MYN70K0 Series

AC-HVDC POWER SUPPLIES

70kW FULL RACK

The MYN70K0 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

MYN70K0 Series

Models & Ratings

Model Number	Polarity	Output Voltage	Output Current	Input Voltage	Frequency
MYN70K0-650	Isolated	0 to 650V	0 to 100A	400VAC ±10% 3 phase	47 to 63Hz
MYN70K0-1250	Isolated	0 to 1.25kV	0 to 50A	400VAC ±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 ±2kV against earth. Either the positive or the negative terminal may be connected to earth (Not valid with the option analog programming)				
Output Isolation	±2kV 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	±1 x 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 x 10^{-2} of rated value +100mVpp (measuring bandwidth 0Hz - 10MHz)				
Recovery Time	<100ms to 500ms, depending on type, for load variations of ±10%				
Control Deviation	±10% mains voltage variation: <±1 x 10^{-4} of the rated value 0 to 100% load change: <±1 x 10^{-3} of the rated value Over 8 hours: <±3 x 10^{-4} of the rated value Temperature deviations <±3 x 10^{-4}/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	

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Mechanical Details

Model Number	Mounting	Width		Height		Depth	Weight
MYN70K0-650	Full rack	19”	600mm	38U	2000mm	800mm	1400kg
MYN70K0-1250	Full rack	19”	600mm	38U	2000mm	800mm	1400kg

Connections

Mating Connectors
Consult sales for mating high voltage connectors.