and 7 are still provide a high grade cascade bi-directional filtering along with ultimate (5-th) protection stage.

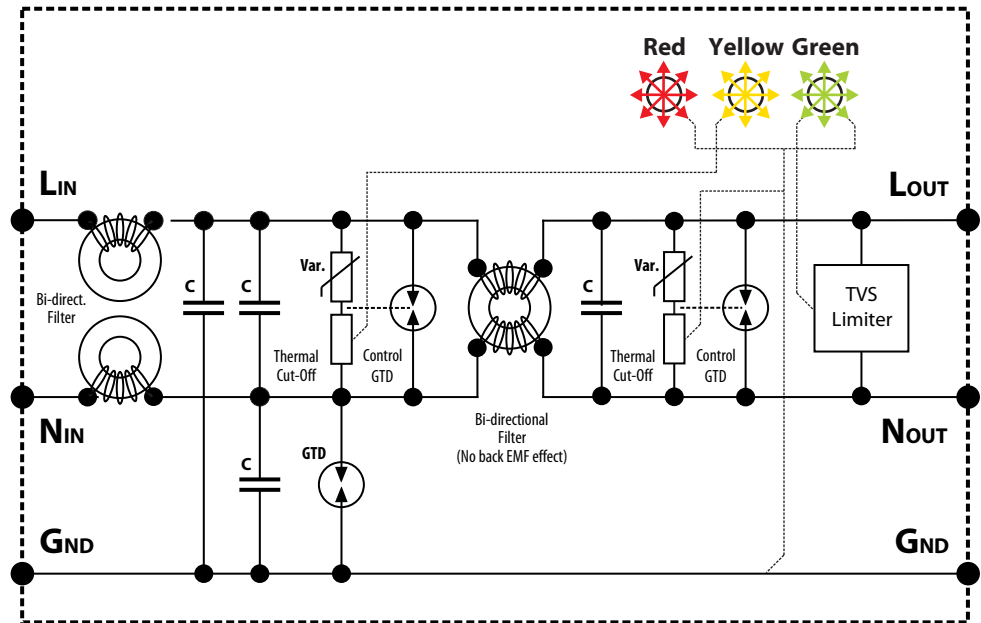


EIGHT PROTECTION STAGES:

Cascade bi-directional EMI-RFI filtering of phase (L) and neutral (N) wire

Basic Circuit Diagram - Orange Series:

ACDC Surge Protector Type-PS-M Orange Series



Philosophy: The ACDC Surge Protectors have coordinated approach to lightning protection, surge and transient protection as well as grounding, an approach that embraces all aspects of potential damage. No single technology can effectively protect electronic devices from the damaging effects of lightning and induced transients, which can severely damage or destroy electronic systems.

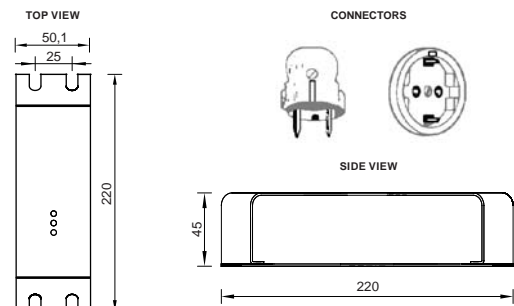
In order to provide the optimum level of protection, ACDC has developed integrate 8 (eight) stages Surge protector that provides effective and reliable protection against surges and transients.

Approach: ACDC Surge Protectors provides a systematic approach on two fronts: Surge protection and Bi-directional filtration. While there are companies and products that attempt one of these, ACDC Surge Protectors is the only product that seamlessly merges the two technologies. The unique multistage design provides the most advanced power filter protector.

Technology: ACDC Surge Protectors Type-PS Orange Series is multi-stage surge protector of class I+II+III in one unit according to IEC 61643. They also full fill standard requirements for electromagnetic (radio) interference IEC60939-2.

Design: The compact stand alone small dimension unit allow easy placement where surge protection and filtration are most needed. The surge protector has metal enclosures.

Installation: The surge Protector of type ACDC Surge Protector - Orange Series is compact stand alone unit and it is install quickly and easily on principle PLUG and PLAY. The option for connectors is Shouko plug, terminal block or other option according to customer requirements.



Innovation Approach to Surge Protection

ACDC Multi-Stage Surge Protectors have built-in five (5) patents and use four (4) complementary different protection technologies, (Varistor, Gas Tube, Nanocrystalline Cores and TVS technology) in one unit. That results in reducing the surge current up to 99.9% at single point.


This characteristic can not offer competitive surge products and present a fundamental improvement in Surge Protection technology. Implementation of ACDC Surge Protectors are simple and applicable for professions such as planners, construction engineers, designers, electricians and others.

Technical Specification ACDC Surge Protectors - Orange Series













Type	Type - PS 11-M	Type - PS 137-M	Type - PS 146-M
Order Code	500.215	500.216	500.217
Total Surge Current	Surge Cur. 105kA (8/20µs) or 15kA (10/350µs)	Surge Cur. 125kA (8/20µs) or 18kA (10/350µs)	Surge Cur. 150kA (8/20µs) or 22kA (10/350µs)
Product Standard	IEC61643-1 Class I+II+III (B+C+D); IEC60939-2		
1. Stage	First Protection Stage		
Function	Bi-directional filtering EMI/RFI (L-N); Front signal edge reduction;		
Technical Specification	L=0.7mH; I _{max} =up to 25A		
Technology	Nano Crystalline Core (L-C configuration)		
2. Stage	Second Protection Stage		
Function	Suppression signal shape (L-N), 8/20µs or 10/350µs		
Technical Specification	Surge Cur. 80kA (8/20µs) or 12,5kA (10/350µs)	Surge Cur. 100kA (8/20µs) or 15kA (10/350µs)	Surge Cur. 125kA (8/20µs) or 20kA (10/350µs)
Technology	Varistor with thermal cut-off, Control Gas Tube Discharge		
3. Stage	Third Protection Stage		
Function	Bi-directional EMI/RFI filter		
Technical Specification	L=4.2mH; I _{max} =up to 25A		
Technology	Nano Crystalline Core (L-C configuration)		
4. Stage	Fourth Protection Stage		
Function	Suppression signal shape (L-N), 8/20µs		
Technical Specification	Surge Cur. 25kA (8/20µs)		
Technology	Varistor with thermal cut-off		
5. Stage	Fifth Protection Stage		
Function	Long term signal suppression from 1µs to 2 sec.		
Technical Specification	This stage is the last ultimate protection level. He switch-off the circuits breaker install upstream, if the pick voltage > 300VDC for 120 VAC or 520VDC for 230 VDC appears on the output. Circuits breaker should be < 200A gI/gG.		
Technology	Controlled Gas Tube Discharge		
6. Stage	Sixth Protection Stage		
Function	High speed efficiency signal suppression		
Technical Specification	TVS Limiter 500A (8/20µs); Typical response < 1nsec (nanosecond)		
Technology	Transient Voltage Suppressor		
7. Stage	Seventh Protection Stage		
Function	Bi-directional filtering EMI/RFI (N-L); Front signal edge reduction;		
Technical Specification	L=0,7mH; I _{max} =up to 25A		
Technology	Nano Crystalline Core (L-C configuration)		
8. Stage	Eight Protection Stage		
Function	Suppression signal shape (L,N-Gnd), 8/20µs or 10/350µs		
Technical Specification	Surge Cur. 80kA (8/20µs) or 12,5kA (10/350µs)	Surge Cur. 100kA (8/20µs) or 15kA (10/350µs)	Surge Cur. 125kA (8/20µs) or 20kA (10/350µs)
Technology	Varistor with thermal cut-off, Control Gas Tube Discharge		



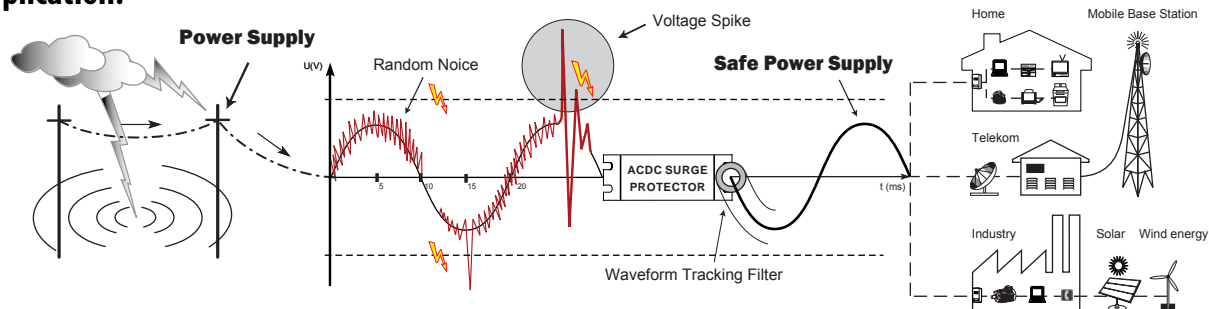
Single phase Models - ACDC Surge Protectors Orange Series

Technology:	Multi-Stage Surge Protection; Eight (8) Stages Series Protector				
Specification:	Cascade bi-directional EMI-RFI filtering of phase (L) and neutral (N) wire				
Load:	Up to 25A single phase; up to 3kW load for 120VAC; up to 5kW load for 230VAC				
Options:	Indication for bed grounding				
Installation:	Plug-in installation, schuko plug, terminal block or according requirements				
Product Standard:	IEC61643-1 Class I+II+III; IEC60939-2				
	Type	Order Code	Total Surge Cur.	Dimension (WxDxHmm)	Weight (kg)
	Type - PS 11-M	500.215	105kA(8/20μs) or 15kA(10/350μs)	220x50x45	1,6
	Type - PS 137-M	500.216	125kA (8/20μs) or 18kA (10/350μs)	220x50x45	1,6
	Type - PS 146-M	500.217	150kA (8/20μs) or 22kA (10/350μs)	220x50x45	1,6

Operation Diagnostic System

Normal:	Red	Yellow	Green	
Continuous yellow and green				Led Indication for correct stage no. 2,4 and 6. The stages no. 1,3 and 7 (high garde bi-directional filtering) are always in function along with ultimate (5-th) protection stage.
Fault:				
Continuous green				Led Indication for correct stage no. 4,6 and un correct no 2. The stages no. 1,3 and 7 (bi-directional filtering) are always in function along with ultimate (5-th) protection stage.
Fault:				
Blinking red				Led Indication for fault installation or bed grounding (Low impedance equipo- tential ground is not provided)
Fault:				
Continuous red				Only stages 1,3 and 7 are still in function along with ultimate (5-th) protection stage.

Application:



Certificate of Quality ISO 9001:2008
Varistors Standard IEC 61643-1; UL 1449
Elect. Magn. Interfer. IEC 60939-2
Protec. Standard acc. IEC 61643-1 Class I+II+III

Applications:

Computers
Servers
Telecommunication
Medical equipment
Sensitive electronic
Solars
Industrial grade

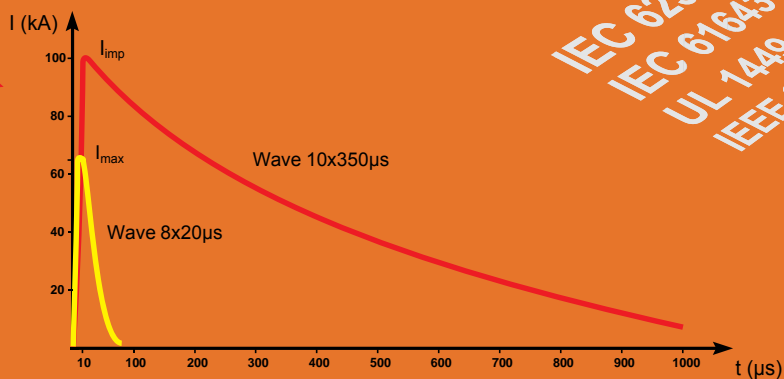
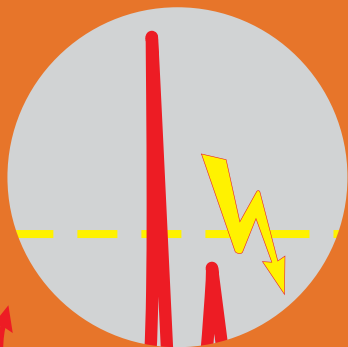
Features:

Integrate Multi - Stage Protection System
Eight Protection Stages
Bi-directional Wave Filtering
Expel Ground Contamination
Thermal Circuit Protection
High Reliability
Excellent Response Time < 1ns

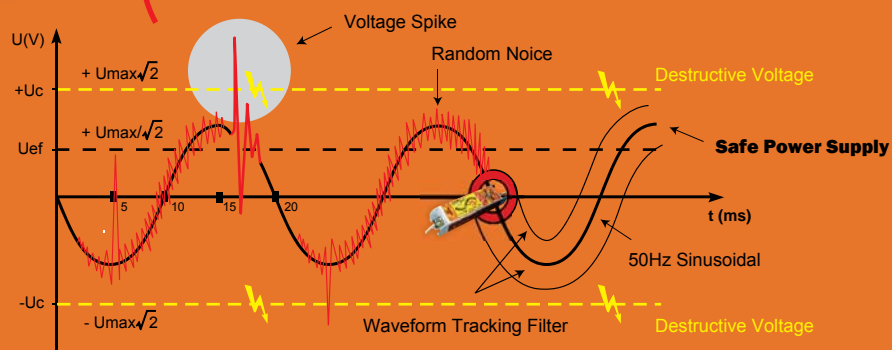


... ACDC DCAC for Your Safety

Surge



IEC 62305-4
IEC 61643-1
UL 1449 3th
IEEE C62.41.1



ACDC Surge Protector

		Green Series	Blue Series	Red Series	Orange Series	Pink Series	Yellow Series
Application	Single Phase	✓	✓	✓	✓	✓	
	Three Phase	✓	✓	✓			
	Signal Line						✓
Installation	Rail Din	✓	✓	✓			
	Plug In				✓	✓	✓
Connection	Series Connection	✓	✓	✓	✓	✓	✓
	Parallel Connection (Optional)	✓	✓	✓			
Grounding	Signal. for Ground Condition	✓	✓	✓	✓		
	Option for ground Filtering		✓	✓			
	No Ground Contamination	✓	✓	✓	✓	✓	✓
Degree of Protection	Eight (8) Stages Surge Protector	✓	✓	✓*	✓		
	Three (3) Stages Surge Protector					✓	✓
Signalization	Three Stages Signalization	✓	✓	✓	✓		
	AC Signalization					✓	
	Signal Line Signalization						✓
Options	Modularity	✓	✓	✓			
	Free Contact Alarm	✓	✓	✓			
	Degree of Enclosures IP54, IP65	✓	✓	✓			
Standards	IEC61643-1 Class I+II+III; IEC60939-2	✓	✓	✓	✓	✓*	
	IEC61643-21						✓

Products Manufacture by
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Multi-Stage Surge Protection

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