Maximise your system availability

VARITECTOR PU for future-proof surge protection

Lightning and surge protection

Weidmüller

300,000 lightning and surge events caused damage of EUR 250 million in 2017

The VARITECTOR PU series protects your systems

Source: www.gdv.de

End-to-end protection for your equipment

Secure your systems and building infrastructure

Power systems in buildings and electrical installations need to be efficiently protected against surge voltages. This requires a specific protection concept. Only complete protection from power feed-in via distribution through to end user guarantees safety against dangerous surge voltages of any kind.

The VARITECTOR PU AC series with its high-performance products provides advanced protection against surge voltages.

The mobile and intuitive V-TEST II device enables a mandatory functional test of the various surge arresters in accordance with the standard.

High-performance protection for power feed-in

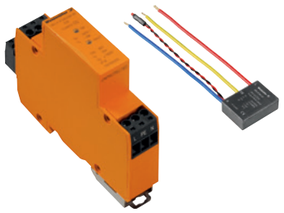
VPU type I

Optimum protection for power distribution

VPU type II

Continuous protection through to end device

VPU type III



Reliable power protection testing

V-TEST II

Sustainable protection of power systems and installations

VARITECTOR PU AC offers more performance

Protection against lightning and surge voltages is an important requirement in the new construction of increasingly sensitive installations and power systems. For the planner and installer, risk minimisation and future-proof technical features to increase efficiency are paramount when selecting the right surge protection. The VARITECTOR PU AC series offers sophisticated advantages that make operation safer and easier:

- **Fuseless operation up to 315 A**
- **Warning display with remote signalling contact**
- **Suitable for use worldwide – certified components**

The VARITECTOR PU AC series is compliant with standards without limitations, fully compatible, space-saving and innovatively designed for easy assembly and installation.

Usable around the globe
Certifications according to international IEC/EN standards, as well as the latest UL 1449 Ed. 4 standard, guarantees appropriate use for every application.

VARITECTOR PU ZP Advanced

Compact surge protection for mounting on 40 mm busbars
In some countries surge protection is mandatory for commercial and private properties. The easiest way to solve this challenge is with a version for the busbar. This is space saving and the installation is much easier and safer.

High performance
The specially developed disconnection mechanism enables safe operation with high fuse ratings up to 315 A for type I and II products. UL classification 1CA/2CA allows use in the most demanding application classes.

Full status control
All VPU AC series products have an optical status indicator. Versions which have a pre-warning display enable uninterrupted protection because the remote signalling contact firstly sends the pre-warning signal to external monitoring systems.

Extended N/PE protection
N/PE surge arresters in the product variants VPU AC 3+1 and VPU AC 1+1 indicate the status of the protective element optically and transmit it via the remote signalling output.

Your needs on lightning and surge protection are versitile

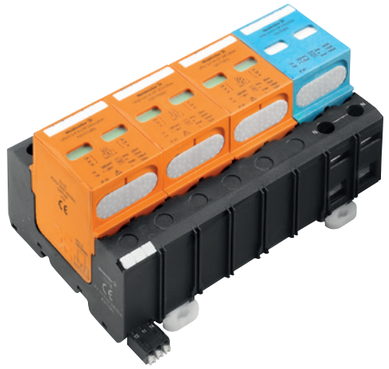
Our product portfolio meets your demands

Type I lightning and surge protection

Our VPU type I products offer surge protection using varistor-gas discharge technology. Designed for a lightning surge current of 12.5 kA and 25 kA (10/350 µs) the products are suitable for use before and after the electrical meter.

Upstream of the electrical meter

The VPU I LCF (leakage current free) products convince in particular due to missing leakage current and are therefore suitable for installation infront of the electrical meter. The products protect low-voltage loads and electronic devices against direct lightning and coupling. VARITECTOR PU ZP I products can be easily and quickly snapped onto a 40 mm busbar system.



Downstream of the electrical meter

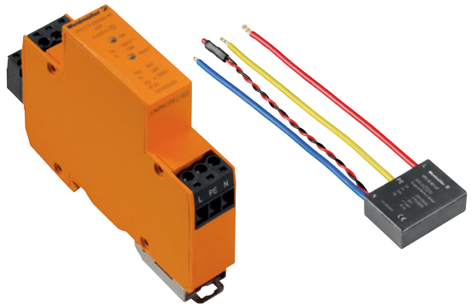
Compliance with international IEC/EN standards, as well as the latest UL 1449 Ed. 4 standard, guarantee appropriate application. The pluggable self-monitoring devices, which are approved for all types of network, are available in one- to four-pole variants with or without remote signalling contact. In addition, all products are approved as type I and type II.

Type II surge protection

VPU type II surge protection products enable you to protect low-voltage consumer installations and your electronic devices against surges that can occur as a result of atmospheric discharges (thunderstorms) or switching operations (transients). With a discharge current capacity of 50 kA all products are available as 75 V, 150 V, 300 V, 350 V, 480 V, 750 V (35 kA) and 1,000 V (40 kA) versions, with or without remote signalling contact.
The entire portfolio of VPU type II products complies with the current IEC/EN 61643-11.

Type III surge protection for terminal devices

The surge protection for end devices provided by VPU III products enables you to protect consumer installations and your electronic devices against surge voltages. The products cover all common nominal voltages (12 V, 24 V, 48 V, 120 V and 230 V) and are additionally equipped with a remote signalling contact. The entire portfolio of VPU Type III and VPU III SO LD products complies with the current IEC/EN 61643-11.



Surge protection for photovoltaic applications (DC)

Surge protection type I and II for photovoltaic applications provides a complete product portfolio of surge protection devices to secure the DC voltage side. Type I devices are available in 1,000 and 1,500 V DC versions, while type II devices are available in 600, 1,000, 1,200 or 1,500 V DC versions. All products are available optionally with or without a remote signalling contact. The entire product portfolio of lightning and surge protection devices for photovoltaic systems complies with the current photovoltaic standard EN 50539-11.

Suitable surge protection simply selected

Our complete range of the VARITECTOR PU series

VPU type I - TS 35

Type	Max. continuous voltage / Lightning surge current (I_{imp})	Network configuration	Order No.
35 kA – leakage current free			
VPU I 1 LCF 280V/35KA	280 V AC / 35 kA	Single-phase	**1351350000**
VPU I 1 LCF 400V/35KA	400 V AC / 35 kA	Single-phase	**1351400000**
280 V / 25 kA			
VPU I 1+1 280V/25KA	280 V AC / 25 kA	Single-phase + N	**2063060000**
VPU I 3 280V/25KA	280 V AC / 25 kA	TN-C	**2062940000**
VPU I 3+1 280V/25KA	280 V AC / 25 kA	TN-S, TT, IT	**2063080000**
VPU I 4 280V/25KA	280 V AC / 25 kA	TN-S	**2062960000**
280 V / 12,5 kA – leakage current free			
VPU I 1 LCF 280V/12,5KA	280 V AC / 12,5 kA	Single-phase	**1352070000**
VPU I 1+1 LCF280V/12,5KA	280 V AC / 12,5 kA	Single-phase + N	**1352040000**
VPU I 3 LCF 280V/12,5KA	280 V AC / 12,5 kA	TN-C	**1352090000**
VPU I 3+1 LCF280V/12,5KA	280 V AC / 12,5 kA	TN-S, TT, IT	**1352020000**
280 V / 12,5 kA			
VPU I 1 280V/12,5KA	280 V AC / 12,5 kA	Single-phase	**1352130000**
VPU I 1+1 280V/12,5KA	280 V AC / 12,5 kA	Single-phase + N	**1352250000**
VPU I 2 280V/12,5KA	280 V AC / 12,5 kA	Two-phase	**1352150000**
VPU I 3 280V/12,5KA	280 V AC / 12,5 kA	TN-C	**1352200000**
VPU I 3+1 280V/12,5KA	280 V AC / 12,5 kA	TN-S, TT, IT	**1352230000**
VPU I 4 280V/12,5KA	280 V AC / 12,5 kA	TN-S	**1352180000**
300 V / 12,5 kA – leakage current free			
VPU AC I 1 300/12.5 LCF	300 V AC /12.5 kA	Single-phase	**2636950000**
VPU AC I 1 R 300/12.5 LCF	300 V AC /12.5 kA	Single-phase	**2636960000**
VPU AC I 1+1 300/12.5 LCF	300 V AC /12.5 kA	Single-phase +N	**2636930000**
VPU AC I 1+1 R 300/12.5 LCF	300 V AC /12.5 kA	Single-phase +N	**2636940000**
VPU AC I 3 300/12.5 LCF	300 V AC /12.5 kA	TN-C	**2636970000**
VPU AC I 3 R 300/12.5 LCF	300 V AC /12.5 kA	TN-C	**2636980000**
VPU AC I 3+1 300/12.5 LCF	300 V AC /12.5 kA	TN-S, TT, IT	**2636910000**
VPU AC I 3+1 R 300/12.5 LCF	300 V AC /12.5 kA	TN-S, TT, IT	**2636920000**
300 V / 12,5 kA			
VPU AC I 1 300/12.5	300 V AC /12.5 kA	Single-phase	**2591380000**
VPU AC I 1 R 300/12.5	300 V AC /12.5 kA	Single-phase	**2591390000**
VPU AC I 1+1 300/12.5	300 V AC /12.5 kA	Single-phase +N	**2591480000**
VPU AC I 1+1 R 300/12.5	300 V AC /12.5 kA	Single-phase +N	**2591490000**
VPU AC I 2 300/12.5	300 V AC /12.5 kA	Two-phase	**2591400000**
VPU AC I 2 R 300/12.5	300 V AC /12.5 kA	Two-phase	**2591410000**
VPU AC I 3 300/12.5	300 V AC /12.5 kA	TN-C	**2591440000**
VPU AC I 3 R 300/12.5	300 V AC /12.5 kA	TN-C	**2591450000**
VPU AC I 3+1 300/12.5	300 V AC /12.5 kA	TN-S, TT, IT	**2591460000**
VPU AC I 3+1 R 300/12.5	300 V AC /12.5 kA	TN-S, TT, IT	**2591470000**
VPU AC I 4 300/12.5	300 V AC /12.5 kA	TN-S	**2591420000**
VPU AC I 4 R 300/12.5	300 V AC /12.5 kA	TN-S	**2591430000**
440 V / 25 kA – leakage current free			
VPU AC I 1 440/25 LCF	440 V AC / 25 kA	Single-phase	**2619100000**
VPU AC I 1 R 440/25 LCF	440 V AC / 25 kA	Single-phase	**2619120000**
VPU AC I 1+1 440/25 LCF	440 V AC / 25 kA	Single-phase +N	**2619210000**
VPU AC I 1+1 R 440/25 LCF	440 V AC / 25 kA	Single-phase +N	**2619220000**
VPU AC I 2 440/25 LCF	440 V AC / 25 kA	Two-phase	**2619130000**
VPU AC I 2 R 440/25 LCF	440 V AC / 25 kA	Two-phase	**2619140000**
VPU AC I 3 440/25 LCF	440 V AC / 25 kA	TN-C	**2619160000**
VPU AC I 3 R 440/25 LCF	440 V AC / 25 kA	TN-C	**2619170000**
VPU AC I 3+1 440/25 LCF	440 V AC / 25 kA	TN-S, TT, IT	**2619240000**
VPU AC I 3+1 R 440/25 LCF	440 V AC / 25 kA	TN-S, TT, IT	**2619260000**
VPU AC I 4 440/25 LCF	440 V AC / 25 kA	TN-S	**2619190000**
VPU AC I 4 R 440/25 LCF	440 V AC / 25 kA	TN-S	**2619200000**

Type	Max. continuous voltage / Lightning surge current (I_{imp})	Network configuration	Order No.
480 V / 10 kA			
VPU AC I 1 480/10	480 V AC /10 kA	Single-phase	**2591510000**
VPU AC I 1 R 480/10	480 V AC /10 kA	Single-phase	**2591520000**
VPU AC I 3 480/10	480 V AC /10 kA	TN-C	**2591530000**
VPU AC I 3 R 480/10	480 V AC /10 kA	TN-C	**2591540000**
VPU AC I 4 480/10	480 V AC /10 kA	TN-S	**2591550000**
VPU AC I 4 R 480/10	480 V AC /10 kA	TN-S	**2591560000**

VPU type I - 40 mm busbar

Type	Max. continuous voltage / Lightning surge current (I_{imp})	Network configuration	Order No.
VPU ZPA I 3 R 300/12,5	300 V AC /12,5 kA	TN-C	**2674310000**
VPU ZPA I 3 300/12,5	300 V AC /12,5 kA	TN-C	**2674350000**
VPU ZPA I 3 A 300/12,5	300 V AC /12,5 kA	TN-C	**2674360000**
VPU ZPA I 3 RA 300/12,5	300 V AC /12,5 kA	TN-C	**2674370000**
VPU ZPA I 3+1 300/12,5	300 V AC /12,5 kA	TN-S, TT, IT	**2674380000**
VPU ZPA I 3+1 R 300/12,5	300 V AC /12,5 kA	TN-S, TT, IT	**2674390000**
VPU ZPA I 3+1 A 300/12,5	300 V AC /12,5 kA	TN-S, TT, IT	**2674400000**
VPU ZPA I 3+1 RA 300/12,5	300 V AC /12,5 kA	TN-S, TT, IT	**2674410000**
VPU ZPA I 3 300/7,5	300 V AC / 7,5 kA	TN-C	**2674420000**
VPU ZPA I 3 R 300/7,5	300 V AC / 7,5 kA	TN-C	**2674430000**
VPU ZPA I 3 A 300/7,5	300 V AC / 7,5 kA	TN-C	**2674440000**
VPU ZPA I 3 RA 300/7,5	300 V AC / 7,5 kA	TN-C	**2674450000**
VPU ZPA I 3+1 300/7,5	300 V AC / 7,5 kA	TN-S, TT, IT	**2674460000**
VPU ZPA I 3+1 R 300/7,5	300 V AC / 7,5 kA	TN-S, TT, IT	**2674470000**
VPU ZPA I 3+1 A 300/7,5	300 V AC / 7,5 kA	TN-S, TT, IT	**2674500000**
VPU ZPA I 3+1 RA 300/7,5	300 V AC / 7,5 kA	TN-S, TT, IT	**2674510000**

R = Remote contact
A = Auxiliary contact
RA = Remote contact + Auxiliary contact

VPU type II - TS 35

Type	Max. continuous voltage / Discharge current (I_{max})	Network configuration	Order No.
75 V / 50 kA			
VPU AC II 1 75/50	75 V AC / 30 kA	Single-phase	**2636990000**
VPU AC II 1 R 75/50	75 V AC / 30 kA	Single-phase	**2591620000**
VPU AC II 2 75/50	75 V AC / 30 kA	Two-phase	**2637000000**
VPU AC II 2 R 75/50	75 V AC / 30 kA	Three-phase	**2591630000**
150 V / 50 kA			
VPU AC II 1 150/50	150 V AC / 50 kA	Single-phase	**2591650000**
VPU AC II 1 R 150/50	150 V AC / 50 kA	Single-phase	**2591660000**
VPU AC II 2 150/50	150 V AC / 50 kA	Two-phase	**2591670000**
VPU AC II 2 R 150/50	150 V AC / 50 kA	Two-phase	**2591680000**
VPU AC II 3 150/50	150 V AC / 50 kA	TN-C	**2591690000**
VPU AC II 3 R 150/50	150 V AC / 50 kA	TN-C	**2591700000**
VPU AC II 4 150/50	150 V AC / 50 kA	TN-S	**2591710000**
VPU AC II 4 R 150/50	150 V AC / 50 kA	TN-S	**2591000000**

Type	Max. continuous voltage / Discharge current (I_{max})	Network configuration	Order No.
300 V / 50 kA			
VPU AC II 1 300/50	300 V AC / 50 kA	Single-phase	**2591020000**
VPU AC II 1 R 300/50	300 V AC / 50 kA	Single-phase	**2591030000**
VPU AC II 1+1 300/50	300 V AC / 50 kA	Single-phase + N	**2591060000**
VPU AC II 1+1 R 300/50	300 V AC / 50 kA	Single-phase + N	**2591070000**
VPU AC II 2 300/50	300 V AC / 50 kA	Two-phase	**2591040000**
VPU AC II 2 R 300/50	300 V AC / 50 kA	Single-phase	**2591050000**
VPU AC II 3 300/50	300 V AC / 50 kA	TN-C	**2591160000**
VPU AC II 3 R 300/50	300 V AC / 50 kA	TN-C	**2591170000**
VPU AC II 3+1 300/50	300 V AC / 50 kA	TN-S, TT, IT	**2591080000**
VPU AC II 3+1 R 300/50	300 V AC / 50 kA	TN-S, TT, IT	**2591090000**
VPU AC II 4 300/50	300 V AC / 50 kA	TN-S	**2591140000**
VPU AC II 4 R 300/50	300 V AC / 50 kA	TN-S	**2591150000**
350 V / 50 kA			
VPU AC II 1 350/50	350 V AC / 50 kA	Single-phase	**2591350000**
VPU AC II 1 R 350/50	350 V AC / 50 kA	Single-phase	**2591360000**
VPU AC II 1+1 350/50	350 V AC / 50 kA	Single-phase + N	**2637030000**
VPU AC II 1+1 R 350/50	350 V AC / 50 kA	Single-phase + N	**2637040000**
VPU AC II 2 350/50	350 V AC / 50 kA	Two-phase	**2637010000**
VPU AC II 2 R 350/50	350 V AC / 50 kA	Two-phase	**2637020000**
VPU AC II 3 350/50	350 V AC / 50 kA	TN-C	**2591100000**
VPU AC II 3 R 350/50	350 V AC / 50 kA	TN-C	**2591110000**
VPU AC II 3+1 350/50	350 V AC / 50 kA	TN-S, TT, IT	**2637050000**
VPU AC II 3+1 R 350/50	350 V AC / 50 kA	TN-S, TT, IT	**2637060000**
VPU AC II 4 350/50	350 V AC / 50 kA	TN-S	**2591120000**
VPU AC II 4 R 350/50	350 V AC / 50 kA	TN-S	**2591130000**
480 V / 50 kA			
VPU AC II 1 480/50	480 V AC / 50 kA	Single-phase	**2591210000**
VPU AC II 1 R 480/50	480 V AC / 50 kA	Single-phase	**2591220000**
VPU AC II 2 480/50	480 V AC / 50 kA	Two-phase	**2591230000**
VPU AC II 2 R 480/50	480 V AC / 50 kA	Two-phase	**2591240000**
VPU AC II 3 480/50	480 V AC / 50 kA	TN-C	**2591250000**
VPU AC II 3 R 480/50	480 V AC / 50 kA	TN-C	**2591260000**
VPU AC II 4 480/50	480 V AC / 50 kA	TN-S	**2591270000**
VPU AC II 4 R 480/50	480 V AC / 50 kA	TN-S	**2591280000**
750 V / 35 kA			
VPU AC II 1 R 750/35	750 V AC / 35 kA	Single-phase	**2591300000**
VPU AC II 2 R 750/35	750 V AC / 35 kA	Two-phase	**2591310000**
VPU AC II 3 R 750/35	750 V AC / 35 kA	TN-C	**2591320000**
N-PE 260V			
VPU AC II 1 N-PE 305/65	305 V AC / 65 kA	N - PE	**2591180000**
Two-stage surge protection device			
VPU AC II 1 R 300/50 Y	300 V AC / 50 kA	Single-phase	**2639350000**
VPU AC II 1+1 R 300/50 Y	300 V AC / 50 kA	Single-phase + N	**2639340000**
VPU AC II 2 R 300/50 Y	300 V AC / 50 kA	Two-phase	**2639360000**
VPU AC II 3 R 300/50 Y	300 V AC / 50 kA	TN-C	**2639330000**
VPU AC II 3+1 R 300/50 Y	300 V AC / 50 kA	TN-S, TT, IT	**2639320000**
VPU AC II 4 R 300/50 Y	300 V AC / 50 kA	TN-S	**2639370000**

VPU photovoltaics type I and II

Type	Max. continuous voltage / Discharge current (I_{max})	Protection class	Order No.
1000 V / 40 kA			
VPU PV I+II 3 1000	1000 V DC / 40 kA	type I/II	**2530610000**
VPU PV I+II 3 R 1000	1000 V DC / 40 kA	type I/II	**2530620000**
VPU PV II 3 1000	1000 V DC / 40 kA	type II	**2530550000**
VPU PV II 3 R 1000	1000 V DC / 40 kA	type II	**2530180000**
1500 V / 30 kA			
VPU PV I+II 3 1500	1500 V DC / 30 kA	type I/II	**2530580000**
VPU PV I+II 3 R 1500	1500 V DC / 30 kA	type I/II	**2530590000**
VPU PV II 3 1500	1500 V DC / 30 kA	type II	**2530640000**
VPU PV II 3 R 1500	1500 V DC / 30 kA	type II	**2530650000**

VPU type III

Type	Max. continuous voltage / Discharge current (I_{max})	Network configuration	Order No.
12 to 230 V mounting rail TS 35			
VPU III R 12V/4KV AC/DC	12 V / 2 kA	Single-phase + N	**1351550000**
VPU III R 24V/4KV AC/DC	24 V / 2 kA	Single-phase + N	**1351580000**
VPU III R 48V/4KV AC/DC	48 V / 2 kA	Single-phase + N	**1351600000**
VPU III R 120V/6KV AC/DC	120 V / 3 kA	Single-phase + N	**1351630000**
VPU III R 230V/6KV AC	230 V / 3 kA	Single-phase + N	**1351650000**
VPU III 3/280V AC	230 V / 3 kA	Three-phase with LED	**1393050000**
230 V – SO LD			
VPU III SO LD	230 V / 1,5 kA	Single-phase + N with LED	**1351680000**
VPU III SO LD+A	230 V / 1,5 kA	Single-phase + N with LED & buzzer	**1351700000**

VARITECTOR TEST II

Type	Measurement range	Order No.
V-TEST II	U < 1500 V/I = 0.1; 0.5; 1 mA	**2661040000**

Maximum safety for every application

Standard-compliant protection in all industries

Despite high-performance protection of the power systems, a surge voltage can endanger your system availability.

Only complete protection of all electrical equipment ensures dependable operation of your system.

Weidmüller offers a complete portfolio with safe and efficient surge protection solutions for wind power plants, photovoltaic plants and all different data and signal applications.

For instrumentation and control (I&C)

Surge coupling along the conductor path may disturb or destroy sensitive signal inputs. It is important to provide protection close to the I&C devices. Weidmüller's complete product range for the I&C sector offers products in a two-part pluggable design (VSPC) and modular terminals (VSSC / MCZ) for tension clamp or screw connection. These products are suitable for binary and analogue signals. Weidmüller also offers other designs with integrated components such as gas discharge tubes or varistors.

For data interfaces

"Data transmission" denotes the transmission of characters, numbers, states and measured variables between different decentralised units. Decentralised units are controllers, computers, measurement sensors, actuators and much more. Appropriate surge protection needs is essential for such sensitive areas.

Pulse counter

To effectively protect devices and systems against damage from lightning and surge voltage it is advisable to know how much load your protective elements are subjected to. VARITECTOR LOGGER 30 registers current pulses above a certain level which are diverted by your surge protection devices via the PE conductor.

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www.weidmueller.com/varitector

Weidmüller – Your partner in Industrial Connectivity.

As experienced experts we support our customers and partners around the world with products, solutions and services in the industrial environment of power, signal and data. We are at home in their industries and markets and know the technological challenges of tomorrow. We are therefore continuously developing innovative, sustainable and useful solutions for their individual needs.
Together we set standards in Industrial Connectivity

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