

ECS100 Series



- IT & Medical Safety Approvals
- Green Mode, <0.5 W Standby Power
- 80/100 W - Convection/Forced-cooled Ratings
- Class I & Class II Construction
- Industry Standard 2" x 4" Package
- Low Leakage Current

Specification

Input

| | |
|-----------------------|--|
| Input Voltage | • 80-264 VAC (120-370 VDC), derate output power <90 VAC, see derating curve |
| Input Frequency | • 47-400 Hz (See note 1) |
| Input Current | • 1.5 A typical at 115 VAC, full load 0.9 A typical at 230 VAC, full load |
| Inrush Current | • 40 A max at 230 VAC, cold start 25 °C |
| Power Factor | • EN61000-3-2, class A |
| No Load Input Power | • <0.5 W |
| Earth Leakage Current | • 230 µA at 264 VAC/60 Hz max. |
| Input Protection | • Internal T5 A/250 V fuse in line and neutral |

Output

| | |
|--------------------------|--|
| Output Voltage | • 12-48 VDC (see tables) |
| Output Voltage Trim | • ±10% |
| Initial Set Accuracy | • ±1% |
| Minimum Load | • No minimum load required |
| Start Up Delay | • 1 typical |
| Start Up Rise Time | • 50 ms |
| Hold Up Time | • 16/75 ms min at 115/230 VAC |
| Drift | • ±0.2% after 20 min warm up |
| Line Regulation | • ±0.5% max |
| Load Regulation | • ±1% |
| Over/Undershoot | • 5% typical |
| Transient Response | • 4% max. deviation, recovery to within 1% in 500 µs for a 50-75-50% load change |
| Ripple & Noise | • 1% pk-pk V1, 20 MHz bandwidth |
| Overvoltage Protection | • 115-140% Vnom, recycle input to reset |
| Overload Protection | • 110-150% |
| Short Circuit Protection | • Continuous trip and restart (Hiccup mode) |
| Temperature Coefficient | • 0.05%/°C |

General

| | |
|---------------------|---|
| Efficiency | • 88% typical |
| Isolation | • 4000 VAC Input to Output, 1500 VAC Input to Ground, 500 VDC Output to Ground |
| Switching Frequency | • 65 KHz typical |
| Power Density | • 10 W/in ³ |
| MTBF | • 834 kHrs to MIL-HDBK-217F at 25 °C, GB 1245 kHrs to Telecordia SR-332 at 25 °C, GB |

Environmental

| | |
|-----------------------|--|
| Operating Temperature | • -20 °C to +70 °C derate linearly from +50 °C at 2.5%/°C to 50% load at +70 °C. |
| Cooling | • Convection & fan cooled ratings (see tables) |
| Operating Humidity | • 95% RH, non-condensing |
| Storage Temperature | • -40 °C to +85 °C |
| Operating Altitude | • 3000 m |
| Shock | • 30 g pk, half sine, 6 axes |
| Vibration | • 2grms, 5Hz to 500Hz, 3axes |

EMC & Safety

| | |
|-------------------------------|--|
| Low Voltage PSU EMC Emissions | • EN61204-3, high severity level as below • EN55022 level B conducted • EN55022 level A radiated |
| Harmonic Currents | • EN61000-3-2, class A |
| Voltage Flicker | • EN61000-3-3 |
| Radiated Immunity | • EN61000-4-3, level 3 Perf Criteria A |
| EFT/Burst | • EN61000-4-4, level 3 Perf Criteria A |
| Surge | • EN61000-4-5, installation class 3 Perf Criteria A |
| Conducted Immunity | • EN61000-4-6, level 3 Perf Criteria A |
| Dips & Interruptions | • EN61000-4-11, 30% 10 ms, 60% 100 ms, 100% 5000 ms, Perf Criteria A, B, B, EN60601-1-2, 30% 500 ms, 60% 100 ms, 100% 10 ms, 100% 5000 ms, Perf Criteria A, A, A, B - 230 VAC. Consult longform datasheet for 115 V operation. |
| Safety Approvals | • IEC60950-1 CB report, CSA 22.2 No. 60950-1, UL60950-1, TUV EN60950-1 • IEC60601-1 CB report, CSA 22.2 No. 60601-1, UL60601-1, TUV 60601-1 |
| Equipment Protection Class | • Class I and Class II |

Notes

1. Safety approvals cover frequency 47-63 Hz.

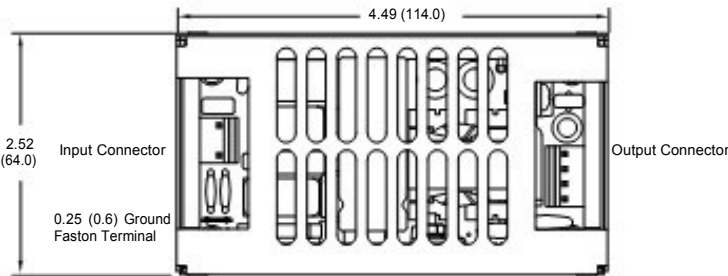
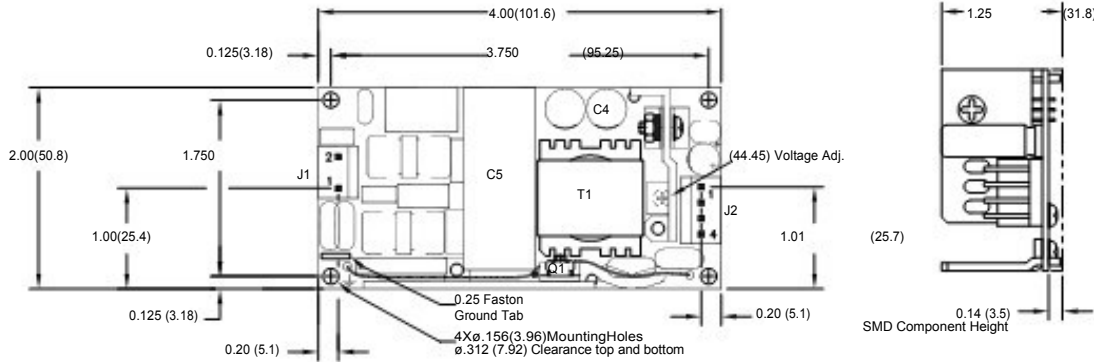
Models and Ratings

| Output Power | | Output Voltage V1 | Max Output Current | Model Number ⁽¹⁾ |
|------------------------|-------------------|-------------------|--------------------|-----------------------------|
| Forced Cooled (10 CFM) | Convection Cooled | | | |
| 100 W | 80 W | 12.0 VDC | 8.3 A | ECS100US12 |
| 100 W | 80 W | 15.0 VDC | 6.7 A | ECS100US15 |
| 100 W | 80 W | 24.0 VDC | 4.2 A | ECS100US24 |
| 100 W | 80 W | 28.0 VDC | 3.6 A | ECS100US28 |
| 100 W | 80 W | 48.0 VDC | 2.1 A | ECS100US48 |

Notes

1. For covered versions, add suffix '-C' to model number or order part no. ECM40/60 COVER KIT for standalone cover. Not suitable for use in class II installations, derate output by 20% with cover.

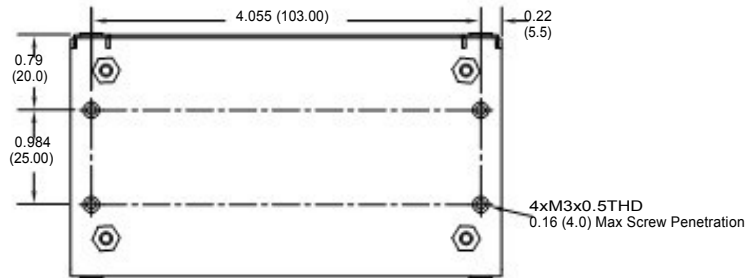
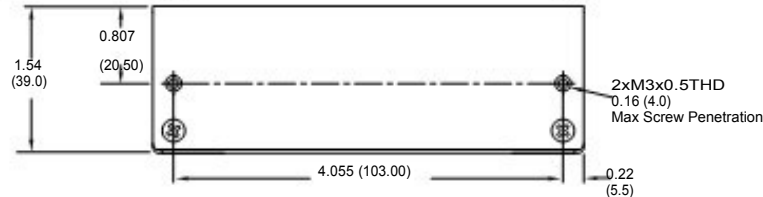
Mechanical Details



| Input Connector J1 | |
|---------------------|---------|
| Molex PN 09-65-2038 | |
| Pin 1 | Line |
| Pin 2 | Neutral |
| 0.25" Faston | Earth |

| Output Connector J2 | |
|---------------------|-----|
| Molex PN 09-65-2048 | |
| Pin 1 | +V1 |
| Pin 2 | +V1 |
| Pin 3 | RTN |
| Pin 4 | RTN |

J1 mates with Molex Housing PN 09-50-1031, J2 mates with Molex Housing PN 09-50-1041 and both with Molex Series 5194 Crimp Terminals



Notes

- All dimensions in inches (mm). Tolerance .xx = ±0.02 (0.50); .xxx = ±0.01 (0.25)
- Weight: 0.386 lbs (175 g)

Derating Curve

