

RMPS SERIES

HIGH PRECISION POWER SUPPLY FOR MAGNETS - 19" RACK

Drives of series EEI-RMPS are the most reliable and effective solution for the power supply of magnets used in particle accelerators for physics research and medical application. EEI drives supply DC output current with extraordinary precision and stability, to ensure proper functioning of research equipment.

MAIN APPLICATION

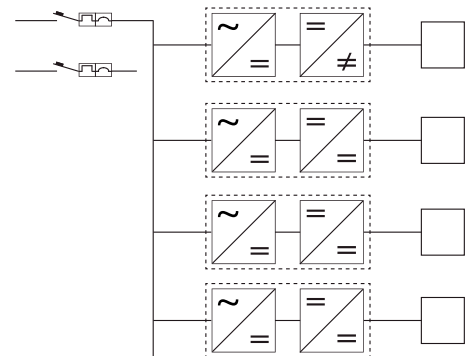
- Corrections magnets for particle accelerator
- Ultra high stable laboratory magnets

EEI-RMPS series power supplies are based on a 19" rack architecture that ensure an easy installation, inspection and maintainability of equipment. Each unit is composed by a rectifying stage for the power supply of a H-bridge converter. DC-link is equipped with proper thin-film filter capacitors for an improved energy stability output. The additional output filter improves current stability.

Output current is measured through high precision embedded DCCT-DC or through external probes. EEI-RMPS series drives can be assembled together in a cabinet that includes incoming line section together with auxiliaries and unit monitoring and control. Connection to the main cabinet is made with fast connectors for a simpler and more reliable joining.

OPTIONS

- Active Front End/ Diode-Thyristor bridge rectifier
- Multipulse input
- Dynamic breaking module
- Increased DC-link capacitor bank size
- Output crowbar
- Earth fault detection circuit
- Customer regulation boards
- Customer transducers
- Local/remote control





MODEL

EEL - RMPS

MAIN PARAMETERS

Nominal output current	10A - 50A
Nominal output voltage	30V - 50V
Nominal output power	1,5 kW - 15 kW
Line input voltage	400 +/-10% /3p; 47...63Hz (other on request)
Power factor (with output power >20%)	≥ 90%
Minimum efficiency (Inom, 50% output power)	≥ 85%
DC output voltage resolution	up to 30 ppm of Vnom
Small signal voltage control bandwidth (-3dB)	> 2 kHz
Output Voltage rise time (10%-90%)	< 100µs
Output current resolution	up to 10 ppm of Inom
Current regulation bandwidth (-3dB)	100 Hz

MECHANICAL DATA

Architecture	19" rack - multiple unit on a single cabinet
Cooling	Air cooling (water cooled available as an option)
Acoustic noise at 1m	< 65 dBA
Ambient temperature	0 - 40°C

INTERFACE AND REGULATION

Regulation mode	CC or CV mode, selectable
Displays	LCD display: 2 lines - 16 alphanumerical digits for parametrization, operating status and alarm message; LED indications for failures
Interface analog	Analog interface for current & voltage measuring and setting
Interface digital	Digital interface for current & voltage measuring and setting, output ON/OFF with status; indication and reset of alarms; polarity indication
Ramp function	Programmable di/dt ramp function
DAC resolution	16 bit
ADC resolution	16 bit

OPERATION AND MAINTENANCE

Total number of cycles	> 10 ⁸
MTBF	> 50000 h
MTTR	< 4 h
MTTR (semiconductors and capacitors)	< 1 h