



## System 8500 MPS 858

The System 8500 power supply program offers the 19 inch rack mount Magnet Power Supply 858.

The Magnet Power Supply 858 is a current regulated DC power supply with output currents up to 160 A. High stability is achieved by implementing the Danfysik patented Ultrastab Current Transducer and a temperature stabilized 16 BIT DAC circuitry.

Stabilities in 10 or 1 ppm classes are offered as standard.

The power circuitry is of a conservative design with water cooled rectifier and transistor series regulator. The electronics design concept is assembled of System 8500 standardized modules, making service easy and fast.

An operator control panel is built into the power supply as standard and can be removed more than 100 m for remote control. Operator and host computer control via RS232/422 is also standard. IEEE-488 is available as an option.

The Magnet Power Supply 858 offers you advanced power circuit technology, using the latest components combined with the normal high quality standards expected with a Danfysik power supply.

### The power supply features

- Power range from 1-6 kW
- Current range from 50 to 160 A
- 1 or 10 ppm stability class
- Incorporates Ultrastab Current Transducer
- Modular concept for easy servicing
- Water cooled power components
- Remote controllable via operator control panel
- RS232C interface port standard - IEEE-488 optional
- Custom built interfaces available
- Analog port for NMR feed back control

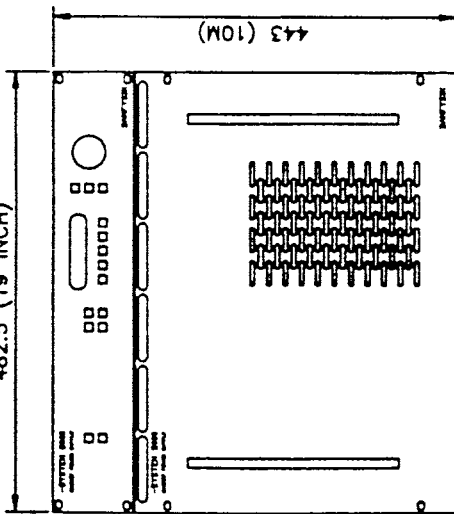
### Applications

- Quadrupole magnets
- Small dipole magnets
- Ultra high stable laboratory magnets

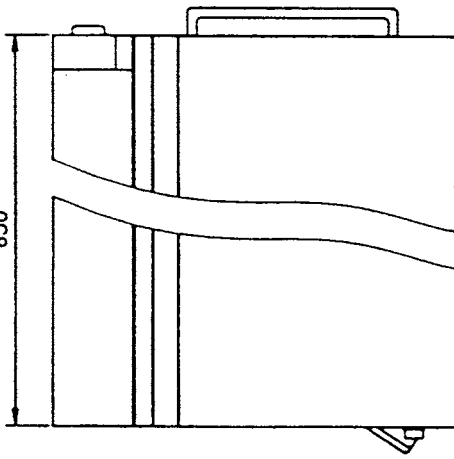
### Options

- Polarity reversal switch
- Built-in water flow switch
- Rack with telescope rails, power and water distribution

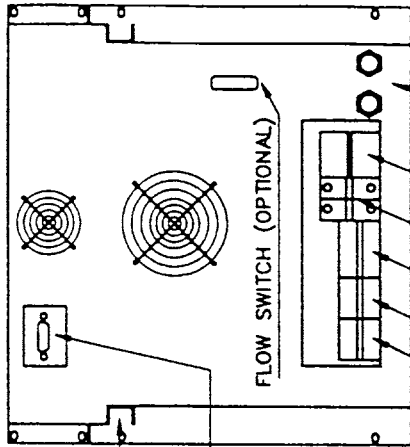
482.5 (19 INCH)



443 (10M)



650



SUPPORT ANGLE FOR TELESCOPIC RAILS

SOCKET FOR INTERFACE CONNECTION

FLOW SWITCH (OPTIONAL)

AC INPUT TERMINALS  
STATUS AND CONTROL TERMINALS

FUSES

DC OUTPUT TERMINALS

WATER INLET/OUTLET WITH  
1/2" BSP EXTERNAL THREAD

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POWER SUPPLY  
SHOWN WITH  
CONTROL PANEL  
INTERFACE

WEIGHT 85 KG.

REV.	MATERIAL
MACHINING:	SURF. TREATMENT: RAL 1015.
TOLERANCE:	DRAWN BY KP 20.03.96
SCALE: 1:5 (A3)	DESIGN APP. TS 19.03.96
	PROJ. APP.
	PROJ. ENGR.
	SUPERSEEDING
	DWG. 81822B
	SUPERSEDED BY
MAGNET POWER SUPPLY	
MODEL 858	
ASSEMBLY	
MPS / SYSTEM 8000	
CUST. ORDER NO.	



DK 8040 JUTLAND TELEPHONE 8015-467400 TELEFAX 8043-467300 TELEX 43134 DANFYSIK

## Specifications

### DC Output ratings

Power range	: 1 - 6 kW
Standard current range	: 0 - 100 A
Optional current range	: 0 - 160 A
Voltage range	: 0 - 50 V

## Performance

All drift and regulation data are given for max. current output.

Warm up time (cold start)	: 30 min.
Warm up time (from stand by)	: 15 min.

### Drift

Short term 30 min. (fwhm)	: < +/- 3 ppm, optional < +/- 1 ppm
Long term 8 hours (fwhm)	: < +/- 10 ppm, optional < +/- 3 ppm

### Line regulation

+/- 10% slow, T > 1 min.	: < 0.5 ppm
+/- 1% fast, T > 3 m sec.	: < 0.5 ppm

### Load regulation

+/- 10% resistance change	: < 0.5 ppm
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### PARV (Periodic and Random Variations)

Output voltage f > 1 Hz (resistive load)	: 5 mV + 0.01% of Vout
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### Temperature coefficient

Ambient	: 1 ppm/°C, optional 0.2 ppm/°C
Cooling water	: 0.5 ppm/°C, optional 0.05 ppm/°C

### DC output isolation resistance

: > 1 Mohm

### Output polarity

: Remote controllable (optional)

### Current setting resolution

Standard	: 16 bit (15 ppm)
Optional	: 18 bit (4 ppm)
Current fine control	: Up to +/- 1500 ppm for +/- 0.6 mA

### Absolute calibration of current

: < 100 ppm

### Current readback resolution

Standard	: 8 bit (3906 ppm)
Optional	: 16 bit (15 ppm)

## Input/Output Interfaces

### Operator Control Panel, Type M

Current setting by knob control with a digital bit generator. Three resolution ranges for the control of 1/10, 1/1000, and 1/100,000 per rev. of full scale.

Alphanumeric LCD display - with push-button selection of:

- Preset output current (%)
- Actual output current (%) - A (optional)
- Output output voltage (%) - V (optional)
- Transistor passbank voltage
- Interlock status text string

Regulation system status readback:

- Polarity (LED)
- Local remote (LED)

### Computer Interface

- RS 232C/RS 422
- RS 422 Multidrop
- IEEE-488 (GPIB) (optional)
- Customer specified interface

### Interlocks

- DC overcurrent and overload
- Regulation module failure
- Phase failure, thermal breaker
- Overtemperature
- Water flow and earth leakage (optional)
- Two user supplied inputs for remote shutdown

### Temperature ratings

- Operating
  - Ambient : 15 to 35°C
  - Water : 15 to 35°C
- Storage : -20 to 50°C
- Main cooling : Water
- Cooling water pressure:
  - Minimum diff. : 3 bar
  - Max. absolute : 12 bar
  - Test pressure : 15 bar
  - Flow : approx. 3 ltr/min

### AC Input

- Control Voltage,  
single phase, 50-60 Hz, standard : Europe 220 V (+/- 5%) & USA 115 V (+/- 5%)  
available on request : 110 V & 240 V

- Mains voltage,  
3 phase, 3 or 4 wire, 50-60 Hz, standard : Europe 380 V (+/- 5%) & USA 480 V (+/- 5%)  
available on request : 208 V & 415 V & 565 V

### Cabinet

- Steel cabinet with aluminum front plate.
  - Dimensions W x H x D : 19 inch rack mount x 443 x 650 mm (incl. control panel)
  - Weight : Approx. 85 kg

### Operator Control Panel

- Removable W x H x D : 19 inch rack mount x 88 x 75 mm