

## 50kW FULL RACK

### AC-HVDC POWER SUPPLIES

The MYN50K0 uses a phase controlled thyristor rectifier circuit to transform the mains supply to high voltage, a series LC filter is used to smooth the resulting rectified voltage.

All racks are equipped with fork-lift-compatible plinths and removable lifting-eyes. The side covers are detachable, the rear door is lockable. Cooling is carried out via convection or built-in fans, with the air being exhausted (depending upon type) either via the rear or the top.



### Dimensions

See mechanical details table

### Features

- Extremely robust
- High efficiency
- Short circuit proof and unlimited operation with full current in short circuit condition
- Voltage and current regulation with automatic and fast transition; control mode indicated by LEDs
- Voltage and current setting with 10-turn potentiometers with precision scale; the adjusting knob can be locked
- Limitation of inrush current on switching on
- Suitable also for inductive and capacitive loads
- Interlock loop to monitor the external load and internal loop as a standard
- Elapsed hour meter as a standard

### Benefits

- Provides maximum control & flexibility.
- Safe operation ensures maximum protection to the power supply
- User friendly controls

### Applications

- Aerospace
- Chemical/Biological research
- Inverter/Rectifier testing
- Ion sources
- Nuclear research
- Photomultiplier
- Plasma/Gas discharge
- Sputtering

## Models & Ratings

Model Number	Polarity	Output Voltage	Output Current	Input Voltage	Frequency
MYN50K0-2000	Isolated	0 to 2kV	0 to 25A	400VAC $\pm$ 10% 3 phase	47 to 63Hz

## Options

- Analog programming (one of the outputs on “0V” - potential)
- Analog programming, floating
- Computer interfaces - IEEE 488, RS 232, RS 422, Profibus DP, USB, LAN (more on request)
- Internal resistance setting and regulation
- Power regulation with display
- Heavy duty castors for rack unit

More options and special solutions on request. Some options may involve changes to the description of the unit especially concerning the mechanical design.

## Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Input Voltage	See models and ratings table				
Inrush Current Limiting					As standard
Efficiency		90		%	

## Output

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Output Voltage Range	See models and ratings table				
Output Current Range	See models and ratings table				
Output Control	Voltage and current setting with 10-turn potentiometers with precision scale; the adjusting knob can be locked				
Output Polarity	The output is floating with isolation voltage $\pm 2\text{kV}$ against earth. Either the positive or the negative terminal may be connected to earth (Not valid with the option analog programming)				
Output Isolation	$\pm 2\text{kV}$ against earth. Exception: Not valid with the option analog programming				
HV Output Connection	Consult sales for mating connectors				
Voltage Setting Range	Using the VOLTAGE potentiometer, approx. 1% to 100% of the rated value				
Current Setting Range	Using the CURRENT potentiometer, approx. 1% to 100% of the rated value				
Setting Time at Nominal Load	<100ms to 2s, depending on type, for changes in the output voltage from 10% to 90% or 90 to 10%, respectively				
Setting Resolution	$\pm 1 \times 10^{-4}$ of rated value with potentiometer on front panel				
Discharge Time Constant	With output free of load. The discharge time can be between 5s and 60s, depending on type				
Residual Ripple	$< 1 \times 10^{-2}$ of rated value +100mVpp (measuring bandwidth 0Hz - 10MHz)				
Recovery Time	<100ms to 500ms, depending on type, for load variations of $\pm 10\%$				
Control Deviation	$\pm 10\%$ mains voltage variation: $< \pm 1 \times 10^{-4}$ of the rated value 0 to 100% load change: $< \pm 1 \times 10^{-3}$ of the rated value Over 8 hours: $< \pm 3 \times 10^{-4}$ of the rated value Temperature deviations $< \pm 3 \times 10^{-4}/\text{K}$ of the rated value				
Short Circuit Protection	The power supply is short circuit proof. The maximum current can be drawn at any output voltage, even in the event of a short circuit.				
Interlock Loop	Monitors the external load and internal loop as standard				
Elapsed Hour Meter	As standard				

## Environmental

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Temperature Operation	0		+40	°C	
Storage Temperature	-20		+50	°C	
Temperature Coefficient		±0.1		°C	
Humidity Operating	0		+80	%	Up to +31°C, decreasing linearly down to 50% relative humidity at +40°C
Storage Humidity			+80	%	No precipitation
Cooling	Heat generated in the power supply unit is dissipated by convection or, in the case of high-power units, by forced ventilation				
Operating Altitude			2000	m	Above sea level

## Signals & Controls

	Function
Front panel	Voltage and current encoders, power switch, OUTPUT ON/OFF switch
Operating Modes	The output's polarity is isolated (see models & ratings table). The power supplies can be operated in the LOCAL, ANALOG (optional) and DIGITAL (optional) operating modes.
LEDs	Control mode indication

## EMC: Emissions

Phenomenon	Standard	Notes & Conditions
Harmonic Currents	EN61000-6-2	
Voltage Flicker	EN61000-6-3	

## Safety Approvals

Safety Agency	Safety Standard	Notes & Conditions
EN	EN61010-1	
CE	Meets all applicable directives	
UKCA	Meets all applicable legislation	

## Mechanical Details

Model Number	Mounting	Width		Height		Depth	Weight
MYN50K0-2000	Full rack	19"	600mm	38U	2000mm	800mm	1200kg

### Connections

#### Mating Connectors

Consult sales for mating high voltage connectors.