LOW VOLTAGE POWER FACTOR CORRECTION CAPACITORS & EQUIPMENT
MEDIUM VOLTAGE POWER FACTOR CORRECTION CAPACITORS.

DUCATI ENERGIA owes its fame to its history, rooted in the technological revolution that swept through the electronic and mechanical sectors in the 1920's. Today DUCATI Group boasts a staff of almost 700 employees distributed in 6 plants worldwide.

The company focuses on four core sectors: the production of capacitors for electrotechnical applications, the manufacture and sale of energy meters, the manufacture of generators and the sale of electronic measuring devices. With market shares ranging from 30 to 40%, depending on the sector, DUCATI ENERGIA occupies an unchallenged position of leadership within Italy.

CAPACITORS DIVISION: DUCATI ENERGIA manufactures a highly diversified range of capacitors for alternating current and in particular for applications in the sectors of motor starting and running, lamp power factor correction, power electronics and industrial power factor correction; it also produces automatic power factor correction systems.

Ducati energia manufactures a wide and diversified range of capacitors for alternating current and in particular for use in motor starting and motor running, lamp, power factor correction, power electronics and industrial power factor improvement.
The series of capacitors presented by Ducati energia is the result of in-depth research on dielectrics, impregnating and production processes. The normalized capacitors are characterized by a very high degree of reliability and long life.

In the field of power applications, Ducati Energia can offer a vast array of low-voltage and medium/high-voltage systems, ranging from standard applications for the electricity distribution market to customized solutions for complex projects. Every day Ducati Energia, backed by over 70 years of experience, produces capacitors and systems for industrial power-factor correction and electronic power applications, which it industrially manages using state-of-the-art production and materials technologies.

The modular design of DUCATI F50 units makes them especially suitable for fixed transformer power factor correction systems and local power factor correction of motors. They can likewise be used to construct automatic power factor correction systems. The DUCATI F50 three-phase capacitor consists of 3 delta connected single-phase capacitors. The capacitors used belong to the LONG LIFE series for voltages of 415-450-525V, whereas for versions with a voltage rating of 230V the STANDARD LIFE family is used. The enclosure is made of insulating material (Class V2 according to the inflammability classification of standard UL94) and hence eliminates the need to provide a safety ground connection. Assembly is made easy thanks to the small “feet” used to join the modules, which make this a universal capacitor. To prevent the parallel bars from overheating, it is important not to exceed 75 A per unit when assembling modules. Units rated for more than 5 kVAR at 230 V and 20 kVAR at 415-450-525 V are supplied assembled only on request.
DUCATI F50 - LONG LIFE 4In
DUCATI F50 Series three-phase modular unit with plastic case
EN 60831 – 1/2

Isolating switches

Modular arrangement also eliminates need for matching standard 3 pole switch to specific installation requirement by adding neutral pole in 3 phase 4 wire AC system or looping poles for DC system. Hence these switches are most suitable & economical switch for all application like:

– Main Service Entrance Switch from Transformers & Bus bars,
– AC or DC Power Distribution System,
– Switching & Isolating Motors,
– Switching & Isolating Capacitors,
– Switching & Isolating Industrial Control Equipment,
– AC or DC Safety Switch.

Their mounting flexibility offers numerous matchless benefits for use in power distribution boards or for mountings. They are compact enough to occupy small panel space yet allowing installation as per convenience and rendering it safe for maintenance. They have been used successfully in almost every industry, becoming the exclusive choice of every discerning user, be it Power Plants, Building segments, Telecommunication field or industries like Steel, Chemical, Cement, Automobile, Machine Tools etc.
The handle in the switch disconnectors has a telescopic shaft. The handle & shaft assembly adjust to wide depth of the panel so there is no need to place a bracket below the switch while aligning it with enclosure door. It permits installation of the same switch in installations of different depth, without any modification or addition to the enclosures. Four hole handle fixing on the door permits last minute rotation of the switch inside the panel by 90 degrees on either side as per convenience, again without any modification to the door. These times saving features increase the ease and flexibility of installation and also reduce installation cost. Door interlocking prevents opening in the ON position, guarding the operator against an accidental mishap. As a standard 3 padlocks are provides in the OFF position to prevent closing the circuit during maintenance work. They can also be provided for the ON position. Using a suitable gasket along with handle enhances ingress protection level to IP54.

Fuses

NH Fuse links are used as the most reliable and economical protection of cable lines and installation lines against small overloads of current and high short-circuits. At rated voltage of 500V, the breaking capacity is 120kA, and at rated voltage of 660V, the breaking capacity is 100kA. The standard rated currents extend from 25A to 160A. The cable lines optimally protected by gL-gG fuse link. In case of small overloads the operating time of the fuse link is longer, but in case of a short circuit it is very quick. Cyclic tests have proved that fuse links melting characteristics are very stable and tolerance on the current axis can be up to ±10%. Selectivity is assured in rated current proportion 1:1.6 both in case of overloads and short circuits.

**Voltage 500 V Breaking capacity 120 KA Standards DIN VDE 0636/201-IEC 60269.2.1**

NH TERMOPLASTIC BASE
CHARACTERISTICS

Voltage 690 V
Standards
IEC 269
DIN VDE 636
DIN 43620

Short circuit protection is generally assured by gG fuses with Current ratings from 1.5 to 1.8 times the capacitor in.

Contactors
When choosing switching contactors for capacitors used to compensate the reactive power present in the network, you should bear several aspects in mind:

- on being energized the capacitor is connected in parallel to the inductive network and the oscillating circuit produced by connecting the capacitor to the network will result in the passage of a high-frequency current (from 3 to 15 kHz), which may be 160 times greater than the In current for 1 or 2 ms. - the presence of harmonic currents and the tolerance with respect to mains voltage determine the continuous passage, within the circuit, of a current whose value is around 1.3 times greater than the rated current In of the capacitor. - Because of the tolerances allowed by the manufacturer, the exact power of a capacitor may be 1.10 times greater than the rated power.

The contactor employed must therefore be capable of working with:
- an elevated, albeit transient, peak current during the closing phase.
- a closing current that may be 1.43 times greater than the rated current of the capacitor.

The contactors offered by Ducati Energia are specifically engineered to work in these conditions. In the event of particular conditions of use (higher switch-on current, higher harmonic current values) you should contact our technical service department.

**Standards:**
- IEC Pub. 947-4-1 (1990)

**REGO Series reactive power controllers**
Automatic reactive power control relays are microprocessor controlled systems that automatically manage capacitor banks to compensate for the reactive power absorbed by the load.

The new digital REGO series not only offers high reliability and accuracy in reactive power compensation but also a user interface for configuration and programming, which is extremely intuitive and suitable for all applications.

The new microprocessor also permits a better management of the innovative functions implemented, including easy installation, as just the CT value parameter is requested.

The following versions are available:
- with 5 output relays, dimensions 96 x 96 mm
- with 7 or 12 output relays, dimensions 144 x 144 mm
- with 12 output transistor (fast switching), dimensions 144x144 mm

Capacitor banks are switched on and off when the capacitive reactive power required to raise the load $\cos \theta$ to the value set on the controller exceeds 70% of the power of the first bank for a time corresponding to the set delay.

In addition to the standard functions, these control relays also perform measurement and protection functions and acquire data to be transmitted and stored in a PC (only models REGO7-12 and RAPID).

The REGO 7-12 and RAPID models can also exchange data with other network-connected DUCATI ENERGIA instruments.

Standards: EN 61010 - 1
           EN 50081 - 1
           EN 50082 - 2

ASTEQRASwitchgear
TECHNOLOGY  *  SAFETY  *  RELIABILITY