# SPGL MP Mulit-Protection Capacitors

SPGL

## General

Series SPGL low voltage capacitors were designed to compensate the reactive energy and the line loss in power networks up to 1000V and with permisson of harmonic content.

## Application

- Automatic power factor correction (PFC) and capacitor banks
- Individual solution for fixed power factor correction (e.g. Motor, power transformers,lighting etc.)
- Group fixed power factor correction (several equipment connected in agroup)
- Capacitor banks of tuned and detuned
- Harmonic trap applications (e.g. UPS,frequency drives and converters etc.)
- Special application such as outdoor mounting, filter model, bushing terminal style etc.

## Benefit

### Electrical

- Highest pulse current with-stand capability
- Corona-free
- Very low losses
- Internal discharge resistor
- Terminal for high capacity cables (up to 16 to 32mm²) , both side of the terminal can be used

### Mounting

- Compact volume
- Low weight & height
- Maintenance-free
- Reduce mounting costs
- Any position mounting is available on request

### Safety

- Dry type design
- Self-healing
- Over-pressure and over-current tear off
- Non-flammable
- Touch-proof terminals
- Three cascade cylinder sealing & one form cap-acitor cane,no possibility for leaks

### Environment

- No pollution & PCB free
- Friendly manufacture
- Recyclable
- Save energy and reduce carbon dioxide emission

### Additional function

- Pole mounting
- Element of square Cap. of SPGLMP Box capacitors SPGLMP Fixed capacitors

### Innovative design

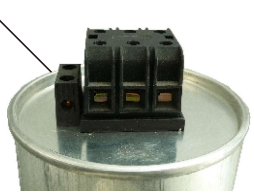
- Multi-Protection capacitor
- 3P/4Line capacitor

### Order example:

SPGLMP440-3-30

- SPGLMP innovative capacitor
- Rate voltage: 440V
- Phase: three
- Rate power: 30kvar

protection terminal



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**Protecting style:**

- Automatic alarm or cutting off function when the capacitor fails or over-heats.
- System or system step cut off and reset automatically when the capacitor internal temperature exceeds the limit during operation.

**In addition, because of its excellent appearance, the SPGLMP Multi-Protection power capacitor also has some other device designation as shown below:**

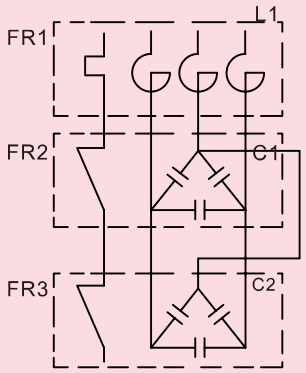
- New and exactly compensating capacitor
- New and accurately/detuning filtering capacitor
- Good quality capacitor
- Low running cost capacitor

**In a word, the new SPGLMP is a really safe and durable capacitor.**

**Technical Data Multi-Protection Terminal**

| | | |
|---|---|---|
| Rate voltages | Un | 220V±10% |
| Rate current | In | 5A |
| Failure protection | | Automatic alarm or cut-off |
| Over heating | | max. 80-100°C,automatic cut-off and re-new action |
| Permissible max. humidity | Hrel | 95% |
| Maximum permissible altitude | | 2000m above sea level |
| Cable connection | | Threaded M6 stud on bottom of case |
| Degree of protection | | IP20 |
| Terminals | | Dual,with electric shock protection,max. cross-section10$^2$mm cable |

**Electric connection of SPGL multi-protectionpower capacitors in the detuned system**



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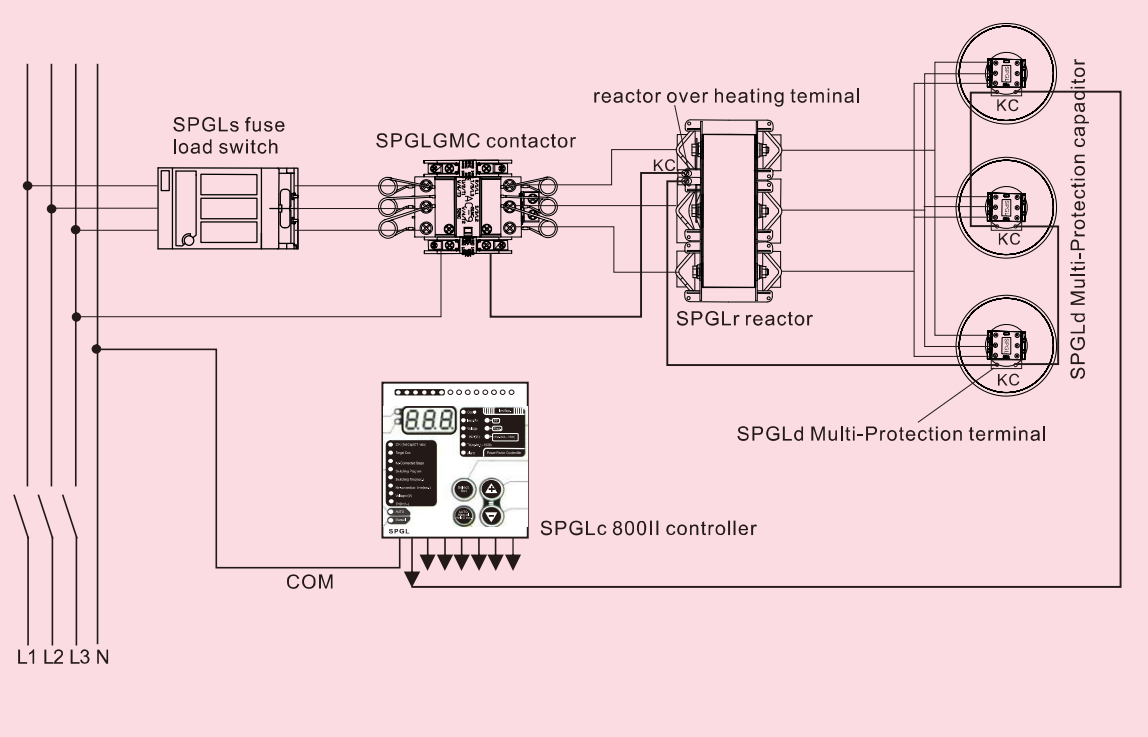
## Application solutions

**Plan A**
Capacitor's linkage system connects with contact's coil in series to protect the original tuning rate or filter accuracy system step(L+C) and devices in circuits.

**Plan B**
Capacitor's linkage system connects with the controller's public terminal in series to protect the original tuning rate or filter accuracy system group(L+C) devices in circuits.

**Plan C**
The capacitor's linkage, reactor's tem-perature protecting device and contact's coils connect in series in order to protect the safety of circuits. Whatever the capacitor or reactor failures, the system will interrupt the current from contact's coils and cut off the broken circuits.

**Plan D**
The capacitor over-temperature or failure alarm.



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**General technical data**

| | | |
|---|---|---|
| Over Voltage | U | Un+10%(up to 8h daily)/Un+15%(up to 30 min daily).Un+30%(up to 1 min) |
| Over Current | Imax | Min.1.3In(in certain cases higher) |
| Inrush Current | Is | 200 times rated current(other request is available) |
| Losses (Dielectric) | | ≤0.20W/KVar |
| Capacitance Tolerance | Cn | -5%+5% |
| Test Voltage Terminal to Terminal | UTT | 2.15Un, AC, 10s |
| Test Voltage Terminal to Case | UTC | Up to Un≤660V:3000VAC, 10s;above Un>660V: 6000 VAC, 10s |
| Life Expectancy | TLD(CO) | 100,000 to 130,000 operating hours |
| Ambient Temperature Category | LCT/UCT | -25/D, Max. 55°C with forced cooling conditions higher ambient temperature possible. |
| Cooling | | Naturally air-cooled (of forced air cooling) |
| Permissible Max Humidity | Hrel | 95% |
| Maximum Permissible Altitude | | Normal 1000 m above sea level (Max.3000m) |
| Mounting Position | | Normal stand mounting,any position mounting is available on request. |
| Mounting and Grounding | | Threaded M12 (or M16) stud on bottom of case |
| Safety Features | | Dry technology, overpressure/current disconnector , self-healing |
| Discharge Resistors | | Internal discharge module design included in delivery, (<75V within 3 min) |
| Case | | Extruded aluminium can without any impress |
| Degree of Protection | | IP20, indoor mounting (optionally with cover for IP55) |
| Outdoor using | | With the plastic cover,IP55,the capacitors diameters from 90mm to 116mm |
| Impregnation | | Non-PCB, special protection gas with resin. |
| Terminals | | Dual, with electric shock protection, max, cross-section 16 mm cable |
| Installation | | Indoor and outdoor (with the cover) |
| Outdoor mounting | | Capacitor diameter ≥90mm |
| Standards | | IEC60831-1(2), EN60831-1(2), VDE0560-46(47), CE.(UL marking on request) |

**Outdoor/Pole mounting**

| | | |
|---|---|---|
| Mounting | | With the plastic protective cover for terminal |
| Protection class | | IP55 |
| Ambient Temperature category | LCT/UCT | Normal 50°C,Max.60°C |
| Connection cable | | Standard 0.5M |
| Mounting plant | | Are available on request |