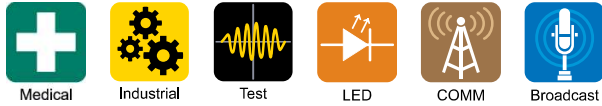


## 3 x 5" 400W AC-DC Power Supplies

<https://product.tdk.com/en/power/cus-m>  
[www.emea.lambda.tdk.com/cus400m](http://www.emea.lambda.tdk.com/cus400m)



The compact CUS400M is packaged in the industry standard 3x5" footprint. The series can deliver 400W with forced air or 250W when convection cooled with a 400W peak power for extended periods of time (minutes). Cooling is also assisted via conduction through the base into the equipment chassis. With Medical & ITE certifications, the units can be used in both Class I & Class II (no ground wire) applications, and meets Class B Conducted and Radiated EMI. Options include a standby voltage, signaling and multiple case options.

| Features                                                                       | Benefits                                       |
|--------------------------------------------------------------------------------|------------------------------------------------|
| • 250W Convection / Conduction Cooled with 400W Peak for Extended Time Periods | • Quiet Operation                              |
| • 400W with Forced Air                                                         | • Can Utilise System Airflow or Integrated Fan |
| • Medical Certifications (2 x MOPP)                                            | • Suitable for B and BF Type Medical Equipment |
| • Class B Conducted and Radiated EMI                                           | • Easier System EMC Compliance                 |
| • Suitable for Class I and Class II installations (1)                          | • Flexible Utilisation                         |
| • Compact 3 x 5 x 1.55" Size                                                   | • Space Saving in End Equipment                |
| • Enclosure & Signal Options                                                   | • Versatile Application                        |

| Model Selector |                            |                       |                                |                                |                                                                                        |                              |                              |
|----------------|----------------------------|-----------------------|--------------------------------|--------------------------------|----------------------------------------------------------------------------------------|------------------------------|------------------------------|
| Model          | Nominal Output Voltage (V) | Output Adjustment (V) | Maximum Current Convection (A) | Maximum Current Forced Air (A) | Peak Current (A) Convection cooled $\geq 115V_{ac}$ input (See derating curve section) | Maximum Power Convection (W) | Maximum Power Forced Air (W) |
| CUS400M-12     | 12                         | 12 - 13.2             | 20.83                          | 33.33                          | 33.33                                                                                  | 250                          | 400                          |
| CUS400M-15     | 15                         | 15 - 16.5             | 16.67                          | 26.67                          | 26.67                                                                                  | 250                          | 400                          |
| CUS400M-19     | 19                         | 19 - 20.9             | 13.16                          | 21.05                          | 21.05                                                                                  | 250                          | 400                          |
| CUS400M-24     | 24                         | 24 - 26.4             | 10.42                          | 16.67                          | 16.67                                                                                  | 250                          | 400                          |
| CUS400M-28     | 28                         | 28 - 30.8             | 8.93                           | 14.29                          | 14.29                                                                                  | 250                          | 400                          |
| CUS400M-36     | 36                         | 36 - 39.6             | 6.94                           | 11.11                          | 11.11                                                                                  | 250                          | 400                          |
| CUS400M-48     | 48                         | 48 - 49.9             | 5.21                           | 8.33                           | 8.33                                                                                   | 250                          | 400                          |

Contact sales for release dates

| CUS400M-                                                                                                                                                                                                                                                                   | 12 | / | U | M                                                               | E | X5                                                                                                                                                                                                                                                                                                         | - |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|---|---|-----------------------------------------------------------------|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| Output voltage 12, 15, 19, 24, 28, 36, 48                                                                                                                                                                                                                                  |    |   |   | Blank dual fuses<br>E single input fuse in line (AC input only) |   | Blank Standard leakage current (<250uA)<br>R Reduced leakage current <150uA                                                                                                                                                                                                                                |   |
| Blank open frame with plastic baseplate<br>C open frame with plastic baseplate and M3 threaded inserts for under side mounting<br>U U channel chassis<br>B open frame with metal baseplate<br>A U channel chassis with cover<br>F U channel chassis, cover and top fan (1) |    |   |   | Blank JST Connectors<br>M Molex type input connector            |   | Blank No options<br>X2 5V 2.0A standby supply, remote on/off (enable), DC-OK, AC Fail<br>X3 12V 0.83A standby supply, remote on/off (enable), DC-OK, AC Fail<br>X5 5V 2.0A standby supply, remote on/off (inhibit), DC-OK, AC Fail<br>X6 12V 0.83A standby supply, remote on/off (inhibit), DC-OK, AC Fail |   |

Example: CUS400M-15V25/FEX5 = 15.25V factory output voltage set point, U chassis, cover and fan, single fuse, X5 standby and signals

## Specifications

| Model                                       |     |                                                                                        | CUS400M |
|---------------------------------------------|-----|----------------------------------------------------------------------------------------|---------|
| <b>Input</b>                                |     |                                                                                        |         |
| Input Voltage range                         | Vac | 85 - 264 (See derating curves)                                                         |         |
| Input Frequency                             | Hz  | 47 - 63                                                                                |         |
| Input Current (100Vac)                      | A   | < 5.0                                                                                  |         |
| Inrush Current at 264Vac, 63Hz (Cold Start) | A   | <40                                                                                    |         |
| Leakage Current (2)                         | uA  | <250                                                                                   |         |
| Touch Current (Enclosure Leakage) (2)       | uA  | <100                                                                                   |         |
| Power Factor (100Vac)                       | -   | > 0.97 (>20% load)                                                                     |         |
| Harmonic Compliance                         | -   | IEC61000-3-2 Class A                                                                   |         |
| No Load Power Consumption                   | W   | <1.3 when output is inhibited (230Vac input). <10 without output inhibited             |         |
| Hold Up Time at 115Vac Input                | ms  | >16 (400W load) (CUS400M-15 >12ms)                                                     |         |
| Efficiency                                  | %   | Up to 94                                                                               |         |
| Average Efficiency                          |     | >87%. Measured at 25%, 50%, 75% and 100% load conditions                               |         |
| Conducted & Radiated EMI                    | -   | EN55032/EN55011-B (See application notes for conditions)                               |         |
| Immunity                                    | -   | Compliant with EN60601-1-2:2015 (Edition 4), see immunity table                        |         |
| Insulation Class                            | -   | Construction suitable for Class I or Class II installation (1)                         |         |
| Safety Agency Certifications                | -   | IEC/EN/UL60950-1 and 60601-1. ES60601-1. IEC/EN/UL62368-1, CE Mark (LVD, EMC and RoHS) |         |

## Immunity

| Test                                 | Standard                                             | Test Level             | Criteria | Notes (the power stated below is total power (main power + fan output)) |
|--------------------------------------|------------------------------------------------------|------------------------|----------|-------------------------------------------------------------------------|
| ESD                                  | IEC61000-4-2                                         | 3                      | A        | -                                                                       |
| Radiated Susceptibility              | IEC61000-4-3                                         | 3                      | A        | Includes proximity field requirements of IEC60601-1-2:2015              |
| Electrical Fast Transient Burst      | IEC61000-4-4                                         | 4                      | A        | (AC Port, 5kHz and 100kHz)                                              |
| Surge                                | IEC61000-4-5                                         | 3                      | A        | -                                                                       |
| Conducted Susceptibility             | IEC61000-4-6                                         | 3                      | A        | -                                                                       |
| Magnetic fields                      | IEC61000-4-8                                         | 4                      | A        | -                                                                       |
| Voltage Dips and Input Interruptions | IEC61000-4-11<br>Class 3 Industrial,<br>incl EN55024 | 0% for 1/2 cycle       | A        | -                                                                       |
|                                      |                                                      | 0% for 1 cycle         | A        | -                                                                       |
|                                      |                                                      | 40% for 10/12 cycles   | A/B      | A up to 100W, B above 100W                                              |
|                                      |                                                      | 70% for 25/30 cycles   | A/B      | A up to 270W, B above 270W                                              |
|                                      |                                                      | 80% for 250/300 cycles | A/B      | A up to 300W, B above 300W                                              |
|                                      |                                                      | 0% for 250/300 cycles  | B        | -                                                                       |
|                                      | IEC60601-1-2:2015                                    | 0% for 1/2 cycle       | A        | Customer to consider essential performance of end equipment             |
|                                      |                                                      | 0% for 1 cycle         | A        | -                                                                       |
|                                      |                                                      | 70% for 25/30 cycles   | A/B      | A up to 270W, B above 270W                                              |
|                                      |                                                      | 0% for 250/300 cycles  | B        | -                                                                       |
|                                      | IEC61000-6-2                                         | 0% for 1 cycle         | B        | -                                                                       |
|                                      |                                                      | 40% for 10/12 cycles   | C        | -                                                                       |
|                                      |                                                      | 70% for 25/30 cycles   | C        | -                                                                       |
|                                      |                                                      | 0% for 250/300 cycles  | C        | -                                                                       |
|                                      | IEC61204-3                                           | 0% for 1/2 cycle       | B        | -                                                                       |
|                                      |                                                      | 0% for 1 cycle         | B        | -                                                                       |
|                                      |                                                      | 70% for 25/30 cycles   | C        | -                                                                       |
|                                      |                                                      | 0% for 250/300 cycles  | C        | -                                                                       |
| Ringwave Test                        | IEC61000-4-12                                        | 3                      | A        | -                                                                       |
| Voltage Fluctuations                 | IEC61000-4-14                                        | Class 3                | A        | -                                                                       |

Notes:

(1) Class II construction and /F safety files - Contact sales for release dates

See website for detailed specifications, test methods and installation manual

Specification parameters apply at 25°C ambient temperature unless otherwise stated.