

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

|                                       |                      |             |     |     |     |     |     |     |             |
|---------------------------------------|----------------------|-------------|-----|-----|-----|-----|-----|-----|-------------|
| <b>Code</b>                           | TLFR5250             |             |     |     |     |     |     |     |             |
| <b>Rated voltage</b>                  | 400 ÷ 415 V          |             |     |     |     |     |     |     |             |
| <b>Frequency</b>                      | 50 Hz                | <b>Vmax</b> | 24h | 8h  | 30m | 15m | 5m  | 1m  | <b>Peak</b> |
| <b>Capacitors Voltage</b>             | 525 V                | <b>Imax</b> | 525 | 580 | 600 |     | 630 | 680 | 1600        |
| <b>Capacitors Voltage max</b>         | 580 V                |             | 2In |     | 3In | 4In |     |     | 10 In       |
| <b>THDi max</b>                       | 100 %                |             |     |     |     |     |     |     |             |
| <b>THDv max</b>                       | < 5 %                |             |     |     |     |     |     |     |             |
| <b>Power @ 400 V</b>                  | 50 kvar              |             |     |     |     |     |     |     |             |
| <b>Power @ 415 V</b>                  | 54 kvar              |             |     |     |     |     |     |     |             |
| <b>Rated current</b>                  | 72 A                 |             |     |     |     |     |     |     |             |
| <b>Banks (400 V)</b>                  | 6.25-6.25-12.5-25    |             |     |     |     |     |     |     |             |
| <b>Steps</b>                          | 8 x 6.25 kVAr        |             |     |     |     |     |     |     |             |
| <b>Typology of Capacitors</b>         | MKP525R              |             |     |     |     |     |     |     |             |
| <b>PFC Controller</b>                 | PCRL7                |             |     |     |     |     |     |     |             |
| <b>Switch Disconnecter</b>            | 3x125 A (Icc 2,5 kA) |             |     |     |     |     |     |     |             |
| <b>Input of cables</b>                | Top                  |             |     |     |     |     |     |     |             |
| <b>Dimensions (WxHxD)</b>             | 600*1410*400 mm      |             |     |     |     |     |     |     |             |
| <b>Weight</b>                         | 133 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 Resin insulation, MKP525R 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)