

## A2720

High Stability 20A 50V Bipolar Power Supply



## HIGHLIGHTS

FEATURE	BENEFIT
	Especially designed for particle accelerator facilities
4 quadrant operation	Optimal for both corrector and quadrupole magnets
Digital PI control loop	Easily tuneable to any type of load
Natural cooling	No fans needed
DCCT current measure with thermo-stabilized 18-bit SAR ADC	High stability and low temperature drift
Ethernet connection	Can be controlled using TCP/IP socket, TANGO, EPICS
Digital fast feedback input option (to be defined)	It can control fast corrector magnets

## APPLICATIONS

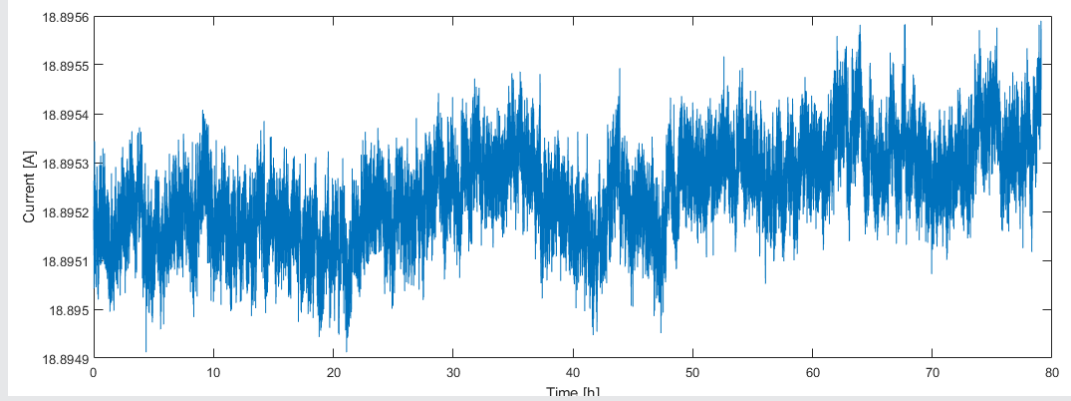
- Particle accelerator facilities: ideal for powering magnets and inductive loads
- Medical equipment
- Systems with high resolution current or voltage source requirements

## A2720 - 80 h

### Long-Term Stability

Std deviation: 94.3  $\mu$ A over 80

h observation (5 ppm F.S.)



## HOW DOES IT WORK?

This highly stable and reliable power supply system can house up to four independent bipolar modules in a standard 19-inch 3U crate delivering up to 4000 W of output power per crate. The four modules all share a redundant common DC link and are not isolated one from another.

Digital regulation is implemented using a digital PI controller, which renders the system very versatile and easily tuneable to any type of load.

The Ethernet connection allows for the system to be controlled remotely. Software tools for parameter settings and tuning are available on request.

No forced air cooling is required.

External connections:

- Inputs: External interlock (i.e. Magnet Fault, Magnet Water Alarm)
- Outputs: Power Supply enabled

The module checks for internal interlocks: cross conduction, overtemperature, crow bar, overcurrent, DCCT fault, earth leakage.

## DELIVERABLES

- Power supply unit: up to 4 independent current modules housed in a standard 19-inch 3U crate
- DC-link AC/DC converters (4000+2000 W redundant)
- Software and drivers are available for different operating systems
- EPICS and TANGO drivers (to be implemented)

## PRELIMINARY SPECIFICATIONS

### A2720 System

Physical dimensions W×H×D	19" × 3U + 1U × 430mm
Number of A2720 DC/DC	Up to 4
DC Link LED	DC Ok
Input voltage	3 × 90~264VAC Universal Input
Input frequency	47~63 Hz
Max Input Power per System	4000 W + 2000 W (redundant)

### A2720 DC/DC module

Physical dimensions W×H×D	18.5TE × 3U × 220 mm
Output Stage DC-DC Topology	4 - quadrant
Input voltage (control)	12 VDC
Maximum input current (control)	0.5 A
Maximum Input voltage (power)	60 VDC
Maximum input current (power)	20 A
Maximum output current	± 20 A
Maximum output voltage	0.95 Vin
Maximum output power	1000 W
Current Resolution	40 $\mu$ A (20 bit)
Switching Frequency	100 kHz
Bandwidth -3dB (@Load = 3 $\Omega$ )	10 kHz (option for different bandwidths)
Slew-rate (SR)	0 – 100 A/s
Long-term Output Stability (80h)	5 ppm F.S.
Output Current Read back	40 $\mu$ A (20 bit)
Accuracy	5 ppm F.S. (80 $\mu$ A),
DC-DC Efficiency (typical)	> 97% @ full load

## Contact us!

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