

Impressed Current Cathodic Protection

Power Supplies / Oil Cooled Transformer Rectifiers

PS 01.002

Oil Cooled Transformer Rectifiers

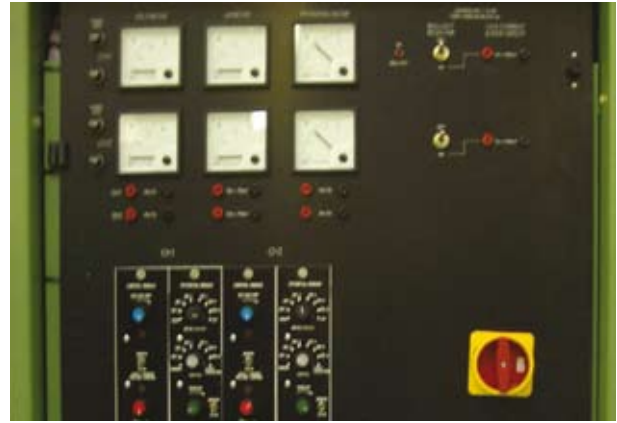
Our range of Oil Cooled Transformer Rectifiers are specifically for the Cathodic Protection of Steel Structures including jetties, pipelines and tank farms. They have been designed to comply with the most stringent industry specifications and perform in arduous environmental conditions where continual Operational Safety and Reliability is paramount.

The transformer rectifiers are in the ONAN (Oil Natural Air Natural) cooling category and thus have a greater inherent reliability than oil circulated and forced air designs.

Cable terminations are located in an enclosure on the side of the tank, positioned to allow vertical cable entry. Exposed terminals operating at more than 50 volts are covered as a protection against accidental physical contact.

All units are manufactured to stringent safety regulations and rigorous quality assurance procedures under our ISO 9001 certification, fully in accordance with all applicable British and European standards.





Applications

Our Oil Cooled Transformer Rectifiers are ideally suited to heavy duty applications in arduous environments with ambient temperatures up to 55°C, and are available with current ratings of up to 600A. Our in-house design and manufacturing process allows us to build multiple output channels into a single transformer rectifier unit.

They are designed and manufactured with a wide variety of innovative features, and every aspect of their design can be customised to suit the application or client specification. All opening covers are fitted with neoprene gaskets to prevent the ingress of dust and moisture.

In order to accommodate every possible application, we are able to incorporate a wide variety of specialised features into our customised transformer rectifiers, including local and remote monitoring of output voltage, current, reference electrode potentials, and remote control of output voltage and current.

Features

Enclosures – Sealed to a protective category of IP66

- Mild Steel Heavy duty welded with Flame Zinc Spray and 2 Part Epoxy / Polyurethane Coating
- Painted Stainless Steel Heavy duty welded grades 304 or 316.

Control

- Continuously variable transformer (Variac)
- Discrete Step Switching in 16, 20, 25 or 63 Steps (Step Control)
- Constant Current / Constant Voltage
- Automatic Potential Control.

Input Supply

- 115V to 240V single phase
- Up to 660V three phase.

Additional Features

- GPS Synchronous Current Interruption
- Data Logging of Output Voltage, Current and Reference Cell Potential
- Remote Monitoring and Control over the Internet, Satellite, GSM Cellular, or RS232/RS485 network
- Trip Alarms for Output Voltage, Output Current, Reference Electrode Potential, AC Input Voltage, Phase Failure.



TANK FITTINGS	Oil Level Gauge	✓
	Oil Filling Pipe	✓
	Oil Drain Valve	✓
	Breather – Silica Gel	✓
	Skid Under Base	✓
	External / Earth Bolt	✓
	Sunshade	○
	ID Label	○
	Rating Plate	✓
	Dial Type Thermometer	✓
	Operation & Maintenance Manual	✓
	First filling of Oil to BS148/IEC296	✓
	Laminated Circuit Diagram	○
	Anchor Bolts	○
	Lifting Lugs	✓
	Meter Viewing Window	✓
	Padlock Facility	✓
Hinged Lid	○	
Lid Toggle Latches	○	
Cable Entry	○ Glands (Armoured) ○ Glands (Un-armoured)	
METERING	Output Voltmeter & Ammeter	● Analogue 90° Scale † ○ Analogue 240° Scale † ○ Digital 3.5 Digit ○ Digital 4.5 Digit
	Reference Potential Meter	○ Analogue 90° Scale † ○ Analogue 240° Scale † ○ Digital 3.5 Digit ○ Digital 4.5 Digit
	Input Voltmeter	○
	Input Ammeter	○
	Hours Run Counter	○
	Kilowatt Hour Meter	○
	Meter Monitor Sockets (4mm)	○

† Also available as hermetically sealed or tropicalised if required.

ELECTRICAL	Input MCB	✓	
	External isolator	○**	
	Surge/Lightning Arrester DC	✓	
	Surge/Lightning Arrester AC	○	
	AC Healthy Neon	○	
	Input RCD / ELCB	○	
	Door Interlocked Isolator	○**	
	Over Temperature Trip	○	
	Anti-Condensation Heater & Switch	○	
	Rectifier Fuses	○*	
	Smoothing / Efficiency Circuit	○*	
	RFI Suppression Filters	○	
	Auxiliary AC Socket (to suit client requirements)	○	
	Output Termination	● Studs ○ Terminals	
	Output Protection	● Fuse ○ MCB	
	MONITORING	Transducer for Output Current	○
		Transducer for Output Voltage	○
Transducer for Reference Potential		○	
DC Low Output / Failure Alarm		○	
AC Failure Alarm		○ AC ○ DC	
AC Phase Monitor (3 Phase only)		○	
Current Interruption		○ Non Synchronous ○ Synchronous ○ GPS Synchronous	
Timer Link (For Portable Timer)		○	
Remote Monitoring and Control Unit (Watchdog CP)		○	
Data Logger Unit with GPS Synchroniser (CARMS)		○	

* Included as standard in CC-CV and Fully Automatic Units.

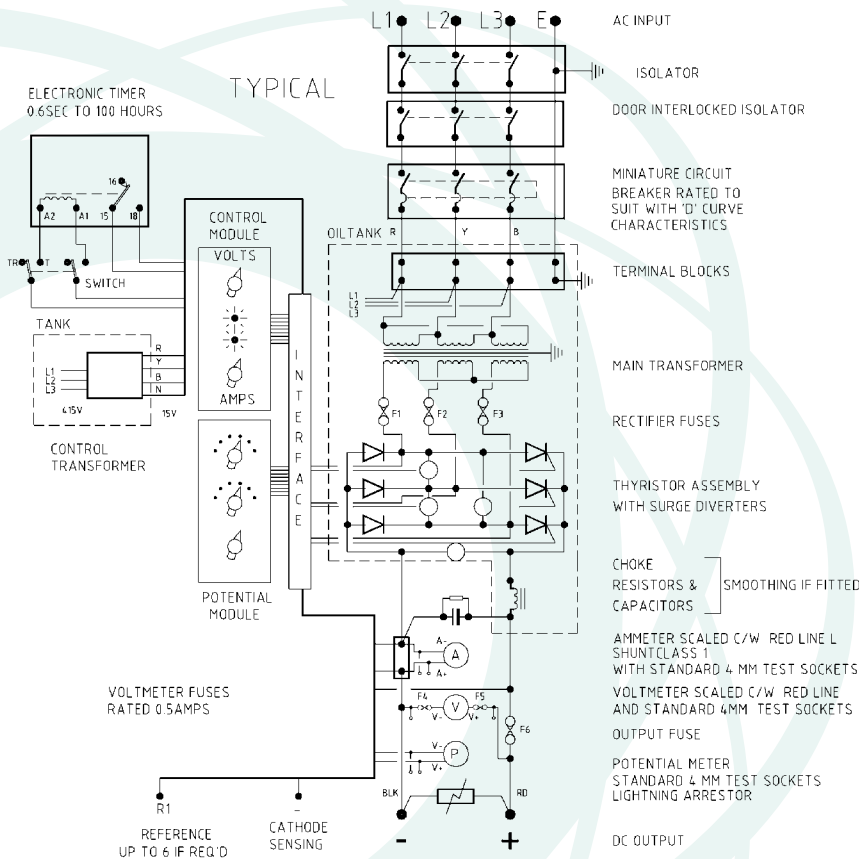
** Included as standard in 3-phase CC-CV and 3-phase Fully Automatic Units.

KEY
 ✓ = Included as standard.
 ● = Included as standard but other options available.
 ○ = Optional Extra (Where there is more than one type available, only one type may be selected).

TYPICAL SIZES & WEIGHTS	Max Power Output (power = DC Voltage x DC Current)			Type	Dimensions (Excl. Sunshade) H x W x D mm	Nominal Weight (Kgs)	Oil Required (L)
	CC/CV Auto	Three-Phase 415V Manual	Single-Phase 230V Manual				
2,200	3,300	1,500		DX 1	1400 x 650 x 650	300	140
3,700	6,100	3,000		MX 1	1150 x 1000 x 800	500	280
5,400	7,800	3,800		MX 2	1400 x 1000 x 800	600	360
8,700	13,900	6,100		LX 1	1550 x 1500 x 950	1200	770
18,500	29,400	13,000		LX 1 + 4R	1550 x 1500 x 1100	1300	800
28,000	45,000	20,000		LX 1 + 8R	1550 x 1500 x 1250	1400	830

Sizes based on 55°C Ambient temperature, in cooler climates sizes may be reduced.
Units based on standard specification with no optional extras. With optional extras depth and weight may increase.

Diagram 1: Sample Oil Cooled TR Circuit Diagram



Contact

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