



**Maximum Safety in Surge Protection**

Prosurge, Inc  
Prosurge Electronics  
[www.Prosurge.com](http://www.Prosurge.com)

# Surge Filter Catalogue





Prosurge, Inc - Florida, USA



Prosurge Electronics - Foshan, China

Prosurge is a globally competitive surge protection company and is one of the fastest growing companies in this industry. It consists of 2 companies:

#### **Prosurge, Inc**

#### **Prosurge Electronics Co., Ltd**

We start from a humble beginning by a group of experts and now we've grown into a business with more than 120 staffs. For the past 12 years, we extended our business in 6 continents and more than 60 countries. Although United States still remains our biggest single market, most of our revenue comes from international market.

Our mission is to protect millions of businesses, households and organizations from lightning & surge damages. Inspired and encouraged by this mission, we are doing things differently than many of our competitors.

We innovate. As an engineering driven company, we invest a way-above-average ratio of yearly revenue on R&D. This ensures Prosurge

to be among the very few companies who can offer the most complete SPDs on both UL and IEC standards markets.

We challenge. Using our ingenuity, we are raising the standards for SPD quality & reliability via designing, manufacturing and testing. Our SPD is one of the safest on the market.

We collaborate. The Prosurge team is one of the best in industry. We share the same value: pursue excellence in everything we do. Together, we are delivering world-class products and solutions.

We progress. Despite our accomplishment, We deem ourselves progressive instead of successful. With a continuous improving mentality, we are always bettering than we used to be.

We support. Our customers are supported and well-served in various ways: 2-hour response, technical training, video conference, regular visit, well-documented material ect. In fact, they are so loyal and satisfied that they are happy to write recommendation letters for us.

Trust us with confidence. Stay safe and sound with Prosurge!

## Team



**Bill Goldbach**

Member of IEEE / UL 1449 Standard Board



**Terry Mao**

20 Years Expertise in SPD Industry

## Two-port Surge Filter Introduction

Prosurge's surge filter is used to protect single/three phase electrical distribution systems, especially to protect sensitive electronics against the harmful effects of transient surges. These surges are the result of:

- Direct and indirect lightning strikes
- Power company load switching
- Upstream load switching at other facilities

It's found that electronic equipment is sensitive to both the absolute magnitude of the impulse voltage and its rise rate. The radical changes in  $dv/dt$  and  $di/dt$ , rather than the peak voltage, is the major

source of electronic circuit damages.

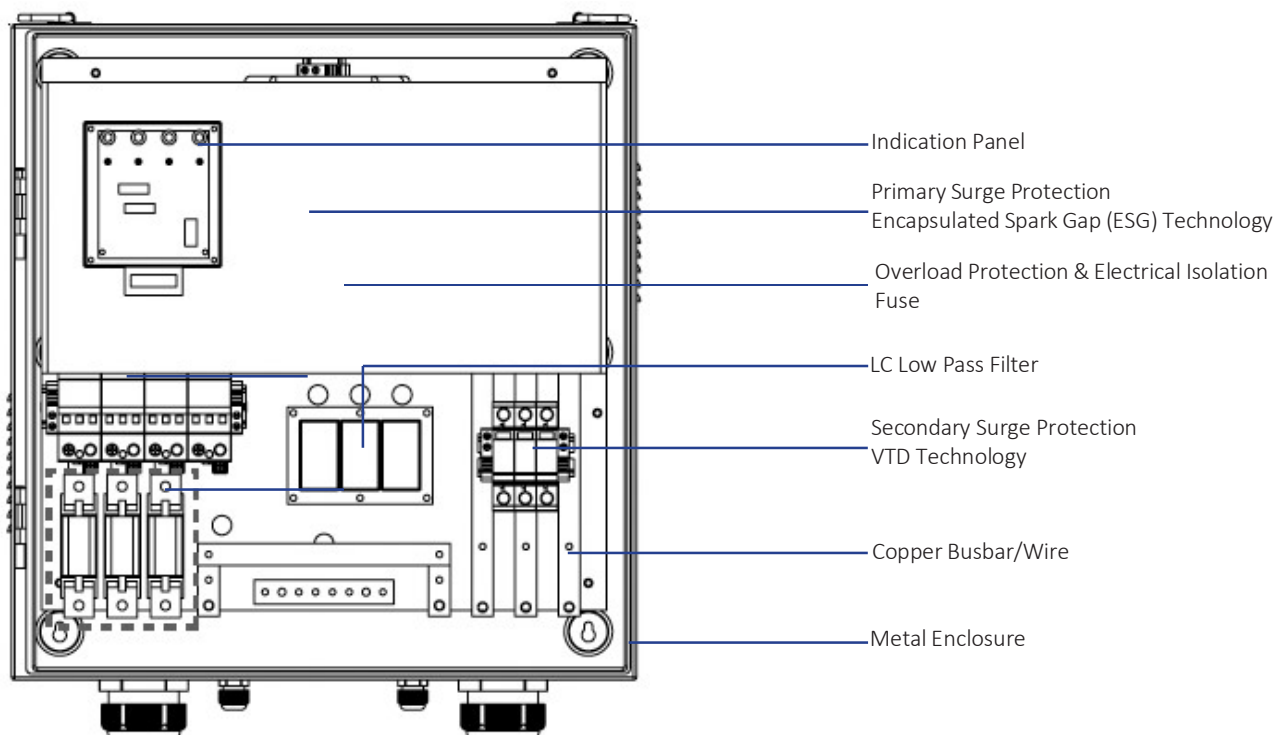
Prosurge's surge filter is designed as a 3-stage protection system which consists of primary protection & secondary protection and with a well-designed LC filter in series. The LC filter is used to slow down the inherently fast rise rate of voltage and current. The primary protection module is used to divert the strong lightning/ surge current, while the secondary protection module & LC filter will limit the let-through voltage to a very low level.

The surge filter should be installed in series with the supply powering the equipment.

## Features

- Multi-stage protection circuit with LC Filter design to protect sensitive electronics
- Provides extensive high frequency & RF filtering
- High Surge capacity: Up to 50kA 10/350  $\mu$ s or 10kA~ 200kA 8/20  $\mu$ s per mode available
- Surge capacity of N-PE mode up to 100kA 10/350  $\mu$ s
- Different load current: 10A ~ 800A available for single phase or 3 phase
- Built-in fuse in series for overload /short circuit protection
- All mode protection
- LED failure indication
- Remote alarm function available
- Surge counter optional

## Product Internal Design

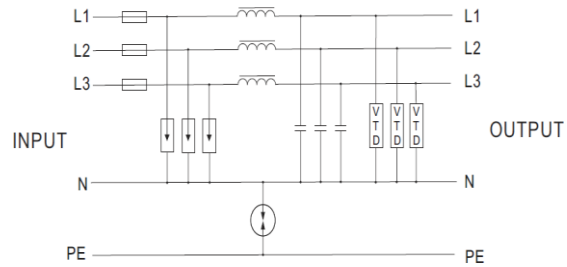


## Three Phase 63A

**Class I+II**  
**BSF100-3/...-63A-3PN-VTD**



Product Picture for Reference Only

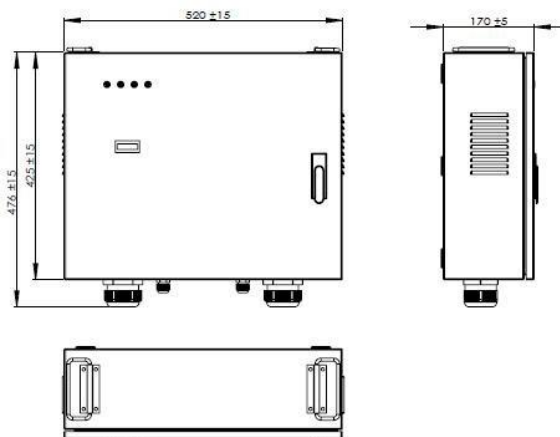


Basic circuit diagram

## Features

- Multi-stage protection circuit with LC Filter design to protect sensitive electronics
- Provides extensive high frequency & RF filtering
- Prosurge ESG+VTD technology to further improve voltage clamping performance
- Application for 120~127V, 220~277V (L-N) TT/TN, or any three phase system with a grounded neutral
- Surge capability: 25 kA 10/350  $\mu$ s or 100kA 8/20  $\mu$ s (per mode)
- Surge capability of N-PE mode up to 100kA 10/350  $\mu$ s
- Load current rating 63A
- Built-in in series Fuse for overload /short circuit protection available
- All mode protection, 3+1 protection circuit for TN-S and TT systems
- LED failure indication & remote alarm function available
- Powder Coating Steel enclosure, wall mounting
- Surge counter optional

## Dimension Drawing





| Model   |             |             | BSF100-3/180-63A-3PN-VTD-S  | BSF100-3/320-63A-3PN-VTD-S                        |
|---|-------------|-------------|---|---|
| Compliance  |             |             | IEC61643-11; UL1449 4 <sup>th</sup> ; IEC61000-6; ANSI/IEEE C62.41; AS1768-1991; AS3100   |   |
| Category IEC/EN/UL                                    |             |             | Class I+II/ Type 1+2 / Type 2   |   |
| Ports/Protection Mode                                 |             |             | All mode protection   |   |
| Protection Technology                                 |             |             | ESG (primary)+ VTD (secondary) technology<br>GDT Technology for NPE mode<br>LC filter<br>Thermal disconnecter<br>Built-in over-current protection |   |
| Power System  |             | $U_n$       | 120/208V to 127/220V, 50-60Hz Three phase (TN/TT)   | 220/380V to 277/480V, 50-60Hz Three phase (TN/TT) |
| Max. Continuous Operating Voltage (AC/DC)             |             | $U_c$       | 180V/230V   | 320V/420V   |
| Rated Load Current                                    |             | $I_L$       | 63A   |   |
| Nominal Discharge Current                             |             | $I_n$       | 25kA (8/20us)   |   |
| Primary Surge Protection Rating                       | L-N         |             | $I_{imp}$ : 25kA (10/350us), $I_{max}$ : 100kA (8/20us)   |   |
|   | N-PE        |             | $I_{imp}$ : 100kA (10/350us), $I_{max}$ : 200kA (8/20us)  |   |
| Secondary Surge Protection Rating                     | L-N         | $I_{max}$   | 50kA (8/20us)   |   |
| Total Surge Capacity Per Line                         |             | $I_{total}$ | 150kA (8/20us)  |   |
| Voltage Protection Level                              | L-N@6kV/3kA | VPR         | <0.4kV  | <0.5kV  |
|   | L-N@In      | $U_p$       | <0.7kV  | < 0.85kV  |
|   | N-PE@1.2/50 | $U_p$       | < 1.0kV   | < 1.5kV   |
| Residual Current                                      |             | $I_{PE}$    | <0.1mA  |   |
| Voltage Drop  |             |             | < 2V at 63 A load   |   |
| Temporary Overvoltage TOV —Withstand Mode             |             | $U_{tov}$   | 230V/120min   | 440V/120min                                       |
| Response Time   |             | $t_A$       | ≤1ns  |   |
| Filter Attenuation                                    |             | dB          | >48dB @ 1MHz  |   |
| Built In Over Load/ Over-Current Protection In Series |             |             | 63A (optional)  |   |
| Short Circuit Current Rating                          |             | $I_{sscr}$  | >36KA   |   |
| Lightning Counter Current                             |             |             | ≤ 3kA   |   |
| Protect Status Indication                             |             |             | 4 LED display, Normal (Blue), Protection fault(Off)   |   |
| Remote Alarm  |             |             | Dry contact alarm relay – 250Vac/32Vdc, 5A  |   |
| Connecting Cable                                      |             |             | Power: 6-8 AWG(50A/63A); Alarm 14-22 AWG  |   |
| Environment   |             |             | Temperature Range:- 40°C ~ +70°C<br>Humidity: ≤95%<br>Altitude: ≤2000m  |   |
| Mounting  |             |             | Wall mounting   |   |
| Location Category                                     |             |             | Indoor  |   |
| Degree of Protection                                  |             |             | IP55  |   |
| Dimension   |             |             | 520mm (L) x425mm (W) x 170mm (H) approx   |   |
| Weight  |             |             | 30kg approx   |   |
| Approvals, Certification                              |             |             | CE  |   |

---

## Prosurge, Inc

+1 727 800 6504  
na@Prosurge.com  
5560 58<sup>th</sup> st North, Kenneth City, Florida 33709-2038, United States

## Prosurge Electronics Co., Ltd

+86 757 8632 7660  
info@Prosurge.com  
Building 20<sup>th</sup>, Liando U Valley, Foshan 528000, China

---

## Technical Data 12/2024

► Prosurge's products are distributed in more than 60 countries worldwide via our distributors.