

## 25 to 36W Medical External Power Supplies

<https://product.tdk.com/en/power/dtm>  
[www.emea.lambda.tdk.com/dtm](http://www.emea.lambda.tdk.com/dtm)



The DTM36-C8 Class II 25 to 36W external power supplies are certified to IEC/ES/EN60601-1 and EN60601-1-11, are compliant to EN60601-1-2 (Ed4) and designed to meet IEC60335-1 (Household Appliances). Requiring no earth ground, the DTM series is ideally suited for Medical, Clinical and Home Healthcare applications. Alternative connectors and cable assemblies are available on request.

| Features  | Benefits   |
|---|--|
| • Medical Safety Certifications and Immunity                                    | • Suitable for Medical, Clinical and Home Healthcare Use |
| • Class II Input  | • No Earth Ground Connection Needed                      |
| • Meets DoE Level VI and EU Tier 2 Efficiency, <75mW Off-load Power Consumption | • Meets US and EU Energy Saving Legislation              |
| • 4kV (2xMOPP) Input to Output Isolation  | • Fully Isolated For Use With B and BF Rated Equipment   |
| • Alternative Connectors and Cable Assemblies                                   | • Flexible System Integration                            |

| Model Selector |                    |                     |                   |                                      |                               |   |                            |
|----------------|--------------------|---------------------|-------------------|--------------------------------------|-------------------------------|---|----------------------------|
| Model          | Output Voltage (V) | Maximum Current (A) | Maximum Power (W) | Overvoltage Protection (V) (Typical) | Maximum Load Capacitance (uF) | Efficiency (%) (230Vac input, 75% Load) | Average Efficiency (%) (1) |
| DTM36CN050-C8  | 5                  | 5                   | 25                | 7.44                                 | 5,000                         | 85                                      | 85.0                       |
| DTM36CN090-C8  | 9                  | 3.3                 | 29.7              | 12.6                                 | 3,300                         | 88                                      | 87.7                       |
| DTM36CN120-C8  | 12                 | 2.5                 | 30                | 15.9                                 | 2,500                         | 89                                      | 87.7                       |
| DTM36CN135-C8  | 13.5               | 2.4                 | 32.4              | 18.5                                 | 2,400                         | 89                                      | 87.9                       |
| DTM36CN150-C8  | 15                 | 2.4                 | 36                | 21.5                                 | 2,400                         | 89                                      | 88.3                       |
| DTM36CN180-C8  | 18                 | 2                   | 36                | 24.8                                 | 2,000                         | 89                                      | 88.3                       |
| DTM36CN240-C8  | 24                 | 1.5                 | 36                | 31.5                                 | 1,500                         | 89                                      | 88.3                       |
| DTM36CN360-C8  | 36                 | 1                   | 36                | 45.2                                 | 1,000                         | 89                                      | 88.3                       |
| DTM36CN480-C8  | 48                 | 0.75                | 36                | 59.6                                 | 750                           | 89                                      | 88.3                       |

| DTM36CN | 120   | C8                     | - | xxx  |
|---------|---|------------------------|---|--|
|         | Output voltage 5, 9, 12, 13.5, 15, 18, 24, 36, 48 | IEC C8 input connector |   | Connector/Cable Options* (When applicable) |

### \* Options

When no option code is stated:

5V output model has a straight 5.5 x 2.1 x 12mm (OD x ID x L) connector, positive center pin and a 16 AWG 1220mm long cable

9V, 12V and 13.5V output models have a straight 5.5 x 2.1 x 12mm (OD x ID x L) connector, positive center pin and an 18 AWG 1800mm long cable

≥15 models have a straight 5.5 x 2.1 x 12mm (OD x ID x L) connector, positive center pin and an 20 AWG 1800mm long cable

## Specifications

Model DTM36-C8

### Input

|                                       |     |  |
|---------------------------------------|-----|--|
| Input Voltage range (2)               | Vac | 80 - 264   |
| Input Frequency                       | Hz  | 47 - 63  |
| Input Current (110/230Vac)            | A   | < 0.9  |
| Inrush Current at 240Vac (Cold Start) | A   | ≤ 100  |
| Leakage Current                       | uA  | ≤ 80   |
| Harmonic Compliance                   | -   | Meets IEC61000-3-2   |
| No Load Power Consumption             | mW  | < 75   |
| Hold Up Time (typ) at 115Vac Input    | ms  | 10   |
| Efficiency                            | -   | See model selector table   |
| Average Efficiency                    | -   | See model selector table   |
| Conducted & Radiated EMI              | -   | EN55011-B Conducted, EN55011-B Radiated, EN60601-1-2                                     |
| Immunity                              | -   | See immunity table   |
| Insulation Class                      | -   | Class II   |
| Safety Agency Certifications          | -   | IEC/ES/EN60601-1, EN60601-1-11, CE Mark (LVD, EMC and RoHS). Designed to meet IEC60335-1 |

## Immunity

| Test                                 | Standard  | Test Level            | Criteria | Notes             |
|--------------------------------------|---|-----------------------|----------|-------------------|
| ESD                                  | EN61000-4-2   | 4                     | A        |                   |
| Radiated Susceptibility              | EN61000-4-3   | 3                     | A        | 80-2700MHz        |
|                                      | EN60601-1-2 table 9   | -                     | A        | Pass              |
| Electrical Fast Transient Burst      | EN61000-4-4   | 3                     | A        | (AC Port, 100kHz) |
| Surge                                | EN61000-4-5   | 3                     | A        | -                 |
| Conducted Susceptibility             | EN61000-4-6   | 3                     | A        | 10V (61000-6-2)   |
|                                      | EN60601-1-2 table 6   | -                     | A        | 6V (60601-1-2)    |
| Magnetic fields                      | EN61000-4-8   | N/A                   | N/A      | -                 |
| Voltage Dips and Input Interruptions | EN61000-4-11 Class 2 Industrial, including EN60601-1-2 (100Vac) | 0% for 1/2 cycle      | A        |                   |
|                                      |   | 0% for 1 cycle        | A        |                   |
|                                      |   | 70% for 25/30 cycles  | A        |                   |
|                                      |   | 0% for 250/300 cycles | B        |                   |

## Specifications

Model

DTM36-C8

### Output

|                               |      |  |
|-------------------------------|------|--|
| Output Voltage Tolerance      | %    | ±2% at 60% load  |
| Output Voltage Adjustment     | -    | None   |
| Switching Frequency (Typical) | kHz  | 65   |
| Line Regulation               | %    | ±1% of rated output voltage from 100 to 240Vac                                       |
| Load Regulation (3)           | %    | 5V: ±6%, 9V: ±4%, 12-48V: ±2% of rated output voltage                                |
| External Load Capacitance     | uF   | See model selector table   |
| Ripple & Noise (4)            | mV   | 5V: 100, 9V & 12V: 120, 13.5V: 130, 15V: 150, 18V: 180, 24V: 240, 36V: 360, 48V: 480 |
| Temperature Coefficient       | %/°C | ±0.05  |
| Minimum Load                  | -    | No minimum load required   |
| Overcurrent Protection        | -    | Hiccup mode with auto recovery   |
| Overvoltage Protection        | V    | Diode clamp, auto recovery. See model selector table                                 |
| Indicators                    | -    | LED indicates DC output is on  |
| Parallel Operation            | -    | Not possible   |

### Environmental

|                                  |     |   |
|----------------------------------|-----|---|
| Operating Temperature            | °C  | -30 to 60, derate linearly from 100% to 60% load from 40 to 60                          |
| Storage Temperature              | °C  | -30 to +85  |
| Humidity (non condensing)        | %RH | 5 - 93%RH   |
| Cooling                          | -   | Convection  |
| Altitude                         | m   | 5,000   |
| Withstand Voltage (For 1 minute) | Vac | Input to Output 4,000 (2xMOPP)  |
| Isolation Resistance             | MΩ  | >100 at 25°C  |
| IP Rating                        | -   | IP21  |
| Vibration (Operating)            | -   | Meets MIL-STD-810F Table 516.5, Table 516.5-1, 10ms, each axis 3 times (± X, Y, Z axis) |
| Shock                            | -   | Meets MIL-STD-810F Table 514.5C-VIII, 15~200Hz, X, Y, Z axis, 1hr each axis, total 3hrs |

### Other

|  |        |                              |
|--|--------|------------------------------|
| Weight (Typ)                                 | g      | 150                          |
| Size (LxWxH)                                 | mm     | 100 x 45 x 22.5              |
| Size (LxWxH)                                 | Inches | 3.937 x 1.771 x 0.886        |
| AC Input Connector                           | -      | IEC 320-C8 (2 prong)         |
| DC Output Connector                          | -      | See model selector (options) |
| MTBF - MIL-HDBK-217F, GB, 25°C, 115Vac input | hrs    | 1,000,000 max                |
| Warranty                                     | yrs    | 3                            |

### Notes

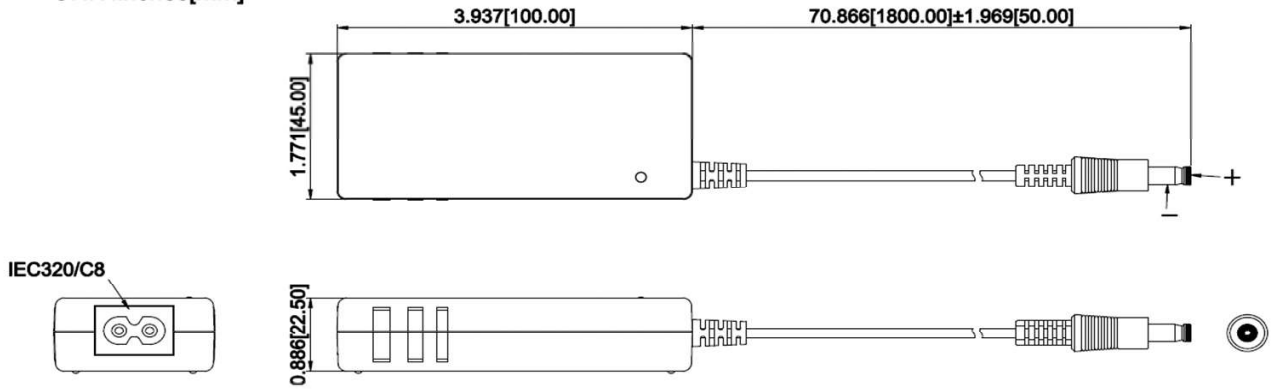
See website for detailed specifications, test methods and installation manual

- (1) Measured at 25%, 50%, 75% and 100% load conditions
- (2) Derate linearly from 100% to 75% load from 90Vac input to 80Vac input
- (3) Measured from 60 - 100% and 60 - 20% load
- (4) Ripple and noise is measured at 20MHz BW. Add 0.1uF ceramic capacitor and 10uF Electrolytic capacitor in parallel across the output

## Outline Drawing (Straight connector with 20AWG 1,800mm cable shown)

All Dimensions are in inches[mm]  
Tolerance: Inches: X.XXX±0.02  
Millimeters: X.XX±0.5

UNIT: inches[mm]





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