



SCHAFFLER
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600
PLATFORM

ISOCONVERTER 4000 3-PHASE INVERTER

3-phase inverter operating off 600 Vdc

Power range: 5.6 kW to 45 kW

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



Key features

The SCHAFFLER inverter is compact, programmable silent and light weight. It is designed to supply either a single motor or multiple motors. If a single motor then the inverter acts as the ramp starter. If multiple motors then 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.

The Isoconverter 4000 series inverter is intended to operate off 600 Vdc that is galvanically isolated from the supply. The supply can come from a third rail or overhead catenary supply or from 72 Vdc batteries on a locomotive. Full galvanic isolation must be provided that prevents long term damage to the motor bearings, motor insulation and other equipment connected to the output supply.

The inverter is not intended for connection direct to a 3rd rail 600 to 750 Vdc. Schaffler supply a High Voltage Split-level DCformer that provides galvanic isolation to the inverter.

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Specification

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 and 45 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
Output Frequency	Selectable at 50 or 60 Hz ($\pm 1\%$)
Output waveform	PWM Sinusoidal switching at 25 kHz
Application	Compressor or air conditioner for light and heavy rail
Current limiting	150% of full load current for 30 seconds Cycle by cycle current limited at 25 kHz 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
Ambient temperature	-25°C to 60, thermally protected
Noise level	58 dBA
Protection	IP56 totally enclosed suitable for underframe mounting IP54 forced ventilated suitable for in car mounting

Manufacturing Standards

61287-2 Ed. 1.0	Power converters 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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