

**FEATURES**

- European input mains range: 180Vac – 264Vac, frequency 45Hz – 55Hz
- Output voltage: 24V at 4.2A continuous operation
- Safety: meets EN60950
- EMI: precompliant to EN55022 (B) limits
- Dimensions: 2" x 4", 1" component maximum height
- 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 ST Microelectronics L6599A resonant controller. The board is optimized to balance performances and manufacturing costs, thus having both high efficiency and suitable no load consumption with an overall reduced component count and variability. Conducted EMI also have been screened and mitigated, and clearances and creepage distances have been kept to precomply with EN60950 for safety. The board is protected against output shortcircuit and input mains drops to prevent malfunction.

Main applications for this converter are:

- Industrial power supply
- Vending machines
- Gate openers

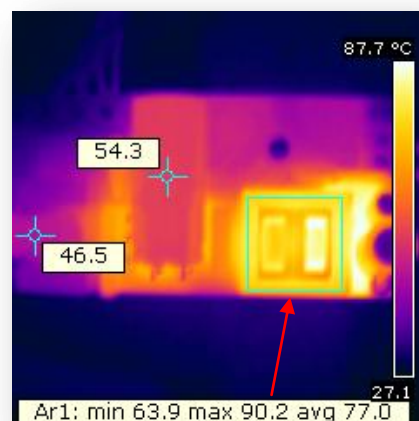
Support will be given to customers willing to develop their own version of this converter, as long as technical documentation including functional and thermal measurements. PCB layout (gerber or source version) could be supplied upon request.

The board has been developed with the following magnetic components:

- 2204.0030 – 420uH resonant LLC transformer
- 2290.0002 – 20mH toroidal common mode choke


**TECHNICAL DATA**

<b>Vout</b>	48V ± 5%
<b>Pout</b>	120W continuous
<b>Efficiency @230Vac</b>	93% min (load≥50%)
<b>Extra Power @230Vac</b>	+80% (temp. limited)
<b>No load input power</b>	0.5W max (@230Vac)
<b>Output voltage ripple</b>	700mVpkpk max
<b>Ripple 100Hz @FL</b>	160mVrms
<b>Wake up time @ 230Vac</b>	4sec

**THERMAL MAP (@230Vac, Pout 100%)**

**CONDUCTED EMI (@230Vac, Pout 100%)**
