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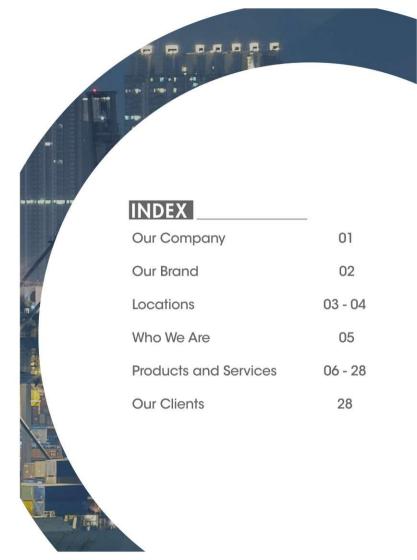
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# **Our Company**

Founded in 2010, Ortus Global is a worldwide provider of agricultural and industrial solutions. Ortus Industrial business produces, distributes and provides services for automation, control and conversion products. Ortus motors are manufactured by our partner factory in Asia with over 30 years of motor manufacturing experience. Our in-depth, tailor-made services in both industries have allowed us to build long-term relationships and to evolve with our valuable customers in the rapidly changing and competitive business world.



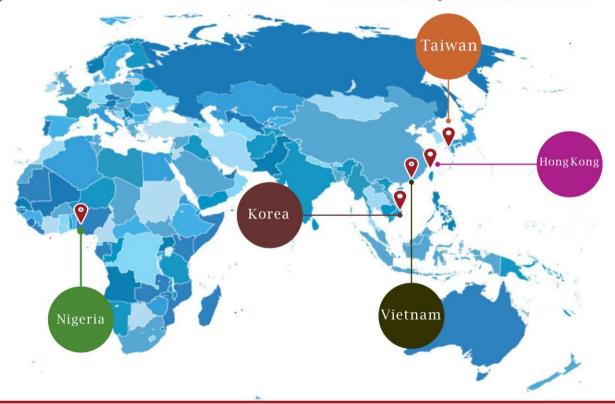
# Our Brand

Ortus is a Latin word with several meanings: origin, source, rise, and East. These represent the essence of our company, rising from the East, sourcing and originating commodities, providing industrial and household solutions and serving our customers globally in the Agricultural and Industrial sectors, which are the backbone and the foundation of the global economy.

The separation of a pyramid in our logo indicates the structure of our industry. From top to bottom, each segment plays a different role. We constantly evolve our businesses and services by cooperating with and learning from different segments in the industry.



We are located in Taiwan, Hong Kong, Vietnam, Korea and Nigeria, serving our customers globally in different markets. Ortus Agriculture is the leading agricultural commodities marketing firm in Taiwan, Vietnam and Korea, serving both the food and feed industries.



# Who We Are



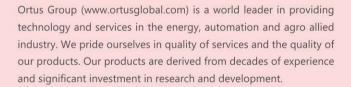




Energy Industry



Agro Allied Industry



We are present in over 10 countries and we continually expand our reach as we provide our solutions to our customers around the world.

Ortus Automation and control division is a sub business of the Ortus group focused on providing products and services that address the demanding needs of our industrial customers. We provide electric motors, Variable Speed Drives and PLC's offering a complete suite of automation products and service.

# **Products and Services**

Ortus Global produces its own motors, manufactured by our partner, who has over 30 years of motor industry experience in Taiwan and China.

# **Products**

- Electric Motors
- Variable Speed Drives
- Soft Starter
- Molded Case Circuit Breakers
- Miniature Circuit Breakers
- Manual Motor Starters
- Contactors and Relays

# Services

- Repairing and retrofitting of automation products.

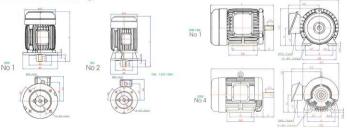
  Diagnosing and troubleshooting for automation products.
- Installation and commissioning of electric automation products (motors, variable speed drives and PLCs).





# **Ortus Electric Motors**

# **Outline Drawing**





Electricity and energy saving:
 Complying with IEC standard for global market requirements.

2. Excellent starting:

High torque and low voltage starting, which is surpassing features of IEC Design N. It is suitable for all kinds of industrial machinery operations. The size of motor and output function conform to IEC standards all over the world.

3. Ultra-quiet:

The motor adopts high efficiency design, low loss ratio, high efficient air deflector for outer fan, and precise processing effectively lower noise volume.

4. Slow rise in temperature and longer life span: Equipped with Class F insulation, Class B rising of temperature, and 1.0/1.15 service factor, these features effectively prolong life-span of motors.



# TECO Authorised Distributor

Ortus Global is an authorised distributor of TECO Products in Nigeria. Established in 1956. TECO has earned a reputation as a reliable manufacturer of superior quality Electric Motors, Variable Speed Drive systems and Motor Controls. These products are all designed, manufactured and tested to meet the highest International Standards.

# **Electric** Motors

# **Products**

- •Low Voltage 3 Phase Motors
- •Medium & High Voltage 3 Phase Motors
- •Single Phase Motors
- •Explosion Proof Motors
- Aluminum Frame Motors
- Brake Motors
- Permanent Magnet Motors
- •Definite Purpose Motors
- Rolled Steel Frame Motors

- Eddy Current Motors
- Synchronous Motors
- DC Motors
- •Inverter duty motors (Forced ventilation)
- Vertical motors
- Crane Motors
- Gear Motors
- Ventilation fan
- •Wound Rotor induction Motors

TECO Electric Motors are regarded as one of the leading brands available on the market and are regularly specified and preferred amongst equipment manufacturers, constructors, engineering companies and major end-users alike.

# **Products**

# Low Voltage 3 Phase Motors Features

- Standard 3-phase induction motors;
- Horizontal Foot Mounting / Vertical Mounting;
- •Low Voltage Squirrel Cage Induction Motors
- •IEC Standard size:
- Output 0.55~315kw;
- Pole (Speed) 2~ 8;
- Voltage 380V, 400V, 415V or others;
- · Frequency (Hz) 50,60;
- •Frame Size 80M~355L;
- Protection Enclosure IP 55:
- · Efficiency IE1,IE2,IE3.





Design Standards: IEC. BS. NEMA, JEC.

Environment: non-hazardous, shadow

# Features

- Standard 3-Phase Induction Motors:
- Output 1000~50,000HP (298 ~ 11,200 KW);
- Pole (Speed) 2 ~ 12;
- Voltage 2200 ~ 6900V.
- Available in ODP/WPI, TEFC, WPII, EAAC, TEFV, TEWAC;

# Medium & High Voltage 3 Phase Motors

Design Standards: IEC, BS, NEMA, CNS Environment: non-hazardous

- ·Suitable for use with Variable Speed Drives;
- Suitable for Across the line/Reduced Voltage Starting.

Electric Motors

Electric Motors

# **Single Phase Motors**

# **Features**

- Single Phase Induction Motors
- •TEFC Low Voltage Squirrel Cage

Output 1 ~ 10 HP Pole (Speed) 2, 4 Voltage 110/220V, 220V Frequency (Hz) 50, 60 Frame Size 90S ~ 132M Protection Enclosure IP 44



Environment: indoor Cast Iron Frame and End Bracket. Stator Insulation: 1 ~ 3HP Class E or B Insulation.

5 ~ 10HP Class F Insulation



high reliability, easy to adjust the gap to control braking force.

\*DC brake, which is normally spring applied, electrically released, provides safely brake.

Low noise.
 Low wear rate of braking lining.

Output 1/4 ~ 30 HP Pole (Speed) 4, 6 Voltage below 600V Frequency (Hz) 50, 60

# Explosion Proof Motors Features

- •Flameproof Ex d, Ex de
- •Non-sparking Ex nA
- •Dust protection Ex t
- •Increased safety Ex e

Output: 0.18kW ~ 1000kW Pole: 2 ~ 8 Voltage: Up to 690V Frequency: 50Hz, 60Hz FRAME SIZED80 ~ 450



Protection Enclosure: Totally Enclosed Fan Cooled IEC Ex / ATEX Explosion Proof Standards: IEC. BS. NEMA. JEC

# Permanent Magnet Motors Features

Output: 3.7 ~ 100 kW R.P.M.: 1500, 3000, 4500 R.P.M. Voltage: 220V, 380V Frequency: 60Hz Frame Size: 132, 160



Enclosure: IP 55 Design Standards : IEC 60034

# Aluminum Frame Motors Features

Low Voltage Aluminum Frame Motors High Efficiency, Multi Mounting, light weight

Output 0.18 ~ 7.5 KW Pole (Speed) 2 ~ 6 Voltage 220V,380V,440V Frequency (Hz) 50, 60 Frame Size 63 ~ 132M



Protection Enclosure IP 55
Design Standards: JIS, IEC
Environment: non-hazardous
Stator insulation: Class F Insulation, 1.0 SF.

# **Definite Purpose Motors**Features

- Wash Down Duty Motors
- Non Sparking Motors
- Pole Change Motors
- Long Shaft Motors
- Double Shaft Motors
   Cooling Fan Motors
- High Temperature Resistant(Smokespill)Motors
- Oil Well Pump Motors
- Crush Duty Motors



Output 0.55~315kw Pole (Speed) 2~ 8 Voltage 380V, 400V, 415V or others Frequency (Hz) 50,60 Frame Size 80M~355L

# **Rolled Steel Frame Motors**

#### Features

·Low Voltage Rolled Steel Frame Motors, Design B

Output 1/3 ~ 2HP Pole (Speed) 2 ~ 6 Voltage 230/460V (usable on 208V at 1.0 SF) Frequency (Hz) 60 Frame Size A56C ~ C56C Protection Enclosure TEFC, IP 44



Design Standards: NEMA MG-1, MG-13 Stator insulation: Class F Insulation, Brise SF 1.15

# Wound Rotor induction Motors Features

•3-Phase Slip Ring Induction Motors

Low Voltage and High Voltage available

Output 100 ~700 HP (75 ~522 KW) Pole (Speed) 4 ~ 16 Voltage 2200V~4160V Frequency (Hz) 50, 60 Frame Size 315A~450A



Protection Enclosure IP 44, Drip-proof IP 23 Options: 15%ED, 25%ED, 40%ED, 60%ED, 100%ED.



# **Eddy Current Motors Features**

•Variable speed •Less maintenance •Heavy duty

Squirrel Cage Induction Variable Speed Motor Output 1/2 ~ 200 HP, Pole (Speed) 4, 6, 8 Voltage below 600V, Coupling: DC 80V Controller: 200V Frequency (Hz) 50, 60 Frame Size 917B ~4096

Protection Enclosure Motor: IP 54, totally enclosed

Coupling: IP 22, open drip-proof

Constant Torque

Design Standard: CNS, JIS Environment: non-hazardous

Noise: under 95 dBA at 1 meter from motor ED Coupling Drum made by aluminum alloy die cast or cast iron.

# **Synchronous Motors**

- •Low Speed12 Pole (Speed) and above
- High Speed10 Pole (Speed) and below



# Applications:

Pulp and paper processing, electric utility, marine,

water and wastewater treatment, chemical and petrochemical, steel, mining, air conditioning, and air separation.

Synchronous machines can be found wherever there is a demand for highly efficient, cost-effective, dependable machines. They are frequently used for chippers, mixers, generators, rolling, ball and sag mills, pulp (reprocating and centrifical) drives. They are also furnished with adjustable frequency drives (PWM, LCI, and Cyclo-converter) for soft starters or speed regulation.

#### **Features**

We provide superior value in terms of performance and long life in arduous applications. Our synchronous machines offer numerous benefits including: Constant-speed operation High efficiency ratings, Low inrush currents, Leading power factor (for corrective KVA capability)

Output (HP) 500 ~ 85,000 HP (373 ~63,410 KW)
RPM 30 ~ 1800 rpm
Voltage 2300 ~ 13,800V
Frequency (Hz) 50, 60, adjustable
Frame Size 400M ~ 800S
Protection Enclosure: ODP, WPI, WPII, TEAAC, TEFV, TEFC

Mounting: Horizontal or Vertical Bearings: Sleeve as standard PF: 1.0 ~ 8.0 leading

Excitation: Brush type or Brushless Construction: Bracket or Pedestal

The motors shall be designed, manufactured and assembled in accordance with the latest version of NEMA standard MG-1, ANSI, IEEE 115, and the NEC.

# DC Motors

#### Features

 Direct Current motors are ideally suited to a multitude of industrial applications in which high torque and variable speed are required.

#### **Market Served**

- Metals (Steel Rolling Mills, Aluminum Rolling Mills):
- ·Chemicals (Polyester Film, Extruder, Agitators);
- ·Mining (Hoists, Draglines, Sag Mills);
- ·Paper Machinery, Sugar Industry;
- Special Applications.

# Type of DC Motors

- Series
- Shunt
- Compound

#### Standards: BS5000, IEC, NEMA

A full line of Induction, Synchronous and DC motors are available in both horizontal and vertical configurations from 1/4 HP up to 60,000 HP. We also produce made-to-order motors to cater your special needs.



#### Supply Scope

1/2 ~ 3,000 HP (0.4 ~ 2,200 KW) 500 ~ 1,800 RPM (Base Speed) Enclosure IP 23, IP 44, IP 54, IP 55 Cooling IC06, IC37, IC0666, ICW37A86 DC Controllers / Control Panels Digital or Analogs, 2Q or 4Q, Armature Current Ratings (Adc): 3A ~ 2700A, Armature Voltage: 150 ~ 750 Vdc

Special requirements on either DC motors or DC control Panels may be provided on request.

# Inverter duty motors (Forced ventilation) Features

- · Suitable for variable torque & constant torque
- Reliable insulation systems
- ·High impulse duty
- •The class H of AI wire coil, and twice varnishes process.

Output 1 ~ 300 HP Pole (Speed) 2 ~ 6 Voltage below 600V Frequency (Hz) 50, 60 Frame Size 143 ~ 449 Protection Enclosure IP 54



Design Standard: NEMA MG-1, MG-13 Environment: non-hazardous Stator Insulation: Class F Insulation

# Vertical motors

- Reliable design
- · Heavy pump service
- · High thrust value based on customer needs
- Variety of options
- Vertical Solid Shaft High Thrust Pump Motors
- Vertical Hollow Shaft High Thrust Pump Motors

Output 30 ~ 185 KW Pole (Speed) 2~ 8 Voltage 380V, 400V, 415V, 440V Frequency (Hz) 50 Frame Size 250S ~ 315M Protection Enclosure IPW44



Design Standards: BS 4999, AS 1360, NEMA MG-1, MG-13 Environment: non-hazardous Stator insulation: Class F Insulation, 804J rise at SF 1.0

# Gear Motors Features

- · Reliable speed reducer
- Rugged construction
- · Heavy duty

Output 1/4 ~ 100 - 50000HP; Pole (Speed) 4, 6 Voltage below 600V Frequency (Hz) 50, 60



Gear Reducer Frame Size 25 ~ 115 Protection Enclosure IP 54 Reduced Ratio 1/5, 1/10, 1/15, 1/20, 1/30, 1/40, 1/50, 1/60,1/75, 1/90, 1/100, 1/120, 1/150, 1/180

# Variable Speed Drives

# Crane Motors

#### Features

- •Thermoplastic insulation system for unequalled dielectric strength and voltage endurance.
- Advanced Bearing system for reliable performance.
- •Rugged box frame construction for strength and reliability.
- Heavy-duty Rotor construction for dependable service.

Design Standards: IEC, BS, NEMA, CNS Environment: non-hazardous



Output 400~15,000HP (298 ~ 11,200KW)
Pole (Speed) 2~ 12
Voltage 2200 ~ 6900V
Frequency (Hz) 50, 60
Frame Size 355 ~900
Protection Enclosure IP 55

# Ventilation fan

Aluminum Alloy Die Cast Blade. Louver type suitable for weather protect.

Output 1/2 ~ 1 HP Pole (Speed) 4, 6 Voltage 230V, 380V, 440V Frequency (Hz) 50, 60 Fan Dimensions 450 mm / 18", 600 mm / 24"



# TECO LEAF 510 Series Drives TAIWAN EXCELLENCE

# **LEAF** Inverter Family

F510 230V 1 - 175 HP 460V 1 - 800 HP

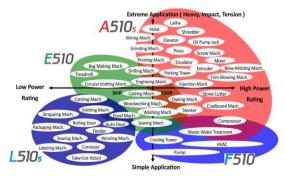
**E510** 230V 0.5 – 20 HP 460V 1 – 25 HP

A510s 230V 1 - 150 HP

L510<sub>5</sub> 110V 0.25 - 1 HP 230V 0.25 - 10 HP 460V 1 - 15 HP



510 Series Introduction



510 Series Market Segmentation

#### Model

Ip20 •100-120V 0.25-1HP •200-240V 0.25-10HP

• 380-480V 1-15HP

#### Main Features

- 0-599Hz output (V/F mode).
- Control Methods Available: V/F mode or Sensorless Vector Operation.
- Digital and Analog Inputs Outputs have extremely fast (~4 msec) update time.
- · Auto Carrier Freq. & de-rating control.
- Built-in Modbus or BACnet Protocols (RJ45 Interface).
- 8 Programmable sequences.
- Built-in potentiometer.
- For Conveyor, Automatic Door, Packaging and Filling Machine.



L510s

# Model

IP20/NEMA1 •200-240V (1-Phase/3-Phase) 0.5-3HP •230V (3-Phase) 5-40HP380-480V (3-Phase) 1-75HP

# **Main Features**

- 0-599Hz output (V/F mode).
- Built-in Modbus Protocol (RJ45 Interface).
- Sensorless Vector Control.
- Built-in Braking Transistor.
- Digital and Analog Inputs Outputs have extremely fast (~4 msec) update time.
- Auto Carrier Freq. & de-rating control.
- Built-in PLC Function.
- For Food processing, Woodworking, Mixers, Packaging & Labeling Machine.



E510

#### Model

(IP20/NEMA1) •200-240V 1-150HP •380-480V 1-425HP

• 575-690V 1-270HP

### Main Features

- 0-599Hz output (V/F mode). Attains high levels of torque.
- 200% Starting torque in Sensorless vector mode.
- 200% Holding torque in closed-loop vector modes.
- Pulse Width Modulation (PWM) technology that reduces motor noise.
- Over Voltage Suppression.
- \* Advanced tuning/ motor matching capabilities.
- \*Dual Rating Design for Heavy and Normal duty.
- For Crane, Press, Hoist Extruder, and Injection Molding Machine.



A510s Advanced
Current Vector Control Drive

#### Model

(IP20/NEMA1) •200-240V 1-175HP •380-480V 1-800HP IP55/NEMA12 •380-480V 1-800HP

# **Main Features**

- Built-in Modbus RTU, BACnet MS/TP, or Metasys (N2) communications via on-board RS485 or Rj45 connection
- Constant Pressure Control.
- Two separate PID loop controls.
- Switch between PID loops based on input signal or real-time clock setting.
- \*IPM/SPM Motor Control.
- \*Built-in pump cascade control for up to 4 pumps.
- Option card for control of up to 8 pumps.

  Ideal Product for Fan, Industrial Pump, HVAC, Irrigation.



F510
Fan and Pump
AC Drive



TECO Medium Voltage
Custom AC Drive

# **VERSABRIDGE** Medium Voltage Drives

- They provide reliable motor control for a variety of industry specific and general purpose applications including Oil & Gas, Utility/ Power Generation, Metals and Mines.
- These patented MVDs are designed utilizing a multilevel H-Bridge topology that reduces the harmonic levels to extremely low levels.
- The modular design facilitates ease of installation, commissioning and maintenance
- The VersaBridge ® is an innovative product that combines reliable, simple, and compact solutions with the latest power electronics and cooling technologies.

# Soft Starter



RVS - DX Digital Soft Starter 8 - 460A

# Main features

- RVS DX Digital Soft Starter 8 460A with built- in bypass.
- Complete line 8 460A, 230-660V.
- · Normal Duty, fully rated design including built-in bypass.
- · Superior starting and stopping characteristics.
- RS485 Modbus communications.
- · Analogue output and additional future enhancements.
- Voltages: 230, 400, 440, 460 & 600V.



Teco - MVC3 Power range: 200~600A, Voltage range: 2.3~15kV with door safety interlocking.

# Main features

- Designed for: Heavy loads, Tough environments, Any power conditions, Reactor-less operation, Advanced motor protection relay and ramp features programmable via the keypad or a laptop computer.
- Fiber optically isolated low voltage compartment with up to 110kV BIL rating for safety and reliability.
- Built-in 120V control power transformer voltage and current metering. Load- break / fault-make rated disconnect switch



#### Forward / Reverse Starters Features

- 5.5KW to 11KW.
- AC3 (Induction Motor Starting) Rating 415 Volt 50Hz 3 Phase, coils rated 415 Volt.
- · Cable Entry Knockout Top and Bottom.
- Other Overloads available for Special Motor Ratings (Retrofit an Overload that suits the Load.
- · Other Voltages Available (Retrofit coils that suits the Voltage).



# Direct on Line (DOL) Starters Features

- 4KW to 11KW.
- IP65 Plastic Enclosure.
- AC3 (Induction Motor Starting) Rating.
- 415 Volt 50Hz 3 Phase, coils rated 415 Volt or option as 240 Volt, CE Marked.
- · Gland Entry Knockout 20mm x 2 Top and Bottom.
- · Also Available Without Overload for Special Motor Ratings (Retrofit an Overload that suits the Load
- Other Voltages Available
- · Ample Wiring Room.
- Earth Terminal Provided.



# Star / Delta Starters

- 11KW to 55KW, AC3 (Induction Motor Starting).
- Rating 415 Volt 50Hz 3 Phase, coils rated 415 Volt.
- · Adjustable Switch Over Timer.
- Cable Entry Knockout Top and Bottom.
- Other Overloads available for Special Motor Ratings (Retrofit
- · an Overload that suits the Load).
- Other Voltages Available (Retrofit coils that suits the Voltage)

# **Contactors and Relays**



RVS - AX Analogue Soft Starter 8 - 170A

#### Main features

- The Low Voltage Soft Starter Selector makes it easy for you to choose the right device for your project.
- RVS AX Analogue Soft Starter 8 170A, with built-in bypass.
- Soft Start & Soft Stop.
- · Built-in Bypass (31 170A only) Current Limit.
- Start/Stop by voltage free contact.
- · Built in motor protection.
- . Voltages: 230, 400, 440, 460 & 600V.

#### Main features

- RVS DN Digital Soft Starter 8 2700A, with built-in bypass.
- •Complete line 8 2700A, 220-1000V.
- ·Heavy Duty, fully rated design including built in bypass
- Superior starting and stopping characteristics.
- Comprehensive Motor Protection Package.
- •Maximum ambient temperature 50°C.
- •Unique operational features including :

Motor Insulation tester RS485 Comm;

Modbus / Profibus / TCP-IP;

Thermistor Input / Analogue output.

RVS – DN Digital Soft Starter 8 – 2700A

# Main features

- Soft Start & Soft Stop.
- ·Built-in Bypass.
- . Start/Stop by voltage free contact.
- •End of acceleration contact, one N.O (31-58A only).
- Compact, small foot print.
- •Plastic case 8 22A, Aluminium case 31 58A.
- •DIN Rail mounting (Standard 8 22A, option
- \*Voltages: 230, 400, 440, 460 & 600V.





#### Overload Relays Features

- •0.3 Amp to 185 Amp.
- Overload and Phase Failure Protection.
- Selectable auto or manual overload reset.
- Trip Indicator.
- \*Robust Construction.
- Easy Assembly.

# Magnetic Contactors

- 4W to 300KW.
- AC3 (Induction Motor Starting).
- Rating Wide Range of Voltages are available.
- Screw Mount as well as DIN Rail up to 21KW.
- Robust Construction.
- Easy Fitment of Overload and Accessories.
- Easy Coil Voltage Change.

#### Accessories

#### eatures

 Auxiliary contacts in both top and side mount with a combination of 2 and 4 contacts.

- · Range of mechanical interlocks.
- Range of AC/DC Coil Drive Units.
- Range of Coil Surge Suppressors.
- Robust Construction.
- Easy Assembly.

# **Miniature** Circuit Breakers







# **Features**

- Up to 63A
- •1,2,3 or 4 Poles
- Breaking capacity up to 6kA according to IEC60898
- Contact position indicator
- C/D curve characteristics
- Available accessories includes:
   Shunt trips, UV trip, Auxiliary switch



# **Molded** Case Circuit Breakers



#### Features

- Up to 800A
- · 2.3 or 4 Poles
- Breaking capacity up to 85kA at 440v
- Thermomagnetic or Electric trip Units
- Available accessories includes:

Shunt trips, UV trip, Aux contacts, Extension handles

# **Motor** Starters



#### Features

- Up to 63A rated current
- · Short circuit breaking capacity up to 100kA
- Includes phase failure protection
- Available accessories includes: Auxiliary contacts, Shunt trips, Undervoltage trip

# Services

Through our service partner we can overhaul all types of electric motors and industrial machines such as:

- AC Electric Motors (3 Phase AC motors up to 450Kw, Single Phase Motors)
- DC Electric Motors
- Generators (3 Phase Generators up to 300KVA & Single-Phase Generators)
- Pumps (Submersible Pumps, Vacuum Pumps, Multistage Pumps, Grinder Pumps)
- . Industrial Fans (Axial Fans, Duct Inline Fans, Centrifugal Fans /Radial Fans and Belt Driven Fans)

Surge testing

· Vibration analysis

Mechanical repairs

Power tool repairs

· In-house and field balancing

· Pump & pump motor repairs

# We offer the following types of Equipment service and repair:

- · Motor repair and rewinding
- · Generator repair and rewinding
- · Welder repair and rewinding
- Control repairs
- · On-site preventative and predictive maintenance services
- Hypo testing

For more information or to request a service give us a call on 0908 292 0191 or email us at africa@ortusglobal.com

# **Our** Clients















