



System 7000 - a new Bipolar Power Converter

With the SYSTEM 7000 power converter program Danfysik now offers our customers a new generation of high performance air cooled, current controlled power converter in a 100ppm superior price-performance class.

The SYSTEM 7000 is a compact modular design allowing very easy and fast serviceability and incorporates a current transducer (DCCT) for superior performance.

The SYSTEM 7000 is designed with a high efficiency 100 kHz push-pull bipolar power converter together with a linear bipolar transistor output stage.

System 7000 can be used in a wide range of applications:

- Field correction in accelerator beam line magnets
- Applications where very low zero cross over distortion is demanded
- Anywhere where stable bipolar current control is needed

Detailing Features

- Soft start mode
- Adjustable slew rate limit
- Protected against injected inductive energy
- Programmable ramp figures
- Remote or local mode control
- RS232 is standard – Ethernet or analog control as options
- Parallel operation of up to 7 units



SYSTEM 7000 - SPECIFICATIONS

AC INPUT

Mains, voltage: : 190-253 VAC (208V \pm 10%), 3 phase 47-63 Hz
360-440 VAC (400V \pm 10%), 3 phase + neutral
47-63 Hz

DC OUTPUT

Power range : 1.5 kW
Current: : +/-20 A
Voltage: : +/- 35 VDC or +/- 75 VDC (to be specified)
Regulation topology: : Analog
Converter topology: : Switch-mode pre-regulation with linear bipolar transistors as output stage

PERFORMANCE

Warm up time (cold): : 30 min
Warm up time (stand-by): : 15 min

Drift

Long term 8 hours (fwhm): : \pm 100ppm

Line regulation

\pm 10% slow, T > 1 min.: : \pm 50ppm
 \pm 1% fast, T > 3 m sec.: : \pm 50ppm

Load regulation

+/- 10% resistance change : < 500ppm

Output ripple and noise

Voltage – peak to peak: : < 100 mV @ 0-100 kHz

Load Range

Time constant (L/R): : 0 - 2.5 sec
Inductance (L): : 0 – 1 H (standard)
Resistance (R): : 0.5 – 4 Ohms

Temperature coefficient

Ambient: : \pm 10ppm/°C

Current setting resolution: : Linear / 15 bit + sign (remote/local)

Current reproducibility: : \pm 25ppm

Absolute current calibration: : 0.1 %

Current readback resolution: : Linear

Current control range: : \pm 100%

Slew rate limit: : 5 A/sec to 400 A/sec

Current loop bandwidth: : 0.5 Hz, 5 Hz or 20 Hz (jumper inside) @ 1 Ohm resistive load

Voltage loop bandwidth : 200 Hz



CONTROL PANEL

Voltage Display, 5 digits, 16 bit res.

Output voltage [V]
Polarity [pos/neg]

Current Display, 5 digits, 16 bit res.

Current output [A]
Current setpoint [A]
Current limit [A]
Polarity [pos/neg]

Interlock status

Over temperature [LED]
"Internal" (Converter over voltage) [LED]
Output over voltage [LED]
Output over current [LED]
Ground fault (fuse) [LED] (can be disabled)
AC fault [LED]
External interlocks (Ext.1-4) [LED] (can be disabled)
Summary fault [LED]
Out of regulation (READY) [LED]

Push buttons and LED's

OFF (also active on slaves) [Button]/[LED]
Reset (interlock) [Button]/[LED]
ON [Button]/[LED]
Local/remote switch [Button]/[LED]
Select Output Current display [Button]



Local control / interfacing

Analog Input
Setpoint reference: 0 - ± 10 V

Analog Outputs
Setpoint readback: 0 - ± 10 V
Output voltage: 0 - ± 10 V
Output current: 0 - ± 10 V
Error signal (master + slaves): 0 - ± 10 V

Remote control / interfacing

RS232 as standard (RS422 or RS485 are available on request)

All analog input/output values (see above) can be controlled / read via the remote control interface.
Besides that the following commands/status messages are also available via the remote control interface:

- ON/OFF command
- Reset command
- ON/OFF status
- Remote status
- Over voltage interlock
- Over current interlock
- Over temperature interlock
- Fan fault interlock
- Ground fault (fuse) interlock
- AC fault interlock
- Out of regulation (READY) interlock
- External interlocks interlock (Ext.1-4)
- Summary fault interlock

TEMPERATURE RATINGS

Ambient: 10 – 40° C
Storage temperature: 5 – 40° C, non-condensing

CABINET LAY-OUT

Material: Steel
Dimensions W x D x H: 482 mm x 420 mm x 3U (5,25")
19 inch rack mount
Weight: 25 kg

Example of rack assembly



Specifications are subject to change without notice.