SCHAFFLER
www.schaffler.com

RAILVERTER 8000 Series
3-PHASE INVERTER

700 PLATFORM

Power **Range** - 5.6 kW to 32 kW

Output: 3-phase ac at 400 Vac 50 or 60 Hz (380 and 480 volts available)

This product works in conjunction with a DCformer front end that accepts 72 Vdc, 110 Vdc, 600 Vdc or 750 Vdc and provides an isolated 700 Vdc to the 3-phase output.

Key **Features**

The SCHAFFLER inverter is a compact, programmable silent and light weight product designed especially for rail applications. It is designed to supply either a single motor or multiple motors.

Single Motor Load

Inverter acts as the ramp starter and the motor can be speed controlled from zero speed to super synchronous speed if required.

Multiple Motor Load

The inverter operates at 50 or 60 Hz and the outstanding feature of the inverter is “Cycle by Cycle Current limiting at the Switching Frequency” that allows motors to be direct on line started while the inverter is operating at full voltage and frequency. Under this control the starting current of the motor is controlled and is limited by the available current in the inverter system. There is no need to over specify the rating of the inverter to allow for motor starting current.

The Railverter 8000 series inverter is intended to operate off 700 Vdc galvanically isolated from the original supply. The supply can come from a 3rd rail or overhead catenary supply or from 72 Vdc batteries on a locomotive. Full galvanic isolation must be provided to prevent long term damage to the motor bearings, motor insulation and other equipment connected to the output supply. The only situation where non isolation is used is when the supply originates from the train isolation transformer that accepts 25 kV and reduces the voltage to 300 Vac single phase.

Schaffler supply a High Voltage Split-level DCformer that provides galvanic isolation to the inverter input.

Specifications	
Input Supply	600 Vdc nominal 500 Vdc minimum 700 Vdc maximum operating Under-voltage and over-voltage protection
Output Power	8 kW, 16 kW, 24 kW, 32 kW 3-phase ac Higher powers on application
Output Voltage	400 Vac 3-phase (380 and 480 Vac option available) Common mode and differential mode filters included High frequency magnetics use ferrite potted cores THD better than 5 % harmonic distortion.
Output Frequency	Selectable at 50 or 60 Hz (± 1%)
Output Waveform Filters	PWM Sinusoidal filtered by common mode and differential mode
Current limiting	130% of full load current for 30 seconds Cycle by cycle current limited at switching frequency allows direct-on-line starting of induction motors Short circuit protection
Power connections	Military style bayonet plugs: separate input and output plugs Mating plugs provided
AAmbient temperature	-25°C to 60, thermally protected
Protection	IP56 totally enclosed suitable for underframe mounting IP54 forced ventilated suitable for in car mounting

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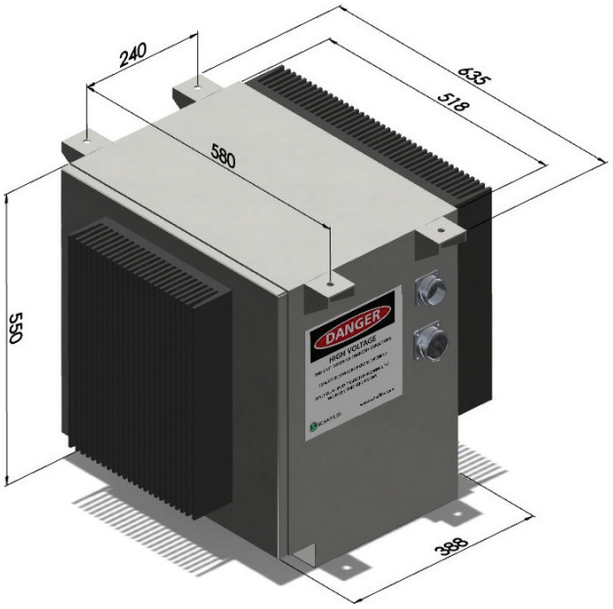
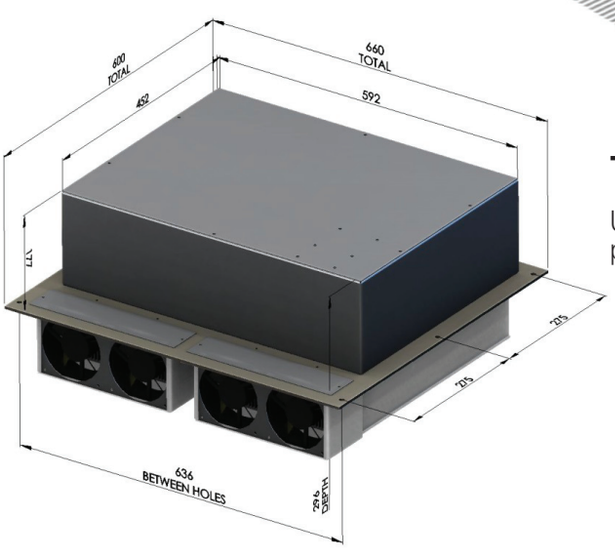
Applications

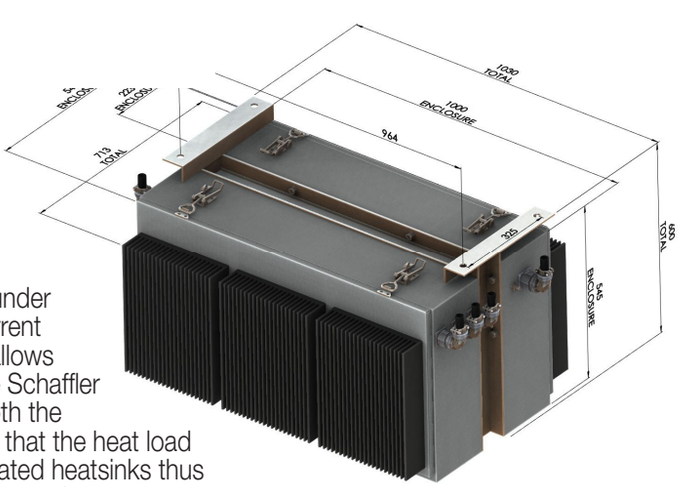
Two Railverter 8000 inverters for 3-phase air conditioning systems on passenger cars or locomotive cabs.





Two Railinverter 8000 inverters

Used for 3-phase air conditioning systems on passenger cars plus one 1-phase inverter.



Railverter 8000

for underframe mounting

20 to 32 kW totally enclosed IP56, (no fans allowed) self-ventilated for under frame mounting. Cycle by Cycle Current Limiting is an essential feature that allows for direct-on-line motor starting. The Schaffler 9 kW modular system is used for both the DC former and 3-phase inverters so that the heat load can be spread around the self-ventilated heatsinks thus avoiding any concentration of heat losses in one area.

The weight of enclosure is approximately220 kg.

The DCformer is arranged on one side and the inverter on the opposite side. The heatsinks are on hinges and fold down so that there is complete access to all.

Manufacturing standards

61287-2 Ed. 1.0	Power convertors installed on board railway rolling stock
IEC 60571 Ed. 2.1	Electronic equipment used on rail vehicles
IEC 62236-1 Ed. 2.0	Railway applications - Electromagnetic compatibility
IEC 61373 Ed. 1.0	Railway applications - Rolling stock equipment - Shock and vibration tests
IEC 60571 Ed. 2.1	Electronic equipment used on rail vehicles
AS 60529-2004	Degrees of protection provided by enclosures (IP Code)
AS 3000	Wiring regulations

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