



CATHODIC PROTECTION

BTH-50V50A Automatic Cathodic Protection Rectifier

High Efficiency CP Rectifier
with Built-in GPS Interrupter
and MODBUS Scada Connection



BTH-50V50A is a DSP controlled, fully programmable, high efficiency cathodic protection rectifier designed to keep up with the severe conditions faced in harsh working environment, equipped with all the necessary protective components and functions to protect itself under extreme conditions such as overcurrent and overheat or surges coming from any cable connection.

BTH-50V50A has a unique feature of being able to work with 2 or 3 phase of supply. This feature makes it possible to operate under unstable mains conditions.

BTH-50V50A has a high efficiency insulating step down transformer with an efficiency of greater than %95 and is designed to withstand an overload condition of %125 continuously.

BTH-50V50A Power Module consists of a Low output ripple High efficiency step down DC to DC converter operating at 50 KHz.

High switching frequency allows fast output control and line voltage compensation. Utilisation of a DC to DC converter provides an overall efficiency of greater than %90. The System is able to diagnose and report critical conditions such as Anode, Cathode or Reference electrode cable breaks and also logs the error codes which can be analysed over MODBUS connection.

Multiple units can be synchronized through **GPS satellites (optional)** which makes it possible to conduct pipeline diagnostic works without using expensive external interrupters.



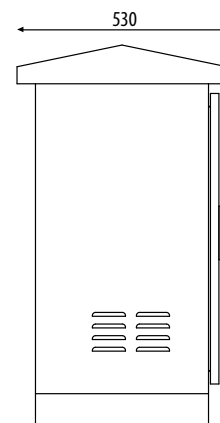
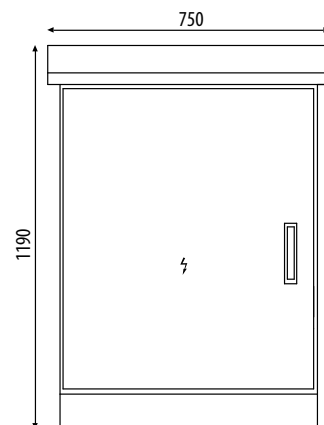
Reliable power topology,
precise output control



Technical Specifications 230V (1 Phase)

Input Voltage	230V 50 Hz ($\pm 20\%$)
Input Current	18A
Output Voltage	0 - 50V DC ($\pm 0,25V$)
Output Current	0 - 50A DC ($\pm 0,25A$)
Output Fuse	63A Semiconductor Fuse
Short Circuit Protection	Electronic
Thermal Protection	90°C $\pm$ 5°C (Heat Sink Temperature)
Efficiency	>%85
Operating Temperature Range	-30, +60°C
Output Voltage Meter	0 - 81,92V DC ($\pm 1 + 0.25V$)
Output Current Meter	0 - 61,44A DC ($\pm 1 + 0.25A$)
Pipe to Soil Voltmeter	$\pm 10V$ DC ($\pm 1 + 20mV$)
IP Protection	IP54
Dimensions	1190 x 750 x 530 mm
Power Control Method	High Frequency DC-DC Converter with MOSFET switch
High Voltage Protection	Protection over all inputs and outputs
Operating Modes	• Automatic, Continuous • Manual, Constant Current, Interrupted • Manual, Constant Current, Continuous • Manual, Constant Voltage, Interrupted • Manual, Constant Voltage, Continuous
Interrupted Mode of Operation	
On Time Adjustment Range	0.1 – 99.9s (0.1 sec resolution)
Off Time Adjustment Range	0.1 – 99.9s (0.1 sec resolution)
Reference Electrode	1 true differential isolated input
Input Voltage Range	$\pm 10V$ DC ($\pm 1 + 20mV$)
Filtering	50-60Hz Notch Filter allows unaffected DC measurements with superimposed AC voltages up to 13V
SCADA Output 1	RS485-MODBUS RTU (Standard)
SCADA Output 2 (Optional)	3 Channels 4-20mA Self Powered • Anode - Cathode Current • Anode - Cathode Voltage • Reference Electrode Voltage
Contact Outputs	4 Pcs Dry Contact Outputs
	• Automatic / Manual Operation • Interrupted / Continuous Operation • Faulty / Healthy • Power On / Off
Warranty	2 years (components and workmanship)
Parts and Service Warranty	10 Years

All measurement devices are integrated with user interface in system.
All measurements can be seen on LCD display.





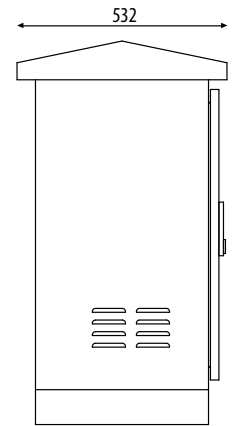
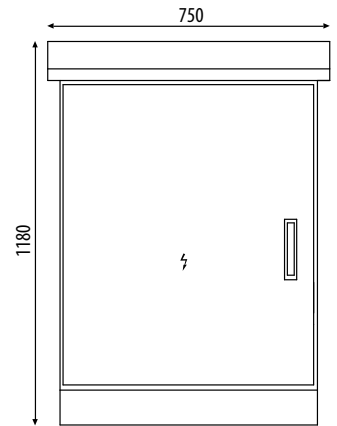
Reliable power topology,
precise output control



Technical Specifications 400V (2/3 Phase)

Input Voltage	400V 50/60 Hz ($\pm 10\%$), 2 Ph/3 Ph
Input Current	2 Ph 10A, 3 Ph 5,5A
Output Voltage	0 - 50V DC ($\pm 0,25V$)
Output Current	0 - 50A DC ($\pm 0,25A$)
Output Fuse	63A Semiconductor Fuse
Short Circuit Protection	Electronic
Thermal Protection	90°C $\pm$ 5°C (Heat Sink Temperature)
Efficiency	>%85
Operating Temperature Range	-30, +60°C
Output Voltage Meter	0 - 81,92V DC ($\pm 1\%$ +0.25V)
Output Current Meter	0 - 61,44A DC ($\pm 1\%$ +0.25A)
Pipe to Soil Voltmeter	$\pm 10V$ DC ($\pm 1\%$ +20mV)
IP Protection	IP54
Dimensions	1180 x 750 x 532 mm
Power Control Method	High Frequency DC-DC Converter with MOSFET switch
High Voltage Protection	Protection over all inputs and outputs
Operating Modes	• Automatic, Continuous • Manual, Constant Current, Interrupted • Manual, Constant Current, Continuous • Manual, Constant Voltage, Interrupted • Manual, Constant Voltage, Continuous
Interrupted Mode of Operation	
On Time Adjustment Range	0.1 – 99.9s (0.1 sec resolution)
Off Time Adjustment Range	0.1 – 99.9s (0.1 sec resolution)
Reference Electrode	1 true differential isolated input
Input Voltage Range	$\pm 10V$ DC ($\pm 1\%$ +20mV)
Filtering	50-60Hz Notch Filter allows unaffected DC measurements with superimposed AC voltages up to 20V
SCADA Output 1	RS485-MODBUS RTU (Standard)
SCADA Output 2 (Optional)	3 Channels 4-20mA Self Powered • Anode - Cathode Current • Anode - Cathode Voltage • Reference Electrode Voltage
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Parts and Service Warranty	10 Years

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* Please note that all products, product specifications and data presented in this datasheet or web site are believed to be free of errors and subject to change without prior notification for continued improvement. It is the users responsibility to ensure the suitability of the product for a specific application.