



ELECTRICAL AND TECHNICAL DATA

SIR4 180 - High Frequency Power Supplies for Electrostatic Precipitators

Improving ESP performance and Reducing Particulate Emissions.

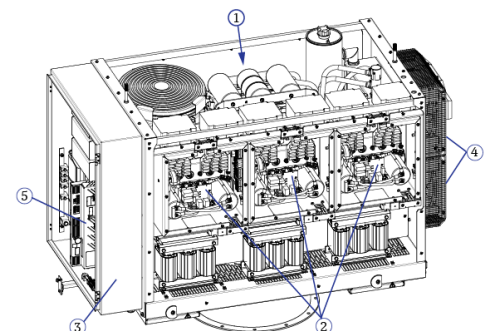
The SIR (Switched Integrated Rectifier) reduces the particulate emission level and improves ESP overall performance without the need of costly extensions. GE provides a robust and reliable technology with the highest expertise and service capabilities in air pollution control. GE now offers a wide range of its advanced high voltage power supplies for electrostatic precipitators.

Electrical Data

Function range (400, 480 V)	$0,85 U_{nom} - 1,10 U_{nom}$
Operational range at P_{nom} (400, 480 V)	$0,95 U_{nom} - 1,10 U_{nom}$
Function range (380 V)	$0,90 U_{nom} - 1,10 U_{nom}$
Operational range at P_{nom} (400, 480 V)	$1,00 U_{nom} - 1,10 U_{nom}$
Withstand	$0 - 1,25 U_{nom}$
Asymmetry	Max. 3% of U_{nom} , phase-phase
Power factor	0,92 (pure sinus)
Maximum interruption of supply voltage without control system restart	100 ms
Maximum short-circuit current, I_{sc} , at input connection point	50 kA
Minimum short-circuit current, I_{sc} , at input connection point	3 kA
Maximum protection fuse for feeding cable	355 A
Main circuit fuses	125 A (according to IEC 60269-2-1) Each converter circuit is protected by IEC standard fuses of 125 A rating, size 00, operating classification gG / gL, 500 V
Efficiency	> 96% at nominal load in a distribution network (TN-S, TN-C, IT)
I/O Digital inputs on controller	24 V AC/ DC, 20 mA load, floating opto coupler
I/O Maximum relay load breaking capacity	50 V AC/DC, 1 A or 230 V AC, 0,5
Real time clock	Min. 72 hours, capacitor back-up
Sound pressure level, 1 meter from the enclosure (mean value)	<80 dB(A)



The SIR4 overview with the hood and protection covers removed



- 1. High voltage unit (hidden)
- 2. Power Electronics
- 3. Power/control cabinet
- 4. Fans
- 5. Controller

Reducing
cost of electricity

> 96%
Electrical efficiency

Lowering
environmental footprint

< 10 mg/Nm³
Particulate emissions

For more information,
please contact your local
GE-representative.

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Model

SIR4 180:

70 kV/2500 mA, 85 kV/2100 mA, 100 kV/1800 mA

Size (w x d x h)	845 x 1800 x 1210 mm (33,3 x 70,9 x 47,6 in)
Hood	ABS UV stabilized plastic
Chassis	Stainless steel, CrNi 18-10
Weight	620 kg (1367 lbs)
Dielectric mass	80 kg (176 lbs)
Dielectric type	Mineral Transformer Oil Nynas Nytro 10XN, vacuum degasified
Available HV	70kV/2500 mA / 85kV/2100 mA / 100kV/1800 mA
Power supply input (3-phase rectifier)	380 V, 50 Hz, 313 A 400 V, 50 Hz, 297 A 480 V, 60 Hz, 248 A
Operating temperature	-25 °C to +40 °C (-13 °F to +104 °F) max 50 °C (122 °F) with reduced output current
Altitude	0 – 1000 m (0 – 3300 ft) Above 1000 m (3300 ft) the output power must be de-rated by 1% per 100 m (3300 ft)
Air quality	Filter collects 100% particles <= 10 µm (0,39 mil) Filter collects 60% particles <= 1 µm (0,039 mil)
Cooling	Liquid / air
Storage temperature Acc IEC60068-2-1,2	-25°C to +70°C (-13°F to 158°F)
EMC Directive	Standard EN 55011 (2009) + A1 (2010), Class A (group 1 equipment) Standard EN 6100-6-2: 2005
Safety directive	EN 62477-1: 2012, EN ISO 12100: 2010, EN ISO 14120: 2015
UL/CSA standard (for North America)	Optional According to: UL 1012:2010 R1.12 CSA C22.2 No 107.1-01 (R2011)
Classification of protection degree provided by the enclosure	IP55 according to EN/IEC 60529
Communication	Ethernet Modbus TCP/IP
ESO, EEO	Optional
I/O groups	4
Auxiliary digital inputs	4
Analog input	1 (4-20 mA)
Analog output	2 (4-20 mA signal kV/mA reading)
Motor control cabinet	Separate
ESP Optimisation software	EPOQ, OpOpt

Imagination at work

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