39ACAC450_LUM2 – AIR CONDITIONING

Power Converter was designed to power the air conditioning unit of the IC2 double deck coach for the Finnish railways. The Power Converter drives motors of the cooling compressor, the fans of the condenser- and the evaporator units.

Power Converter for the air conditioning unit is located inside the coach

TECHNICAL DATA

Input Characteristics:

Nominal input voltage

1-phase 450 Vac / 50Hz

Output Characteristics:

- Output voltage U_{AN} = 3x138-400 V_{AC}
- Output frequency f_N = 30-87 Hz
- Output current I_{AN} = 39 A
- Output power 27 kVA
- Overload capability

  1.5x I_{AN}: at +60ºC 5s/10 min

Protections

- over current protection
- over voltage protection
- under voltage protection
- earth-fault protection
- output phase supervision
- short-circuit protection
- over and under temperature protection

Applications:

- Air conditioning
- Cooling compressor
- Ventilation fans
- Pressure air compressor

Mechanical Data

Input		General	
Nominal input voltage	1x450 Vac	Efficiency	~95 %
Operating range	337-563 Vac	Temperature range	-40 …40°C
		Humidity	Less than 95%
AC-output		Cooling	Forced (external
Voltage	3x400Vrms (± 10%)	Dimensions in mm	320 x 700 x 240
		Weight	25kg
Nominal power	27 kVA	Mounting	Inside the coach
		Housing	IP 54

Complying standards

Electrical particles	EN 61287-1, Railway applications – Electronic power converters for rolling stock
Supply Voltage	EN 60163, Railway Supply Voltages
Vibration shock etc.	EN 61373, Railway applications – Shock and vibration tests
EMC	EN 50121-3-2, EMC on board rolling stock

Block diagram