

FEATURES

- European input mains range: 195Vac – 260Vac, frequency 45Hz – 55Hz
- Output voltage: 24V at 7.0A continuous operation
- Safety: meets EN60950
- EMI: pre-compliant to EN55022 (B) limits
- Dimensions: 90mm x 90mm x 42mm
- PCB: double-side, 70um, FR4, mixed PTH/SMD

DESCRIPTION

This demonstration board implements an offline power converter based on a single stage architecture. Topology is a LLC resonant half bridge converter using the **NEW** ST Microelectronics **L6699D** resonant controller. The board is optimized to balance performances (thus having both high efficiency and suitable no load consumption) and manufacturing costs. No heat-sink required. A thermal protection on secondary side avoid thermal malfunctions. The board is protected against output short-circuit and input mains drops to prevent malfunction. Conducted EMI also have been screened and mitigated, and clearances and creepage distances have been kept to pre-comply with EN60950 for safety.

Main applications for this converter are:

- Industrial power supply
- Vending machines
- Gate openers

Support will be given to customers willing to develop their own version of this converter, as long as technical documentation including functional and thermal measurements. PCB layout (gerber or source version) could be supplied upon request.

The board has been developed with the following magnetic components:

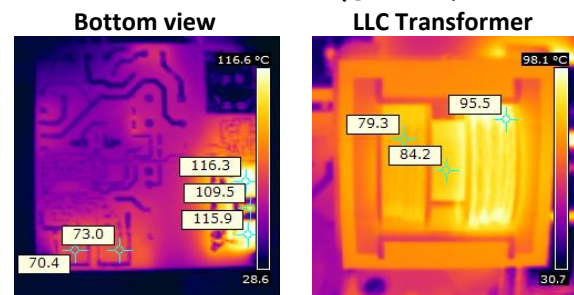
- 1860.0044 – 520uH resonant LLC transformer
- 2258.0001 – 15mH toroidal common mode choke



TECHNICAL DATA

Vout	24V ± 5%
Pout	170W continuous
Efficiency @230Vac	93% min (load≥50%)
Extra Power @230Vac	+110% (with thermal protection)
No load input power	0.5W max (@230Vac)
Ripple 100Hz @FL	230mVrms
Wake up time @ 230Vac	3sec

THERMAL MAP (@230Vac, Pout 100%)



CONDUCTED EMI (@Full Load, 195Vac, 230Vac, 260Vac)

