

# CMPS SERIES

## HIGH PRECISION POWER SUPPLY FOR MAGNETS MODULAR CABINET

For the power supply of magnets of larger size in the field of particle accelerators, EEI designed and built converters of EEI-CMPS series. EEI-CMPS series power supplies offer the very high precision features that characterize the drives manufactured by EEI for physics sector, with the ability to provide a highly stabilized output current up to 4000A in a single cabinet.

### MAIN APPLICATION

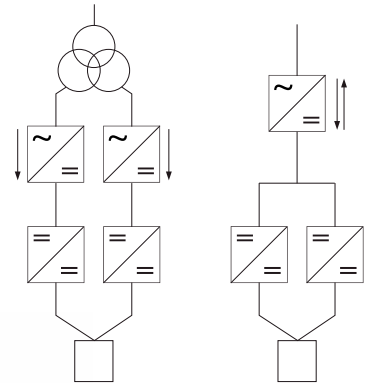
- Dipole, quadrupole and sixst-pole magnets for particle accelerator
- Ultra high stable laboratory magnets

For Higher output currents EEI can offer cabinets of EEI-CMPS series: power supplies belonging to this series are equipped with the main drive and with all the electromechanics for protection and disconnection.

In their standard version cabinets have a DC-link busbar fed by a SCR rectifying stage: upon request solution with IGBT regenerative inverter. DC output stage is composed of IGBT boosters with modular architecture, in order to enable a better energy quality output. For a further reduction of output voltage ripple, linear regulation stage is available upon request.

### 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	EEI - RMPS	EEI - RMPS
<b>MAIN PARAMETERS</b>		
Nominal output current	50A - 300A	300A - 4000A
Nominal output voltage	30V - 90V	70V - 300V
Nominal output power	4,5 kW - 27 kW	27 kW - 400 kW
Line input voltage	400 +/-10% /3p; 47... 63Hz (other on request)	
Power factor (with output power >20%)	≥ 90%	≥ 90%
Minimum efficiency (Inom, 50% output power)	≥ 85%	≥ 85%
DC output voltage resolution	up to 30 ppm of Vnom	up to 30 ppm of Vnom
Small signal voltage control bandwidth (-3dB)	> 2 kHz	> 2 kHz
Output Voltage rise time (10%-90%)	< 100μs	< 1ms
Output current resolution	up to 10 ppm of Inom	
Current regulation bandwidth (-3dB)	100 Hz	100 Hz

<b>MECHANICAL DATA</b>		
Architecture	Cabinet	Cabinet
Dimensions (LxDxH)	600mm x 900mm x 2200mm	upon customer specifications
Cooling	Air cooling	Water cooling
Acoustic noise at 1m	< 65 dBa	< 65 dBa
Ambient temperature	0 - 40°C	0 - 40°C

<b>INTERFACE AND REGULATION</b>		
Regulation mode	CC or CV mode, selectable	
Displays	Touch-panel HMI; 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	16 bit
ADC resolution	16 bit	16 bit

<b>OPERATION AND MAINTENANCE</b>		
Total number of cycles	> 10 <sup>8</sup>	> 10 <sup>8</sup>
MTBF	> 50000 h	> 50000 h
MTTR	< 4 h	< 4 h
MTTR (semiconductors and capacitors)	< 1 h	< 1 h