AC – DC

## Features

- Universal 85 - 305V AC or 120 - 430V DC input voltage
- Operating ambient temperature range: -30℃ to +70℃
- Low standby power consumption, high efficiency
- High I/O isolation test voltage up to 4000V AC
- Efficiency up to 90.5%
- Output: OSC, OCP, OVP
- Operating altitude up to 5000m

Ideal Power's 36LM75-23Bxx 75W Enclosed AC/DC Switching Power Supply Series are certified to cURus, CE, CCC, CB, RoHS & EN 62368-1/IEC 62368-1/UL 62368-1 Standards and comply with the relevant Efficiency Regulations. These are primarily used in ITE, Audio & Video Industries and customised solutions are available upon request.

## Selection Guide

| Model No.* | Output Power (W) | Nominal Output Voltage and Current (Vo/Io) | Output Voltage Adjustment Range* (V) | Efficiency at 230VAC (%) Typ. | Max. Capacitive Load (μF) |
|---|---|---|---|---|---|
| 36LM75-23B05 | 70 | 5V/14A | 4.5-5.5 | 85 | 10000 |
| 36LM75-23B12 | 72 | 12V/6A | 10.2-13.8 | 87 | 6000 |
| 36LM75-23B15 | 75 | 15V/5A | 13.5-18 | 87 | 5000 |
| 36LM75-23B24 | 76.8 | 24V/3.2A | 21.6-28.8 | 89 | 1500 |
| 36LM75-23B36 | 75.6 | 36V/2.1A | 32.4-39.6 | 89 | 1000 |
| 36LM75-23B48 | 76.8 | 48V/1.6A | 43.2-52.8 | 90.5 | 680 |
| 36LM75-23B55 | 75 | 55V/1.36A | 52-56 | 90.5 | 680 |

**Note:** *Use suffix “C” for terminal with protective cover and suffix “Q” for conformal coating

## Input Specifications

| | Conditions | | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Input voltage range | AC input | | 85 | -- | 305 | VAC |
| | DC input | | 120 | -- | 430 | VDC |
| Input frequency | | | 47 | -- | 63 | Hz |
| Input current | 115V AC | | -- | -- | 2 | A |
| | 230V AC | | -- | -- | 1 | |
| Inrush current | 115V AC | Cold start | -- | 40 | -- | |
| | 230V AC | | -- | 75 | 50 | |
| Leakage current | 277V AC | | | <0.75mA | | |
| Hot Plug | | | | Unavailable | | |

## Output Specifications

| Item | Operating Conditions | | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| Output Voltage Accuracy | Full load range | 5V | -- | ±2 | -- | % |
| | | 12V/15V/24V/36V/48V/55V | -- | ±1 | -- | |
| Line Regulation | Rated load | | -- | ±0.5 | -- | |
| Load Regulation | 0% - 100% load | 5V | -- | ±1 | -- | |
| | | 12V/15V/24V/36V/48V/55V | -- | ±0.5 | -- | |
| Ripple & Noise* | 20MHz bandwidth | 5V | -- | 100 | -- | mV |
| | (peak-to-peak value) | 12V/15V | -- | 120 | -- | |
| | | 24V | -- | 150 | -- | |
| | | 36V/48V/55V | -- | 200 | -- | |
| Temperature Coefficient | 0℃to 50℃, 230VAC | | -- | ±0.03 | -- | %/℃ |
| Minimum Load | | | 0 | -- | -- | % |
| Stand-by Power Consumption | | | -- | -- | 0.5 | W |
| Hold-up Time | 115VAC | | 8 | -- | -- | ms |
| | 230VAC | | 55 | -- | -- | |
| Short Circuit Protection | Recovery time <5s after the short circuit disappear. | | | | Hiccup, continuous, self-recovery | |
| Over-current Protection | 230VAC, rated load | Normal temperature, High temperature | | | 110%-200% Io, self-recovery | |
| | | Low temperature | | | ≥110% Io, self-recovery | |
| Over-voltage Protection | 5V | | | | ≤6.3VDC (Output voltage clamp) | |
| | 12V | | | | ≤16.2VDC (Hiccup, self-recovery) | |
| | 15V | | | | ≤21.75VDC (Hiccup, self-recovery) | |
| | 24V | | | | ≤33.6VDC (Hiccup, self-recovery) | |
| | 36V | | | | ≤50VDC (Output voltage clamp) | |
| | 48V/55V | | | | ≤60VDC (Output voltage clamp) | |

**Note:** *The “Tip and barrel method” is used for ripple and noise test, output parallel 47uF electrolytic capacitor and 0.1uF ceramic capacitor, please refer to Enclosed Switching Power Supply Application Notes for specific information.

## General Specifications

| Item | | Operating Conditions | | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|---|
| Isolation Test | Input - ⏚ | Electric strength test for 1min. Leakage current <10mA | | 2000 | -- | -- | VAC |
| | Input - output | | | 4000 | -- | -- | |
| | output - ⏚ | | | 1250 | -- | -- | |
| Insulation Resistance | Input - ⏚ | At 500VDC | | 100 | -- | -- | MΩ |
| | Input - output | | | 100 | -- | -- | |
| | output - ⏚ | | | 100 | -- | -- | |
| Operating Temperature | | | | -30 | -- | +70 | ℃ |
| Storage Temperature | | | | -40 | -- | +85 | |
| Operating Humidity | | Non-condensing | | 20 | -- | 90 | %RH |
| Storage Humidity | | | | -- | -- | 95 | |
| Switching Frequency | | | | -- | 65 | -- | kHz |
| Power Derating | Operating temperature derating | 5V output | +40℃ to +70℃ | 1.3 | -- | -- | %/℃ |
| | | Other output | +50℃ to +70℃ | 2 | -- | -- | |
| | Input voltage derating | 85VAC-100VAC | | 1.33 | -- | -- | %/VAC |
| | | 277VAC-305VAC | | 0.71 | -- | -- | |
| Safety Standard | 5V/12V/15V/24V/36V/48V | IEC/UL62368-1, GB4943.1 safety approved & EN62368-1, EN60335-1, EN61558-1 (Report) Design refer to IEC/EN/UL62368-1, EN60335-1, EN61558-1, GB4943.1 | | | | | |
| | 55V | EN62368-1, EN60335-1, EN61558-1 (Report) Design refer to IEC/EN/UL62368-1, EN60335-1, EN61558-1, GB4943.1 | | | | | |
| Safety Class | | | | | | CLASS I | |
| MTBF | MIL-HDBK-217F@25℃ | | | | | >300,000 h | |

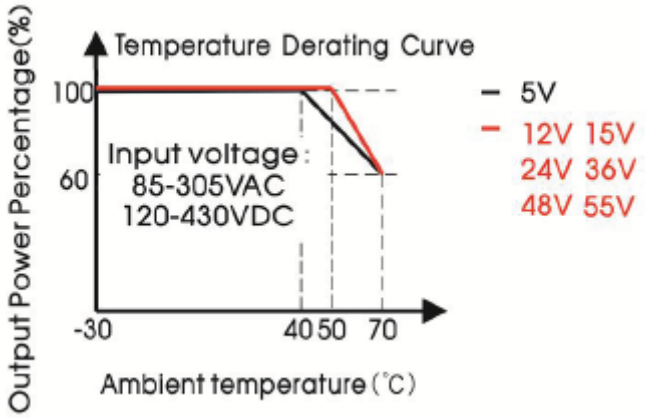
## Mechanical Specifications

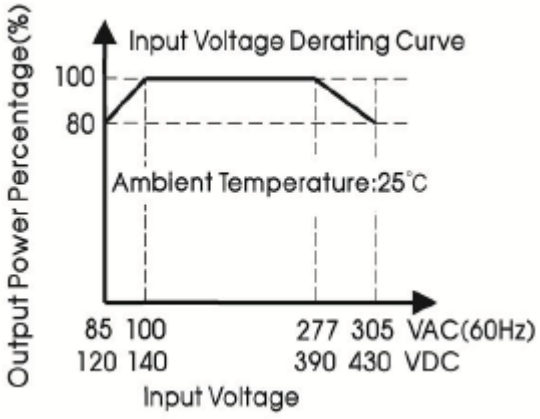
| | |
|---|---|
| Case material | Metal (AL1100, SGCC) |
| Dimension | 99.00 x 97.00 x 30.00 mm |
| Weight | 220g (Typ.) |
| Cooling method | Free air convection |

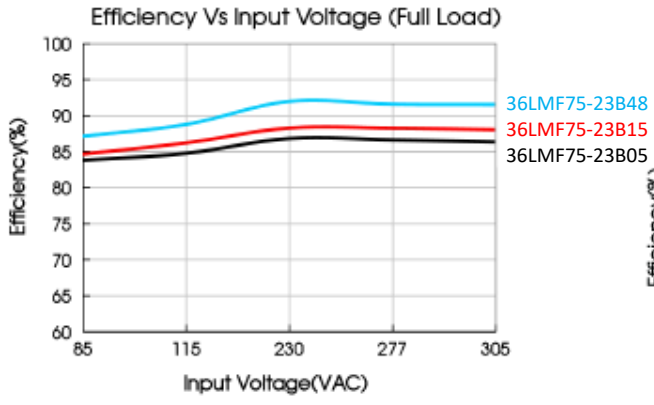
## Electromagnetic Compatibility (EMC)

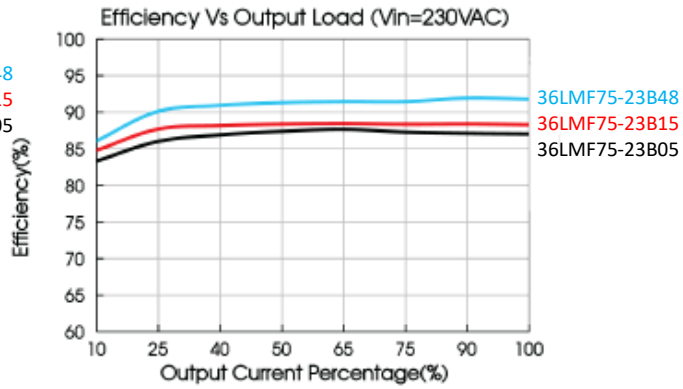
| | | | | |
|---|---|---|---|---|
| Emissions | CE | CISPR32/EN55032 | CLASS B | |
| | RE | CISPR32/EN55032 | CLASS B | |
| | Harmonic Current | IEC/EN61000-3-2 | CLASS A | |
| Immunity | ESD | IEC/EN 61000-4-2 | Contact ±6KV/Air ±8KV | Perf. Criteria A |
| | RS | IEC/EN 61000-4-3 | 10V/m | Perf. Criteria A |
| | EFT | IEC/EN 61000-4-4 | ±2KV | Perf. Criteria A |
| | Surge | IEC/EN 61000-4-5 | line to line ±2KV/line to ground ±4KV | Perf. Criteria A |
| | CS | IEC/EN61000-4-6 | 10 Vr.m.s | Perf. Criteria A |
| | Dips | IEC/EN61000-4-11 | 0%, 70% | Perf. Criteria B |

## Characteristic Curve



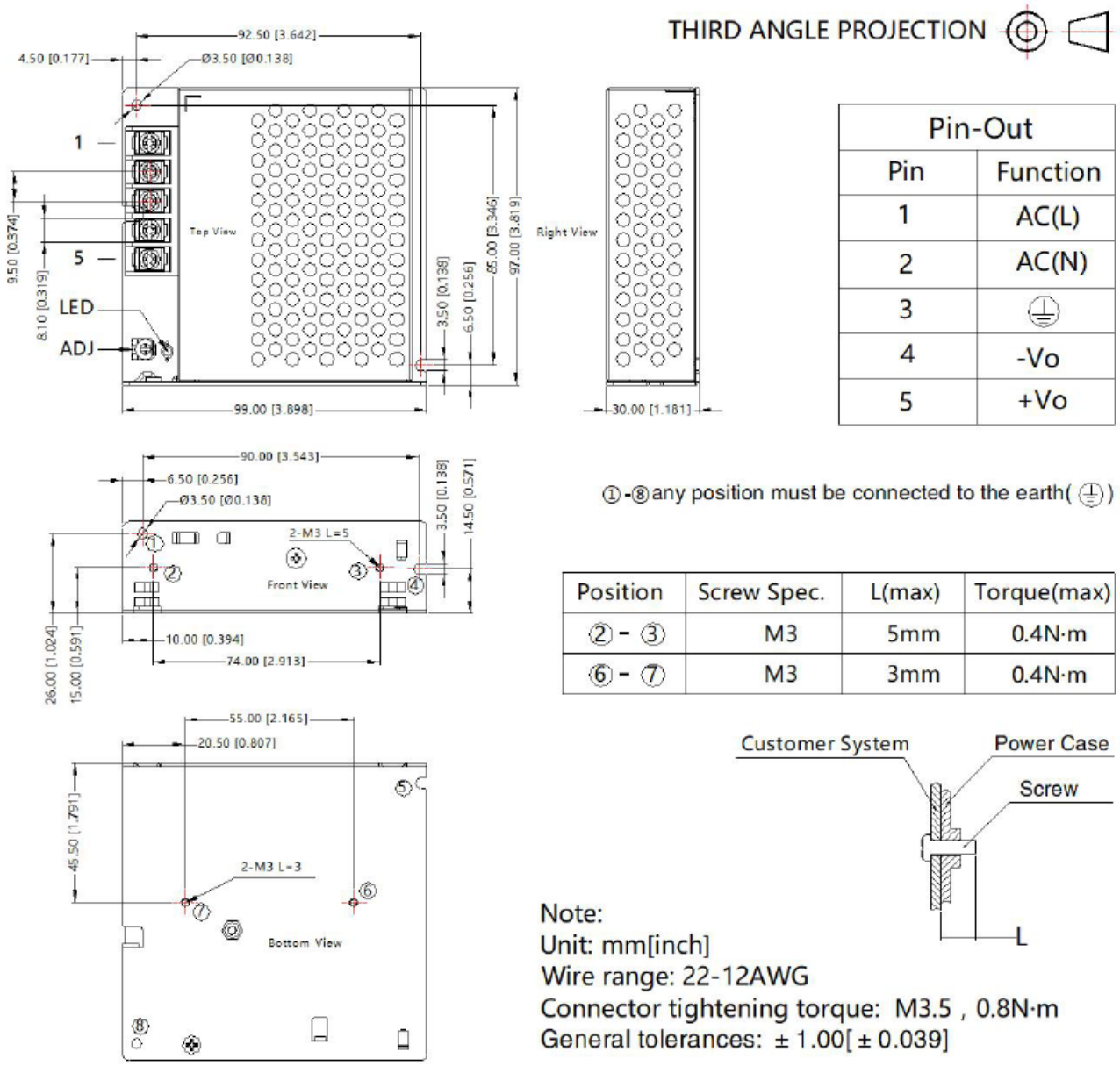



## Dimensions and Recommended Layout

### 36LM75-23Bxx, 36LM75-23Bxx-Q Series




| Pin-Out | |
|---|---|
| Pin | Function |
| 1 | AC(L) |
| 2 | AC(N) |
| 3 | ⏚ |
| 4 | -Vo |
| 5 | +Vo |

①-⑧any position must be connected to the earth(⏚)

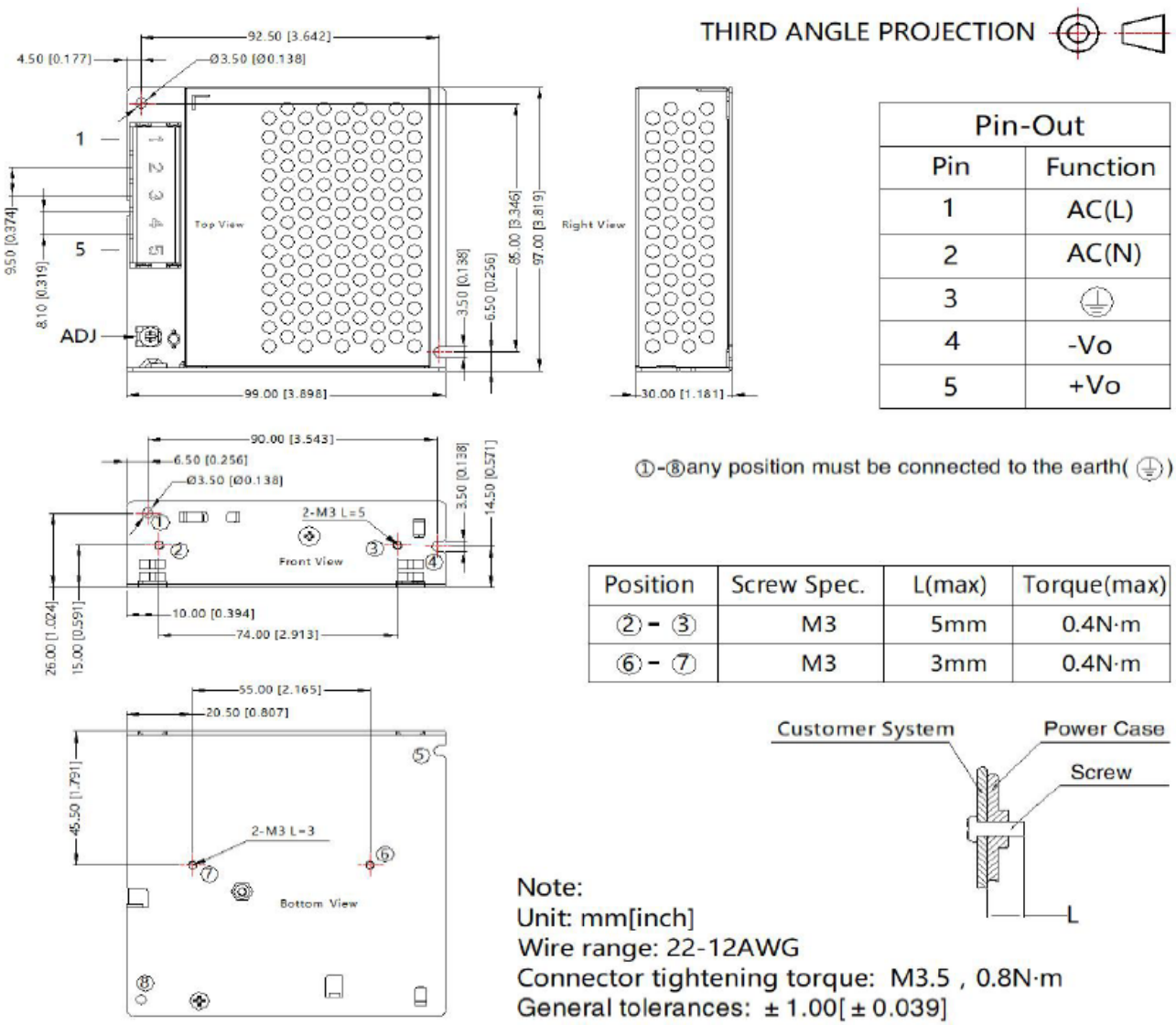
| Position | Screw Spec. | L(max) | Torque(max) |
|---|---|---|---|
| ② - ③ | M3 | 5mm | 0.4N·m |
| ⑥ - ⑦ | M3 | 3mm | 0.4N·m |




Note:
Unit: mm[inch]
Wire range: 22-12AWG
Connector tightening torque: M3.5 , 0.8N·m
General tolerances: ± 1.00[ ± 0.039]

## Dimensions and Recommended Layout (continued)

### 36LM75-23Bxx-C Series




| Pin-Out | |
|---|---|
| Pin | Function |
| 1 | AC(L) |
| 2 | AC(N) |
| 3 | ⏚ |
| 4 | -Vo |
| 5 | +Vo |

①-⑧any position must be connected to the earth( ⏚ )

| Position | Screw Spec. | L(max) | Torque(max) |
|---|---|---|---|
| ② - ③ | M3 | 5mm | 0.4N·m |
| ⑥ - ⑦ | M3 | 3mm | 0.4N·m |

Note:
Unit: mm[inch]
Wire range: 22-12AWG
Connector tightening torque: M3.5 , 0.8N·m
General tolerances: ± 1.00[ ± 0.039]

**Notes:**

1. For additional information on Product Packaging please refer to www.idealpower.co.uk.
2. Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta=25℃, humidity<75%RH with nominal input voltage and rated output load.
3. The room temperature derating of 5℃/1000m is needed for operating altitude greater than 2000m.
4. All index testing methods in this datasheet are based on our company corporate standards.
5. To improve the efficiency at high input voltage, there will be audible noise generated, but it does not affect product performance and reliability.
6. We can provide product customization service, please contact our technicians directly for specific information.
7. Products are related to laws and regulations: see "Features" and "EMC".
8. The out case needs to be connected to the earth (⏚) of system when the terminal equipment in operating.
9. Our products shall be classified according to ISO14001 and related environmental laws and regulations and shall be handled by qualified units.