

# POWER

## LCM600

600 Watt Bulk Front End

### Data Sheet

**Total Power:** 600 W  
**# of Outputs:** Single  
**Outputs:** 12 to 60 V  
Optional 5.0 V standby

### SPECIAL FEATURES

- 600 W output power
- Low cost
- 2.4" x 4.5" x 7.5"
- 7.41 W/cu-in
- Industrial/Medical safety
- 40 °C to 70 °C with derating
- Optional 5 V @ 2 A housekeeping
- High efficiency: 89% typical
- Variable speed "Smart Fans"
- DSP controlled front end
- Conformal coat option
- ± 20% adjustment range
- Margin programming
- OR-ing FET
- Terminal block input option

### COMPLIANCE

- EMI Class B
- EN61000 Immunity

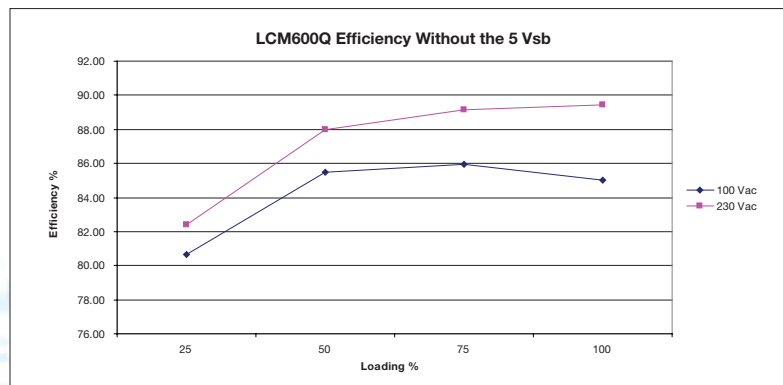
### SAFETY

- UL 60950-1  
1598/1433  
60601-1
- CSA 60950-1
- VDE 60950-1  
60601
- China CCC
- CB Scheme Report/Cert



### Electrical Specifications

| Input                |   |
|----------------------|---|
| Input range          | 85 - 264 Vac (Operating)<br>115/230 Vac (Nominal) Input through standard IEC connector/<br>TERMINAL BLOCK |
| Frequency            | 47 - 440 Hz, Nominal 50/60  |
| Input fusing         | Internal 10 A fuses, both lines fused   |
| Inrush current       | ≤ 25 A peak, either hot or cold start   |
| Power factor         | 0.99 typical, meets EN61000-3-2   |
| Harmonics            | Meets IEC 1000-3-2 requirements   |
| Input current        | 8 A RMS max input current, at 100 Vac   |
| Hold up time         | 20 ms minimum for Main O/P, at full rated load  |
| Efficiency           | > 89% at full load  |
| Leakage current      | < 0.3 mA at 264 Vac   |
| ON/OFF power switch  | N/A   |
| Power line transient | MOV directly after the fuse   |
| Isolation            | Isolation: PRI-Chassis 2500 Vdc Basic<br>PRI-SEC 4000 VAC Reinforced 2xMOOPP<br>SEC-Chassis 500 Vdc       |



## Electrical Specifications

| Output                       |                                      |   |
|------------------------------|--------------------------------------|---|
| Output rating                | See ordering information table       | 85 - 264 Vac  |
| Set point                    | ± 0.5%                               | 85 - 264 Vac  |
| Total regulation range       | Main output ± 2%<br>5 Vsb ± 1%       | Combined line/load/transient when measured at output terminal   |
| Rated load                   | 600 W maximum                        | Derate linear to 50% from 50 °C to 70 °C  |
| Minimum load                 | Main output @ 0.0 A<br>5 Vsb @ 0.0 A | No loss of regulation   |
| Output noise (PARD)          | 1% max p-p<br>50 mV max p-p          | Main output<br>5 Vsb output<br>Measured with a 0.1 µF Ceramic and 10 µF Tantalum Capacitor on any output, 20 MHz                                |
| Output voltage overshoot     |                                      | No overshoot/undershoot outside the regulation band during on or off cycle  |
| Transient response           | < 300 µSec                           | 50% load step @ 1 A/µs<br>Step load valid between 10% to 100% of output rating<br>Recovery time to within 1% of set point at onset of transient |
| Max units in parallel        |                                      | Up to 10  |
| Short circuit protection     | Protected, no damage to occur        | Bounce mode   |
| Remote sense                 |                                      | Compensation up to 500 mV   |
| Output isolation             |                                      | Standard per safety requirements  |
| Forced load sharing          | To within 10% of all shared outputs  | Analog sharing control  |
| Overload protection (OCP)    | 105% to 125%<br>120% to 170%         | Main output<br>5 Vsb output   |
| Overvoltage protection (OVP) | 125% to 145%<br>110% to 125%         | 12 V output<br>5 Vsb output   |
| Overtemp protection          | 10 - 15 °C above safe operating area | Both PFC and output converter monitored   |
| Fan fault protection         |                                      | For-N option only. Will shutdown output and DC_OK   |

## Environmental Specifications

|                              |   |
|------------------------------|---|
| <b>Operating temperature</b> | -40 °C to +70 °C, linear derating to 50% from 50 °C to 70 °C                  |
| <b>Storage temperature</b>   | -40 °C to +85 °C  |
| <b>Humidity:</b>             | 20 to 90%, non-condensing. Operating. Conformal coat option available         |
| <b>Fan noise</b>             | < 45 dBA, 80% load at 30 °C "-N" Low Noise Option < 35 dBA, 80% Load at 30 °C |
| <b>Altitude</b>              | Operating - 16,404.2 feet<br>Storage - 30,000 feet                            |
| <b>Shock</b>                 | MIL-STD-810F 516.5, Procedure I, VI. Storage                                  |
| <b>Vibration</b>             | MIL-STD-810F 514.5, Cat. 4, 10. Storage                                       |

## Ordering Information

| Model Number* | Output | Nominal Output Voltage Set Point | Set Point Tolerance | Adjustment Range | Current |        | Output Ripple P/P (0-50 °C) | Max Continuous Power | Combined Line/ Load Regulation |
|---------------|--------|----------------------------------|---------------------|------------------|---------|--------|-----------------------------|----------------------|--------------------------------|
|               |        |                                  |                     |                  | Min     | Max    |                             |                      |                                |
| LCM600L       | 12 V   | 12 V                             | ±0.5%               | 9.6 - 14.4 V     | 0 A     | 52 A   | 120 mV                      | 600 W                | 2%                             |
| LCM600N       | 15 V   | 15 V                             | ±0.5%               | 12.0 - 19.5 V    | 0 A     | 44 A   | 150 mV                      | 600 W                | 2%                             |
| LCM600Q       | 24 V   | 24 V                             | ±0.5%               | 19.2 - 28.8 V    | 0 A     | 27 A   | 240 mV                      | 600 W                | 2%                             |
| LCM600U       | 36 V   | 36 V                             | ±0.5%               | 28.8 - 43.2 V    | 0 A     | 16.7 A | 240 mV                      | 600 W                | 2%                             |
| LCM600W       | 48 V   | 48 V                             | ±0.5%               | 38.4 - 57.6 V    | 0 A     | 14 A   | 280 mV                      | 600 W                | 2%                             |

\*Note: Add "-T" for terminal block instead of IEC input

Add "-N" for low noise model on 12 V or 24 V models

Add "-4" for 5 V Standby output

Add "-A" will be automatically added to all orders to denote new Aesthetics style chassis unless otherwise specified

Example: a 24 V with terminal block, low noise and standby with new Aesthetics would be LCM600Q-T-N-4-A