



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

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)

RCM-INP-3 Capacitors for working in difficult conditions, resistant to voltage overloads 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)

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

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 or 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 100kVAR up to 10000kVAR.

Rated Voltage AC: from 1,5 kV up to 36kV / 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 10 kVAR up to 75 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.

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 single phase voltage stabilizers are designed to be used in several industrial and private fields.

Reference standard IEC 38 (CEI 8.6)

Stabilizers are available for different ranges of input voltage fluctuation.

The double input connection is possible.

Input variation ($\pm 15/\pm 20\%$ or $\pm 25/\pm 30\%$)

Output voltage regulation can be done of three phase or of each phase to neutral voltage.

Admitted load variation up to 100%

Available range:

from 0,3kVA up to 150kVA – single phase / from 2kVA up to 5000kVA – three phase

Selectable output voltage:

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

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

LOW INDUCTANCE



EP-LICP-1/EP-LIHC-1 Are designed to attenuate voltage spikes on GTO (Gate-Turn-Off) Thyristors and IGBT (Insulated Gate Bipolar Transistor).

Reference Standard IEC 61071

SPECIAL FEATURES:

- Very low self-inductance
- High RMS current carrying capability
- Special self-healing properties
- High pulse reliability
- High shock and vibration resistance, mechanical stability

Available range: all values available on request

Rated Voltage: from 500 Vdc up to 10000 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
- DC linking and filtering

Available range: all values available on request

Rated Urms Voltage: from 200 Vac up to 5000 Vac

VDE Prüf- und Zertifizierungsinstitut



CERTIFICATE OF COMPLIANCE

Certificate Number: 20140422-E365338
Report Reference: E365338-20140422
Issue Date: 2014-APRIL-22

Issued to: GRUPPO ENERGIA SRL
Via Cavezzo 36
25045 Castegnato Bs ITALY

This is to certify that representative samples of

COMPONENT - CAPACITORS, CONSTRUCTION ONLY
Series LILUM CP.

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: U.S. National Standard, UL 810, standard for Capacitors Canadian National Standard, CSA C22.2 No. 190, Capacitors for Power Factor Correction
See the UL Online Certifications Directory at www.ul.com/database for additional information

Only those products bearing the UL Recognized Component Mark for the U.S. and Canada should be considered as being covered by UL Recognition and Follow-Up Service and meeting the appropriate U.S. and Canadian requirements.

The UL Recognized Component Mark for the U.S. generally consists of the manufacturer's identification and catalog number, model number or other product designation as specified under "Marking" for the particular Recognition as published in the appropriate UL Directory. As a supplementary means of identifying products that have been produced under a UL Recognized Component Mark, the UL Recognized Component Mark may be used in conjunction with the required Recognition Mark. The Recognized Component Mark is required when marked in the UL Directory providing the Recognition or user "Marking" for the individual recognition. The UL Recognized Component Mark for Canada consists of the UL Recognized Component Mark for the U.S. and the manufacturer's identification and catalog number, model number or other product designation as specified under "Marking" for the particular Recognition as published in the appropriate UL Directory.

Recognized components are acceptable in certain constructional features or restricted in performance, quantities and use intended for such as components. UL provides equipment submitted for investigation rather than for direct separate installation in the field. The final acceptance of the component is dependent upon its installation and use in complete equipment submitted to UL LLC.

Look for the UL Recognized Component Mark on the product.

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CERTIFICATE OF COMPLIANCE

Certificate Number: 20160402-E365338
Report Reference: E365338-20160401
Issue Date: 2016-APRIL-02

Issued to: GRUPPO ENERGIA SRL
Via Cavezzo 36, 25045 Castegnato Bs ITALY

This is to certify that representative samples of

COMPONENT - CAPACITORS, CONSTRUCTION ONLY
Series DCM, may be prefaced by EP, followed by additional letters and numbers; Series CCMR, followed by additional letters and numbers; V ac rated capacitors and V dc rated capacitors.

USER Component - Capacitors, Construction Only, Series DCM, may be prefaced by EP, followed by additional letters and numbers; Series CCMR, followed by additional letters and numbers; V ac rated capacitors and V dc rated capacitors.

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL 810 Standard for Capacitors, CSA C22.2 No. 190-14 Standard for Capacitors for Power Factor Correction.
Additional Information: See the UL Online Certifications Directory at www.ul.com/database for additional information

Only those products bearing the UL Certification Mark should be considered as being covered by UL's Certification and Follow-Up Service.

Recognized components are acceptable in certain constructional features or restricted in performance, quantities and use intended for use as components of complete equipment submitted for investigation rather than for direct separate installation in the field. The final acceptance of the component is dependent upon its installation and use in complete equipment submitted to UL LLC.

Look for the UL Certification Mark on the product.

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Created by UL Document Assembly: 2016-04-04 02:52:57 -05:00

