

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

|                                |                      |      |     |     |     |     |     |       |
|--------------------------------|----------------------|------|-----|-----|-----|-----|-----|-------|
| Code                           | TLFR5250             |      |     |     |     |     |     |       |
| Rated voltage                  | 400 ÷ 415 V          |      |     |     |     |     |     |       |
| Frequency                      | 50 Hz                | Vmax | 24h | 8h  | 30m | 15m | 5m  | 1m    |
| Capacitors Voltage             | 525 V                | Imax | 525 | 580 | 600 |     |     | Peak  |
| Capacitors Voltage max         | 580 V                |      | 2In |     | 3In | 4In | 630 | 680   |
| THDi max                       | 100 %                |      |     |     |     |     |     | 1600  |
| THDv max                       | < 5 %                |      |     |     |     |     |     | 10 In |
| Power @ 400 V                  | 50 kvar              |      |     |     |     |     |     |       |
| Power @ 415 V                  | 54 kvar              |      |     |     |     |     |     |       |
| Rated current                  | 72 A                 |      |     |     |     |     |     |       |
| Banks (400 V)                  | 6.25-6.25-12.5-25    |      |     |     |     |     |     |       |
| Steps                          | 8 x 6.25 kVAr        |      |     |     |     |     |     |       |
| Typology of Capacitors         | MKP525R              |      |     |     |     |     |     |       |
| PFC Controller                 | PCRL7                |      |     |     |     |     |     |       |
| Switch Disconnecter            | 3x125 A (Icc 2,5 kA) |      |     |     |     |     |     |       |
| Input of cables                | Top                  |      |     |     |     |     |     |       |
| Dimensions (WxHxD)             | 600*1410*400 mm      |      |     |     |     |     |     |       |
| Weight                         | 133 Kg               |      |     |     |     |     |     |       |
| Temperature class (PFC unit)   | -25 / +65°C          |      |     |     |     |     |     |       |
| Insulation voltage (PFC Unit)  | 690 V                |      |     |     |     |     |     |       |
| Max overload (PFC unit)        | 1,3 In               |      |     |     |     |     |     |       |
| Total losses (PFC unit)        | < 2 W/kvar           |      |     |     |     |     |     |       |
| Reference standards (PFC unit) | 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)