



POWER FACTOR CORRECTION CAPACITORS - LOW VOLTAGE



PFC CAPACITORS INTACT SERIES

New design



RCM-IN B/P/A/R -3 Three-phase PFC film capacitors - No PCB. Certified by VDE Testing and Certification Institute Germany. Reference standard DIN EN 60831-1 (VDE 056046): 2014-11; EN 60831-1: 2014. **INTACT** series is a new and reliable solution for reactive power compensation. The combination of safety concept, dielectrics self-healing effect, innovative built-in overpressure protection system and current fuses guarantees the ideal operation of the **INTACT SERIES** capacitors. Available range: from 2,5 kVar up to 62,5 kVar Rated voltage AC: from 220 V up to 690 V / 50Hz - 60 Hz

INTACT BASE - NLL< 10%

RCM-INB-3 Capacitors designed to be used in standard conditions when there aren't any significant non-linear loads.

Available range: from 1 kVar up to 62,5 kVar Rated voltage AC: from 220 V up to 690 V / 50Hz - 60 Hz

INTACT PLUS (Heavy Duty) - NLL< 20%

RCM-INP-3 Capacitors for working in difficult conditions, resistant to voltage overloades or when the limited quantity of non-linear loads are installed. Particularity – largely increased current resistance. Available range: from 2,5 kVar up to 50 kVar Rated voltage AC: from 220 V up to 550 V / 50Hz - 60 Hz

INTACT ALLPOWER (Extra Heavy Duty) - NLL< 25%

RCM-INA-3 Highly reliable capacitors for operating in harsh environments or with a significant level of non-linear loads. Resistant to high overloads in current and voltage. Intact ALLPOWER is also resistant to high temperatures.

Available range: from 2,5 kVar up to 30 kVar

Rated voltage AC: from 220 V up to 550 V / 50Hz - 60 Hz

INTACT R-POWER - NLL< 30%

RCM-INR-3 Capacitors to be used with detuned harmonic reactor. This is the optimal solution for reactive power compensation in networks where there is a significant quantity of non-linear loads, therefore the use of reactors is mandatory. Available range: from 2,5 kVar up to 50 kVar

Rated voltage AC: from 220 V up to 550 V / 50Hz - 60 Hz

PFC CAPACITORS STANDARD SERIES

STANDARD RCM-1 / RCM-3 single-phase and three-phase PFC film capacitors - No PCB. Reference standard DIN EN 60831-1 EN 60831-1: 2014.

Standard series is designed to be used in standard conditions where there aren't any non-linear loads. This series is equipped with a standard overpressure protection device. Available range: from 0,33 kVar up to 30 kVar

Rated voltage AC: from 380 V up to 480 V / 50Hz - 60 Hz



POWER FACTOR CORRECTION CAPACITORS - MEDIUM VOLTAGE



PFC CAPACITORS MVPC-1 / MVPC-3 SERIES

MVPC-1 / MVPC-3 "ALL - FILM" MV Power factor correction single or three phase capacitors. **Reference Standard IEC / EN 60871-1.** All units are manufactured using aluminum foils with polypropylene (APP) film as dielectric. Biodegradable oil is used for impregnation - No PCB.

The capacitors can be equipped with one, two o three ceramic bushings.

Available range: from 10 kVar up to 450 kVar

Rated Voltage AC: from 1,5 kV up to 36 kV / 50Hz - 60 Hz

POWER FACTOR CORRECTION CAPACITORS BANKS

MEDIUM / HIGH VOLTAGE



CBNm/ABAm/CBAmF Automatic or manual Medium or High Voltage Power Factor Correction units designed for reactive power compensation. **Reference Standard IEC 60871-1 / IEC 60871-2 / IEC 60871-4** Available solution:

- For indoor and outdoor installations with or without harmonic filteres.
- For power factor correction on fully open structures.
- For power factor correction in special climatized container cooling / heating for extreme operating temperatures (- 55°C + 60°C), also with protection degree IP 54. **Available range:** from 100 kVar up to 10000 kVar.

Rated Voltage AC: from 1,5 kV up to 36 kV / 50Hz - 60 Hz

LOW VOLTAGE

CBAm-3 Automatic Power Factor Correction units designed for central and individual reactive power compensation.

Reference Standard IEC / EN 60439-1/2 IEC / EN 61921-1 Available solution:

• **CBAm-3** Is not equipped with detuned harmonic reactors. This is the solution to be used in standard conditions when there aren't any significant non-linear loads.

• CBAmF-3 Filtering is equipped with detuned harmonic reactors.

The optimal solution for reactive power compensation on networks where there is a significant quantity of non-linear loads.

Available also thyristors switched power factor correction equipment. **Available range:** from 10 kVar up to 2000 kVar. **Rated Voltage AC:** from 230 V up to 690 V / 50Hz - 60 Hz

MOTOR & LIGHTING CAPACITORS



MOTOR

MRC-P/MRC-M Are especially designed for continuous operations of single phase induction motors.

Reference Standard IEC EN 60252.

The MRC-P/MRC-M series capacitors are available in metallic casing equipped with an overpressure safety device and/or in simple flame retardant plastic case enclosures. **Available range:** from 1uF up to 150 uF.

Rated Voltage AC: from 250 V up to 600 V / 50Hz - 60 Hz.



LIGHTING

LCP-LCM Are especially designed to improve the power factor of discharge lamps as: Sodium, Halogen and Metal vapour, High pressure mercury vapour, **Reference Standard IEC EN 61048 - 61049.**

The LCP-LCM series capacitors are available in metallic casing equipped with an overpressure safety device and/or in simple flame retardant plastic case enclosures. **Available range:** from 1uF up to 100 uF.

Rated Voltage AC: from 250 V up to 600 V / 50Hz - 60 Hz.



POWER FACTOR CORRECTION COMPONENTS



POWER FACTOR CONTROLLERS

ERN, ERP and **ERGP** power factor controllers designed to be used for power factor correction capacitors banks.

Reference standard IEC / EN 61010-1, IEC / EN 61010-2-30, IEC / EN 61000-6-2, IEC / EN 61000-6-3, IEC / EN 61000-6-4.

Power controllers are designed to get the best required performance in power factor management.

Available types: ERP - Standard Plus / **ERN** - Advanced&Smart / **ERGP** - High performance **Available range:** from 3 up to 24 adjustable steps.



POWER CONTACTORS

CSC Contactors are especially designed for the capacitors switching. Reference standard IEC 947-4-1. These contactors are featured by high reliability, electrical longevity, absence of dangerous voltages. Equipped with current - limiting resistors. Available range: from 2,5 kVar up to 100 kVar. Rated voltage AC: from 220 V up to 690 V / 50Hz - 60 Hz

DETUNED HARMONIC REACTORS



GE-RT3 / **GE-RT3-G** Are especially designed to protect PFC capacitors from overloads in case of harmonics contamination of power grid. 210 Hz, 189 Hz, 134 Hz.

Reference standard EN 61558 2-20

Available in any resonance frequency.

Execution: in Copper or in Aluminum.

Available range: from 1 kVar up to 100 kVar.

Rated voltage AC: from 220 V up to 690 V / 50Hz - 60 Hz

POWER SWITCHES



GE-VC-3 This kind of disconnectors allows the opening and closing of low voltage electrical circuits, designed to be used in civil and industrial installations.

Reference Standard IEC / EN 60947-3.

Thanks to their construction, these switches are suitable for all electrical circuits, always without any risk for the operator. For applications in main switch, motor switch, load break switch, safety switch

Available types: three-pole, four-pole, six-pole and eight poles version. **Available range:** from 40 to 3150A / 50Hz - 60 Hz

VOLTAGE STABILIZERS



AUTOMATIC STABILIZERS

STK/SMK Automatic three phase and singel phase voltage stabilizers are designed to be used in several industrial and private fields.
Reference standard IEC 38 (CEI 8.6)
Stabilizes are available for different ranges of input voltage fluctuation.
The double input connection is possible.
Input variation (±15/±20% or ±25/±30%)

Output voltage regulation can be done of three phase or of each phase to neutral voltage. Admited load variation up to 100%

Admited load variation up to 100% Available range: from 0,3kVA up to 150kVA – singel phase / from 2kVA up to 5000kVA – three phase Selectable output voltage:

220-230-240V (L-N) / 380-400-415 (L-L)

ACTIVE POWER FILTERS



LOW VOLTAGE

GE-AFC3 active power filters are used for harmonic mitigation, reactive power compensation, load balancing and neutral correction. They are fully compatible with both grid supply and backup generators. The ultra-fast response and the precise current compensation make our step-less GE-AFC3 filters effective, even on fast fluctuating and complex loads where traditional solutions fail to have any impact

Reference Standard IEC 61000-4-7

Available range: from 25 A up to 1000 A Rated Voltage AC: from 400 V up to 690 V / 50 Hz - 60 Hz

POWER ELECTRONICS CAPACITORS



DC-LINK

EP-DCM F/S-1 Are made using the most advanced metallized film technology for long life and high reliability in DC Link applications. **Reference Standard IEC 61071** This series combines high capacitance and very high ripple current capability needed for inverter designs, for wind, solar, fuel cells, UPS systems and more. Available range: all values available on request Rated Voltage: from 500 Vdc up to 5000 Vdc

FILTERING

EP-FCM-1/EP-FCM-3 Are designed for filtering application with Integrated overpressure Protection System. **Reference Standard IEC 61071.**

- **APPLICATION:**
- AC input and AC output filters
- Damping and snubber
- Surge suppression
- Commutation

REG.-Nr F165

DC linking and filtering

Available range: all values available on request Rated Urms Voltage: from 200 Vac up to 5000 Vac



GRUPPO ENERGIA srl - Via Cavezzo, 36 - 25045 Castegnato (Bs) - Italy Phone: +39 030.32.03.01- Fax: +39 030.24.11.006 - Mobile +39 348.00.76.538 www.gruppoenergia.it - mail: info@gruppoenergia.it