

ELECTRICAL ENGINEERING SOLUTIONS

We offer a complete range of solutions for power distribution, drives applications, control and automation requirements for new or existing plant installations.

We benchmark the overall cost of ownership against the degree of reliability and continuity of service we want to achieve to design state of the art power distribution systems, drives and plant automation systems, which are economical, energy efficient and operator friendly.



138kV, 3ph, 60 Hz incoming substation

Power Distribution Systems

We offer complete solutions from initial design, procurement specifications, detail engineering, commissioning planning and start up assistance.

Emergency power generation for protecting critical equipment during utility outages is an integral part of the plant power distribution scheme.

Co-generation from waste heat, gas, solar or wind energies or alternative fuels is the latest in the quest for lower operating energy costs and reduced emissions.

Our protection schemes make use of the latest state of the art microprocessor based protective relays. Unlike conventional protection relays found in older plants, the newer relays enhance the overall protection scheme by offering a higher degree of

selectivity, which increases the overall reliability of the power distribution system during power systems disturbances.



15kV Vacuum metal clad switchgear

We use software analysis tools such as PTW-SKM or EDSA to model the power system on the utility side and on the plant side of the distribution. We do short circuit analysis, load flow, harmonic evaluation, transient motor starting, power factor and relay coordination. The results of these studies allow us to specify switchgear, transformers, motors and drives which will operate reliably for many years.

High power factor, harmonic mitigation techniques, high load factor, high efficiency motors and drives, are all attributes in the design solutions we complete for our clients.

Motors and Drives

Our drive application specialists have the ability to select and apply motors and drives packages that will function satisfactorily in almost any power system network.

Starting methods are determined from the power system studies completed above, whereas speed control requirements are determined by the process needs.

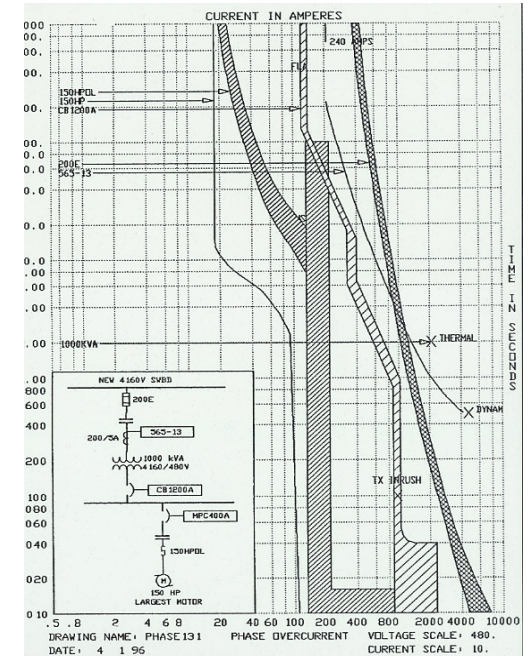
We custom tailor each drive to the characteristic of the load: DC motors, synchronous and squirrel-cage motors, slip-ring induction motors, wraparound or ring-motors and in some rare applications synchronous-induction motors as the case may be for that particular application.

We pay particular attention to equipment sizing and motor selection. Potential shortcomings are uncovered well in advance of equipment start up and remedied accordingly.

Control and Automation Solutions

Selecting the correct hardware and software solution for the control system is a continuously evolving process

and our engineers have demonstrated over time their keen ability to keep up with latest technology and to select and apply well proven solutions.



SKM CAPTOR - coordination plot

We apply Level 1 control through PLC, distributed I/O, smart controllers and smart instrumentation which integrate with Level 2 Distributed control system (DCS) and a computerized Management Information System (MIS).

Interface and communication techniques though DEVICE-NET, Field Bus, Ethernet are now key to reducing the wiring and cabling installation costs and to provide ease of control and troubleshooting.

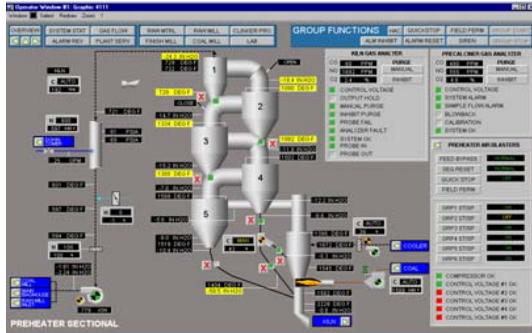


8300hp, 13.8kV, synch Motor-Fluid coupling

Commissioning

We make use of our hands on expertise to assist clients with the commissioning phase of the new installations.

We identify and prepare schedules of all commissioning activities with time lines for implementation and provide training for plant personnel as desired by the client.



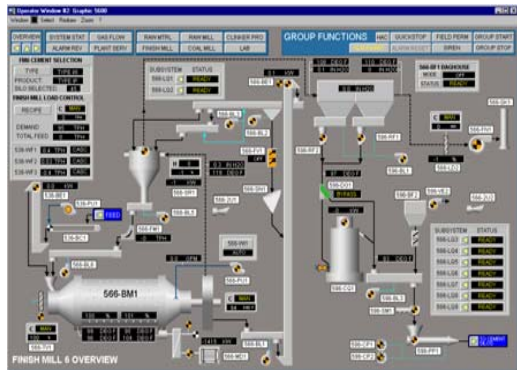
Typical preheater display

Forensic Investigation

Clients also rely on our expertise when investigating abnormal operation, damage due to electrical fault, electrical fires, obsolescence, or equipment failure such as switchgear, transformers, motors or drive systems.

Special Studies

We offer stand alone studies as following: Torsional and vibration analysis, Power systems, power quality, energy efficiency, illumination levels, lightning protection, etc.



Ball mill grinding circuit

Our Staff is fully trained and up to date with OSHA MSHA safety training requirements. The company carries up to date professional and general liability insurance.



IEEE, ASME, CSA, OSHA and MSHA



4900kW, 4.16 kV, SR ring motor drive for VRM



3880kW, 4.16kV, 900rpm synchronous motor
Fluid coupling, ball mill drive



1100 kW, 1800rpm, 4.16 kV, kiln drive motor & VFD
Please visit our WEBSITE or contact us at:



3370 South Service Road, Suite 103, Burlington,
Ontario, L7N 3M6, CANADA
Phone (905)-336-2786, Toll Free 1-877-336-2686
www.cimentec.com



3750kW, 5 kV variable frequency drive



3000kW, 180 rpm, 4.16kV, ball mill synch motor



5kV VFD incoming and bypass switchgear