

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

<b>Code</b>	TLFR52100/1								
<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>Peak</b>
<b>Capacitors Voltage</b>	525 V	<b>Imax</b>	525	580	600				
<b>Capacitors Voltage max</b>	580 V		2In		3In	4In	630	680	1600
<b>THDi max</b>	100 %								10 In
<b>THDv max</b>	< 5 %								
<b>Power @ 400 V</b>	100 kvar								
<b>Power @ 415 V</b>	108 kvar								
<b>Rated current</b>	144 A								
<b>Banks (400 V)</b>	12.5-12.5-25-50								
<b>Steps</b>	8 x 12.5 kVAr								
<b>Typology of Capacitors</b>	MKP525R								
<b>PFC Controller</b>	PCRL7								
<b>Switch Disconnecter</b>	3x250 A (Icc 15 kA)								
<b>Input of cables</b>	Bottom								
<b>Dimensions (WxHxD)</b>	600*1730*600 mm								
<b>Weight</b>	151 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°C; with a temperature of 50°C, the PFC will be switched off)