

### Automatic Power Factor Correction system with detuning chokes 134 Hz (p=14%)

|                                       |                       |             |            |           |            |            |           |           |
|---------------------------------------|-----------------------|-------------|------------|-----------|------------|------------|-----------|-----------|
| <b>Code</b>                           | TLFG52475             |             |            |           |            |            |           |           |
| <b>Rated voltage</b>                  | 400 ÷ 415 V           |             |            |           |            |            |           |           |
| <b>Frequency</b>                      | 50 Hz                 | <b>Vmax</b> | <b>24h</b> | <b>8h</b> | <b>30m</b> | <b>15m</b> | <b>5m</b> | <b>1m</b> |
| <b>Capacitors Voltage</b>             | 525 V                 | <b>Imax</b> | 525        | 580       | 600        | 5In        | 630       | 680       |
| <b>Capacitors Voltage max</b>         | 580 V                 |             | 3In        |           | 4In        | 5In        |           | 1600      |
| <b>THDi max</b>                       | 100 %                 |             |            |           |            |            |           | 10 In     |
| <b>THDv max</b>                       | < 5 %                 |             |            |           |            |            |           |           |
| <b>Power @ 400 V</b>                  | 475 kvar              |             |            |           |            |            |           |           |
| <b>Power @ 415 V</b>                  | 511 kvar              |             |            |           |            |            |           |           |
| <b>Rated current</b>                  | 686 A                 |             |            |           |            |            |           |           |
| <b>Banks (400 V)</b>                  | 25-50-100-100-100-100 |             |            |           |            |            |           |           |
| <b>Steps</b>                          | 19 x 25 kVAr          |             |            |           |            |            |           |           |
| <b>Typology of Capacitors</b>         | MKP525G               |             |            |           |            |            |           |           |
| <b>PFC Controller</b>                 | PCRL8                 |             |            |           |            |            |           |           |
| <b>Switch Disconnecter</b>            | 3x1000 A (Icc 50 kA)  |             |            |           |            |            |           |           |
| <b>Input of cables</b>                | Bottom                |             |            |           |            |            |           |           |
| <b>Dimensions (WxHxD)</b>             | 1600*1730*600 mm      |             |            |           |            |            |           |           |
| <b>Weight</b>                         | 666 Kg                |             |            |           |            |            |           |           |
| <b>Temperature class (PFC unit)</b>   | -25 / +65°C           |             |            |           |            |            |           |           |
| <b>Insulation voltage (PFC Unit)</b>  | 690 V                 |             |            |           |            |            |           |           |
| <b>Max overload (PFC unit)</b>        | 1,3 In                |             |            |           |            |            |           |           |
| <b>Total losses (PFC unit)</b>        | < 2 W/kvar            |             |            |           |            |            |           |           |
| <b>Reference standards (PFC unit)</b> | EN61921, EN61439-1    |             |            |           |            |            |           |           |



#### Technical Features

**Capacitors** Three-phase metallized polypropylene Capacitors with Nitrogen Gas (N2) insulation, “dry type”, MKP525G Series, Rated Voltage 525 V, Insulation Voltage 690 V, equipped with discharge resistors, overpressure safety device and IP20 terminals. Dielectric losses < 0,2W/kVAr. Reference Standards IEC60831-1/2, UL N.810, CSA

**Detuning Chokes** made of copper/aluminum sheet oriented crystals, placed in series between the contactor and the capacitor bank, with the following features: linearity 1.8 Ip/In, realized in class H, over temperature range: 60°C, complete with thermal probe for switching off Capacitors Banks in case of overtemperature, limit the peak current inrush capacitors, detuning frequency 134 Hz (p=14%), standard for 3<sup>rd</sup> Harmonic

**Three-Pole Contactors** for capacitor banks, with high number of insertions (>250.000)

– 3-pole mains and 1 built-in auxiliary contact

– block for serial insertion in the circuit of 3 resistors that limit the peak current at the excitation of the condenser battery. Reference standards IEC 60947-1 / 60947-4-1 and EN 60947-1 / 60947-4-1

**Automatic PFC Microprocessor Controller** PCRL Series, completed with backlit multilingual LCD Display in 6 languages (Ita, Eng, Deu, Fra, Esp, Por), with the following features: Operation on 4 Quadrants for cogeneration systems, Automatic Recognition of the direction of the current, RMS Voltage and Current, Uniform the use of each Bank / Status of each Bank / Weekly Power Factor, Capacitors overload, Overtemperature, Network THD, AUT / MAN, Protection for overcurrent, overvoltage and overtemperature and micro-interruptions, Setting of Maintenance Program/Advise by month/year

**Sheet-steel enclosure** 15 and 20/10, painted with epoxy dust paint, colour RAL7035 (others on request). Connection through power cables FS17 (CEI EN 50575, CEI UNEL 35716, CEI EN 50525 and CPR UE305/11). Internal setting in Modular Racks connected through aluminium busbar system (**Type Tested KEMA ref. 5189-16 Icw 50 kA for 1 sec.**). Protection degree IP30 external (IP54 on request), IP00 internal (IP20 with open doors on live parts)

**Three-pole Switch Disconnecter** with door interlock, sized 1,5 time the nominal current of PFC Unit as per EN61921

**NH00 Fuses** 100 kA for the protection of each capacitor bank. Auxiliary circuits are protected through 10,3 x 38 Fuses

**Single phase transformer** for separating the power circuit from the auxiliary circuit (220 Vac, others on request).

**Ventilation** Forced with Fan + Thermostat connected with PFC Controller for alarm signal and switch off contactors in case of overtemperature (natural operation up to 35°C; forced ventilation from 35°; with a temperature of 50°, the PFC will be switched off)