

Transformer Rectifier Unit System Technology

**TRUst**<sup>TM</sup>



# TRANSFORMER RECTIFIERS



# Clearly the best protection...

Cathodic Protection Co Ltd has been manufacturing Transformer Rectifier units for over 30 years, with 4,000 units in operation in over 35 countries. Experience shows that our customers demand quality, versatility and cost effectiveness when choosing their Cathodic Protection power supply units. That's why we have developed the TRUst™ range of Transformer Rectifiers - updating technology, retaining quality and meeting the needs of our increasingly diverse client base.

Some of our most recent clients include MECAP, SABIC, Sonatrach, KBR and BP. With the diversity of our clients' specification requirements, we were offered the challenge to develop a product reliable and simple to understand, which met the needs of today's corrosion engineers.

Today, we provide a central core of technology, build quality and design features using market leading expertise and materials. With the TRUst™ range the customer can easily define what is wanted without deviation or unnecessary complication. TRUst™ delivers clear options for control, monitoring and operation that will ensure any Cathodic Protection system is being looked after by the best in the business.

We work hand in hand with our clients to deliver proven products that meet or exceed project specifications. Our purpose-built manufacturing facility in the UK has the capacity to handle any requirement a customer may have. We recognise above all that our Transformer Rectifiers must be delivered on time, on budget and ready to get to work. TRUst™ takes Transformer Rectifier specification into the 21st century - practical, workable solutions that deliver exactly what the customer wants, when they want it.

Here you can find some of the main features of the TRUst™ system and what specific options are available to you.

## ...for your investment



# Variac Transformer Rectifiers

Variac controlled Transformer Rectifiers are best for industrial solutions that require robust, trouble free operation.

## Features:

- AC supply 110 to 690V, 1ph or 3ph, 50-60Hz as required by the client
- DC output range 6V to 200V and 1A to 1000A as required by the client
- Air or oil cooled
- Built to suit all environments, including marine, desert, tropical and Arctic
- Safe or hazardous area
- Manufactured from mild or stainless steel determined by the client specifications
- Paint finish to suit the client specifications
- Constant voltage control 0-100% of rated output
- Analogue or digital metering
- Fully compatible with our Remote Monitoring Systems (RMS)
- Designed in house by CPCL engineers
- Low maintenance
- 25 year design life as standard

# Tapped Transformer Rectifiers

Tapped transformer rectifiers for robust, low maintenance trouble free operation.

## Features:

- AC supply 110 to 690V, 1ph or 3ph, 50-60Hz as required by the client
- DC output range 6V to 200V and 1A to 1000A as required by the client
- Air or oil cooled
- Built to suit all environments, including marine, desert, tropical and Arctic.
- Safe or hazardous area
- Enclosure manufactured from mild steel or stainless steel determined by client specifications
- Enclosure paint finish to suit client specifications
- Tapped control in 63, 36 or 25 step from 0 to 100% of rated output
- Constant voltage control
- Analogue or digital metering
- Fully compatible with our Remote Monitoring Systems (RMS)
- Designed in house by CPCL engineers
- Low maintenance
- 25 year design life as standard



# Generic Specification Features

- 1 phase or 3 phase AC supply to suit customer requirements
- Cooling oil natural, air natural, air ventilated, air forced
- Safe area up to IP68 (IP55 Cathodic Protection Co Ltd standard)
- Hazardous area zone 1 air cooled
- Output range available up to and over 1000A DC

# Enclosures and Fabrication

We design our own tanks and cabinets in the following materials:

- Mild steel sheet
- Stainless steel 304 and 316L
- GRP
- Aluminium

The thickness chosen is based upon weight/stress, environment and client specifications

We offer a wide range of finishing and paint specifications to suit customer requirements including:

- Galvanising to BS 729
- Bead blast shot blast SA2.5
- Hot zinc spray
- Powder coating
- Wet paint

As standard we offer a high build zinc rich base coat with a long life powder top coat



## Thyristor Transformer Rectifiers

The first of the TRUst range features Thyristor control of all power supplies. In terms of range and features, this is the most flexible system available, meeting the most arduous of industrial specifications

### Features:

- AC supply 110 to 690V, 1ph or 3ph, 50-60Hz as required by the client.
- DC output range 6V to 200V and 100mA to 1000A as required by the client.
- Can monitor unlimited number of reference electrodes
- Air or oil cooled
- Built to suit all environments, including marine, desert, tropical and Arctic.
- Safe or hazardous area
- Enclosure manufactured from mild or stainless steel determined by the client specifications
- Enclosure paint finish to suit client specifications
- Control Types:
  - Constant Voltage
  - Constant current
  - Auto potential control
  - Survey Mode
- Control resolution:
  - 0-1V/A in 1mV/mA steps
  - 1-10V/A in 10mV/mA steps
  - 10-1000V/A in 100mV/mA steps
- Analogue or digital controls and metering
- Integrated data logging
- User controller alarm indications
- Microprocessor based control board
- Fully compatible with our Remote Monitoring and Control Systems (RMCS)
- Designed in house by CPCL engineers
- 25 year design life as standard

## Switch Mode Power Supply

Switch Mode Power Supplies (SMPS) are ideal for low power applications, particularly concrete CP systems.

### Features:

- AC supply 90 to 260V, 1ph, 50-60Hz with power factor >0.9
- 144W DC output with dual range at 24V 6A and 12V 12A
- High efficiency for low running costs
- Monitor unlimited number of reference electrodes with outstanding precision at less than 1mV
- Air cooled
- Built to suit all environments, including marine, desert, tropical and Arctic
- Safe or hazardous area
- Enclosure manufactured from mild or stainless steel as determined by the client specifications
- Enclosure paint finish to suit client specifications
- Control Types:
  - Constant voltage
  - Constant current
  - Auto potential control
  - Survey mode
- Control resolution of 1mA and 1mV across output range
- Digital controls and metering
- User controller alarm indications
- Microprocessor based control board
- Fully compatible with our Remote Monitoring and Control Systems (RMCS)
- Designed in house by CPCL engineers
- 10 year design life as standard



## DC to DC Power Supply

DC to DC Power Supplies are ideal for applications where AC power is not available as they can run directly from any DC source, including solar.

### Features:

- DC supply 24 to 48V, 1ph, 50-60Hz
- 1kW DC output with range of 0-50V 0-20A
- High efficiency for low running costs
- Monitor unlimited number of reference electrodes with outstanding precision at less than 1mV
- Air cooled
- Built to suit all environments, including marine, desert, tropical and Arctic.
- Safe or hazardous area
- Enclosure manufactured from mild or stainless steel as determined by the client specifications
- Enclosure paint finish to suit client specifications
- Control Types:
  - Constant voltage
  - Constant current
  - Auto potential control
  - Survey mode
- Control resolution of 1mA and 1mV across output range
- Control and
- Digital controls and metering
- User controller alarm indications
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## Remote Monitoring and Control System (RMCS)

Cathodic Protection Co Ltd's Remote Monitoring and Control System allows the checking of an installation's performance from any remote computer or mobile device, giving complete freedom and versatility.

### Features:

- Remote connectivity by GSM/GPRS, 3G and other
- Local connectivity by RS485 or Ethernet, fibre or copper
- Local server or cloud-based software, customised to the client's needs
- Applications for steel in concrete (compliant with BS EN 12696:2012), pipelines, tanks farms, in-plant pipework and more
- Retrofit to non-CPCL power supplies

### Access to the system can be via:

- PC with internet connection using web browser software
- PC connected to RMCS controller LAN
- Laptop at RMCS controller
- Optional HMI 5.7" touch screen LCD display built into RMCS controller
- Internet enabled devices (e.g. iPad or Android phone)
- Laptop with WiFi when RMCS controller includes a WiFi hub



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## Accreditations:



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