

LCM600

600 Watts

Bulk Front End

Total Power: 600 W
of Outputs: Single
Output: 3.3 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

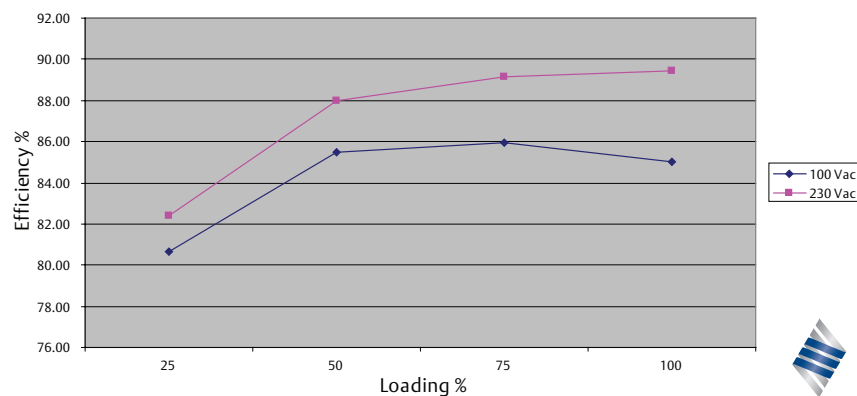
- UL 60950-1
508/1598/1433
60601-1
- CSA 60950-1
- VDE 60950-1
60601
- China CCC
- CB Scheme Report/Cert

Electrical Specifications

Input

| | |
|-----------------------|--|
| Input range: | 85 - 264 Vac (Operating) 115/230 Vac (Nominal) Input through standard IEC connector |
| 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: | > 88% 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: | PRI-Chassis 2500 Vdc Basic PRI-SEC 2500 Vdc Reinforced SEC-Chassis 500 Vdc |

LCM600Q Efficiency Without the 5 Vsb and 24 V ORing FETS



| Output | | |
|-------------------------------|--------------------------------------|---|
| Output rating: | See table 1 | 85 - 264 Vac |
| Set point: | ± 0.5% | 85 - 264 Vac |
| Total regulation range: | Main output ± 2% 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 5 Vsb @ 0.0 A | No loss of regulation |
| Output noise (PARD): | 1% max p-p 50 mV max p-p | Main output 5 Vsb output 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 Step load valid between 10% to 100% of output rating 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% 120% to 170% | Main output 5 Vsb output |
| Overvoltage protection (OVP): | 125% to 145% 110% to 125% | 12 V output 5 Vsb output |
| Overtemp protection: | 10 - 15 °C above safe operating area | Both PFC and output converter monitored |

Environmental Specifications

| | |
|------------------------|---|
| Operating temperature: | -40 °C to +70 °C, linear derating to 50% from 50 °C to 70 °C |
| Storage temperature: | -40 °C to +85 °C |
| Humidity: | 20 to 90%, non-condensing. Operating. Conformal coat option available |
| Fan noise: | < 45 dBA, 80% load at 30 °C |
| Altitude: | Operating - 15,000 feet Storage - 30,000 feet |
| Shock: | MIL-STD-810F 516.5, Procedure I, VI. Storage |
| Vibration: | MIL-STD-810F 514.5, Cat. 4, 10. Storage |

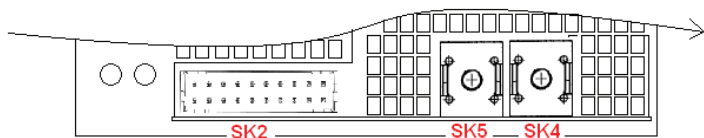
Ordering Information

| Model Number* | Output | Nominal Output Voltage Set Point | Set Point Tolerance | Adjustment Range | Current | | Output Ripple P/P | Power Max. | Combined Line/ Load Regulation | Status |
|---------------|--------|----------------------------------|---------------------|------------------|---------|--------|-------------------|------------|--------------------------------|-------------|
| | | | | | Min | Max | | | | |
| LCM600C | 3 V | 3 V | ± 0.5% | 2.0 - 4.0 V | 0 A | 150 A | 50 mV | 600 W | 2% | Coming Soon |
| LCM600E | 5 V | 5 V | ± 0.5% | 4.0 - 6.0 V | 0 A | 120 A | 50 mV | 600 W | 2% | Coming Soon |
| LCM600L | 12 V | 12 V | ± 0.5% | 9.6 - 14.4 V | 0 A | 52 A | 120 mV | 600 W | 2% | Released |
| LCM600N | 15 V | 15 V | ± 0.5% | 12.0 - 19.5 V | 0 A | 44 A | 150 mV | 600 W | 2% | Coming Soon |
| LCM600Q | 24 V | 24 V | ± 0.5% | 19.2 - 28.8 V | 0 A | 27 A | 240 mV | 600 W | 2% | Released |
| LCM600U | 36 V | 36 V | ± 0.5% | 28.8 - 43.2 V | 0 A | 16.7 A | 240 mV | 600 W | 2% | Released |
| LCM600W | 48 V | 48 V | ± 0.5% | 38.4 - 57.6 V | 0 A | 14 A | 280 mV | 600 W | 2% | Released |

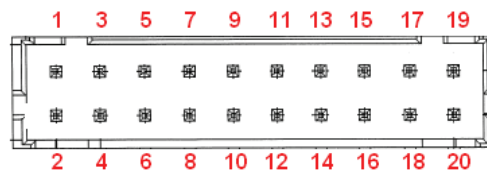
*Note: Add "-T" for terminal block instead of IEC input.

| Pin Assignment | | |
|----------------|---|----------------|
| Signals | Name Description | Pin Number(s) |
| +Vout | Power rail | SK4 |
| GND | Power GND | SK5 |
| Signals | Name Description | SK2 Pin Number |
| A2 | EEPROM Address | 1 |
| -VPROG | Return connection of external supply for Margin Programming | 2 |
| A1 | EEPROM Address | 3 |
| -Vsense | Remote Sense Return | 4 |
| ISHARE | Load share voltage | 5 |
| A0 | EEPROM Address | 6 |
| SDA1 | Serial Data Signal (I2C) | 7 |
| +VPROG | Positive connection of external supply for Margin Programming | 8 |
| SCL1 | Serial Clock Signal (I2C) | 9 |
| +Vsense | Remote Sense Positive | 10 |
| 5VSB | 5V standby | 11 |
| GND | 5V standby Return | 12 |
| 5VSB | 5V standby | 13 |
| G_DCOK_C | Global DCOK Collector | 14 |
| GPIOA6 | EEPROM Write Protect | 15 |
| G_DCOK_E | Global DCOK Emitter (GND) | 16 |
| GND | Return Ground for output signal and I2C communication | 17 |
| G_ACOK_C | Global ACOK Collector | 18 |
| INH_EN | Turn Off Main Output | 19 |
| G_ACOK_E | Global ACOK Emitter (GND) | 20 |

Note: Mating connector for SK2 is LANDWIN CI0120P1HD0-LF



PSU Front View



Signal Output Signal Connectors (SK2)

LED Indicators

2 provided are clearly visible up to a 45 degree offset from vertical with office environment ambient lighting. The status is reflected in the indicator color.

The DC_OK LED is bicolor. It shall light green if the DC output is within specification, and amber if the output falls out of specification.

The AC_OK LED is Green if the AC is within specification and off when out of specification. Note: With 5 V standby, Amber also indicates that PSU is in standby mode/output off.

Control Signals

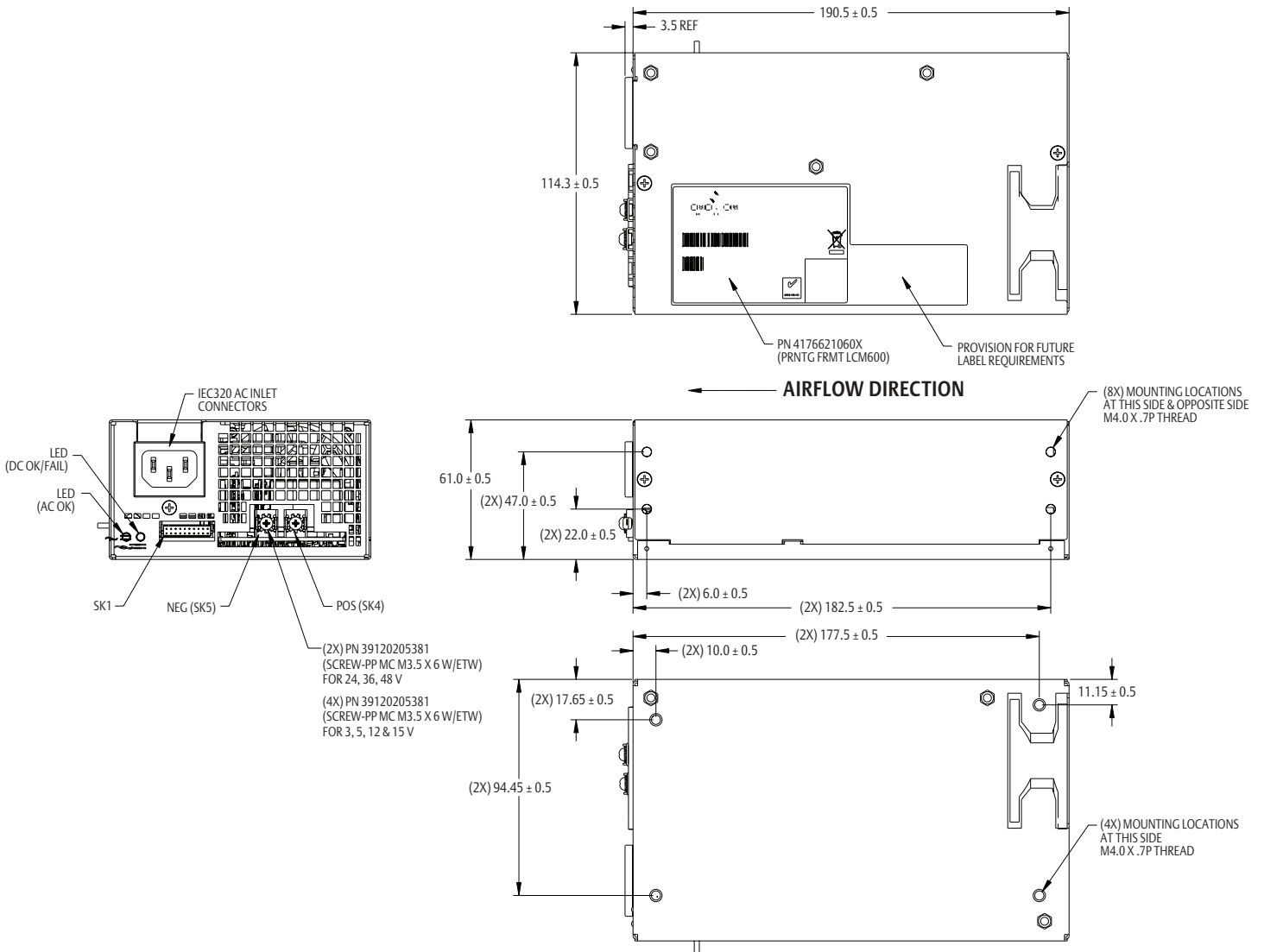
AC_OK Open collector 0.5 V maximum at 10 mA. Both emitter and collector access provided.

DC_OK Open collector 0.5 V maximum at 10 mA. Both emitter and collector access provided.

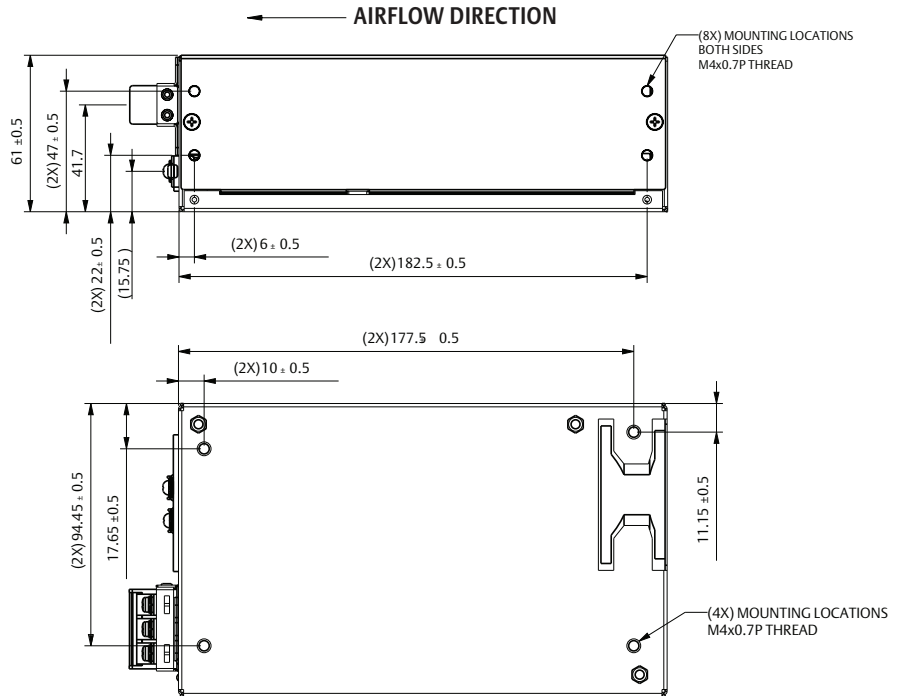
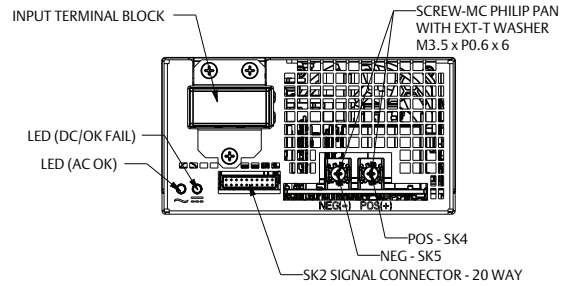
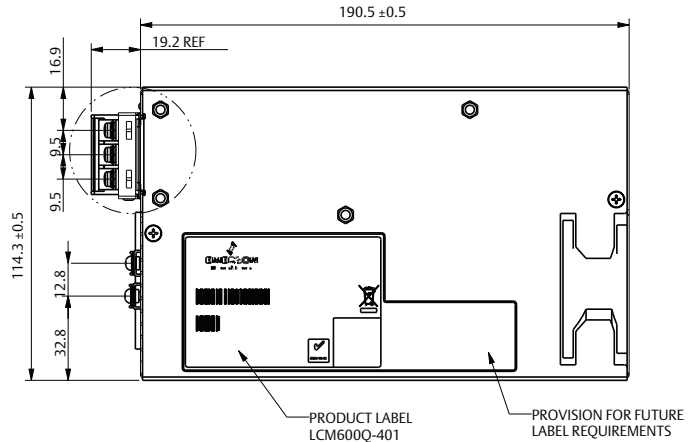
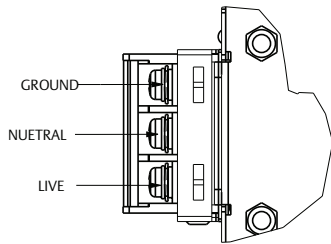
PS_INHIBIT/ENABLE Signal 0.0 - 0.5 V contact closure, output OFF

Mechanical Drawing - IEC Input

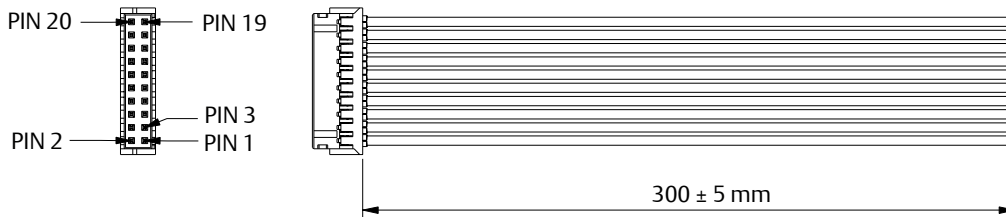
Weight: 2.84 lbs (1.29 Kg)



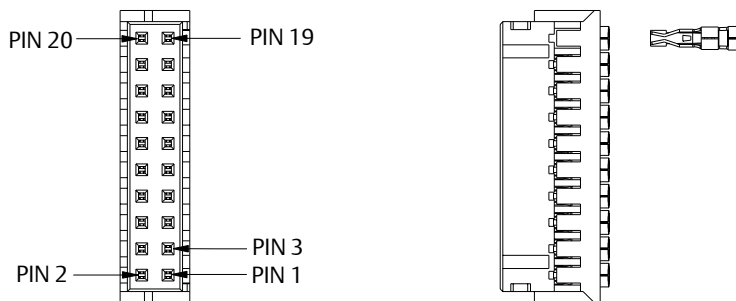
Mechanical Drawing - Terminal Block Input Weight: 2.84 lbs (1.29 Kg)



Accessories



Order kit part number 73-788-001 for control connector interface with .3m wires attached



Order kit part number 73-788-002 for control connector interface with unloaded housing and 20 pins

Miscellaneous Specifications

Burn-In

100% Burn-in at 45 °C, at 80 - 90 % load. Duration of burn-in determined by Quality Assurance Procedures

MTBF

The power supply has a minimum MTBF of 300K hours using the Bell core 332, issue 6 specification @ 25 °C and 40 °C, ambient, at full load. With the power supply installed in a system in a 25 °C ambient environment and operating at full load, capacitor life shall be 10 years, minimum for ALL electrolytic capacitors contained within this power supply. The power supply shall demonstrate a MTBF level of > 500,000 hours.

Quality Assurance

Full QAV testing shall be conducted in accordance with Emerson Network Power Standards with reports available upon request.

Warranty

Emerson Network Power shall warrant the power supply to be free of defects in materials and workmanship for a minimum period of **three years** from the date of shipment, when operated within specifications. The warranty shall be fully transferable to the end owner of the equipment powered by the supply.

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