## Product Feature

1. AC input range selectable by switch
2. Withstand 300VAC surge input for 5 second
3. Protections:Short circuit/Overload/Over voltage/Over temperature
4. Forced air cooling
5. Built-in cooling Fan ON-OFF control
6. 1U low profile
7. Withstand 5G vibration test
8. High operating temperature up to 70℃
9. 3 years warranty
10. No load power less than 5W

RoHS CE 3 years Warranty 860g/Typ.

## Describe

The EN-450 series is a 450W single-output enclosed power supply with 115VAC or 230VAC inputs (via switch selection) and offers 5V, 12V, 15V, 24V, 36V and 48V outputs throughout the series.

In addition to an efficiency of up to 89%, the built-in long-life fan enables the EN-450 to operate at full load temperatures ranging from -25°C to +70°C. With very low no-load power consumption(less than 5W), the terminal system can easily meet international energy requirements.The EN-450 has complete protection and anti-5G vibration capability; Complying with international safety regulations UL62368-1, the EN-450 provides a cost-effective solution for a variety of industrial applications.

## Application areas

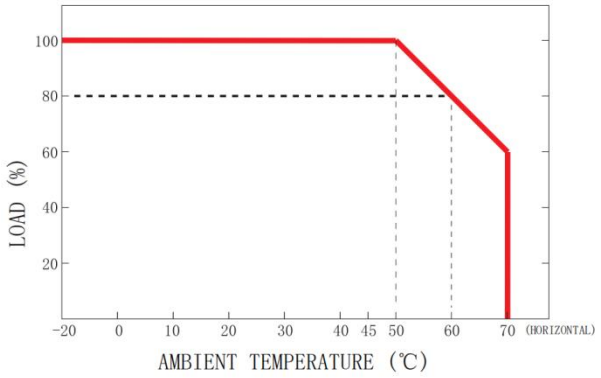
- Industrial automation machinery
- Mechanical and electrical equipment
- Industrial control system
- Electronic instruments and equipment

## Electrical Specifications

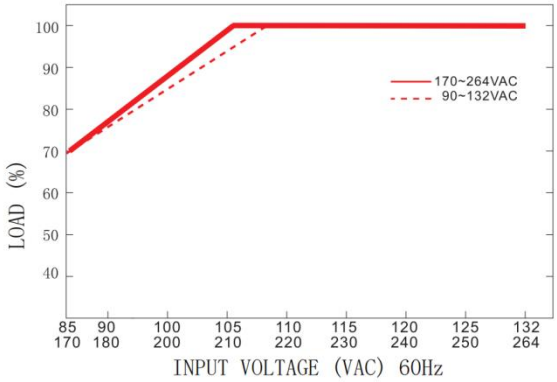
| Model number | EN-450-05 | EN-450-12 | EN-450-15 | EN-450-24 | EN-450-36 | EN-450-48 |
|---|---|---|---|---|---|---|
| DC output | 5V | 12V | 15V | 24V | 36V | 48V |
| Current | 60A | 37.5A | 30A | 18.8A | 12.5A | 9.4A |
| Current range | 0-60A | 0-37.5A | 0-30A | 0-18.8A | 0-12.5A | 0-9.4A |
| Rated power | 300W | 450W | 450W | 451.2W | 450W | 451.2W |
| Ripple and Noise(Max)(20MHZ) | 150mVp-p | 200mVp-p | 200mVp-p | 240mVp-p | 360mVp-p | 360mVp-p |
| Voltage adjustment range | 4.5-5.5V | 11.4～13.2V | 4.25~16.5V | 22.8~26.4V | 34.2~39.6V | 45.6~52.8V |
| Voltage accuracy | ±3% | ±1.5% | ±1% | ±1% | ±1% | ±1% |
| Linear adjustment rate | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.5% |
| Load adjustment rate | ±2.0% | ±1.0% | ±0.5% | ±0.5% | ±0.5% | ±0.5% |
| Start/rise time | 1500ms,50ms/230VAC 1500ms,50ms/115VAC at full load | | | | | |
| Holding time(Typ.) | 16ms/230VAC 12ms/115VAC at full load | | | | | |
| Input voltage range | 90~132VAC/180~264VAC(select by switch)255~370VDC(switch on 230VAC) | | | | | |
| Frequency range | 47-63Hz | | | | | |
| Efficiency | 83% | 90% | 90% | 91% | 92% | 92% |
| Input current | 10A typ.@115V 6A typ.@230V | | | | | |
| Surge current (cold start) | 35A @115V 60A @230V | | | | | |
| Leakage current | <1mA @240V | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Overload protection | 105-140% of rated output power | | | | | |
| | Protection mode:Locks for 3 seconds after constant current protection and recovers after power-on | | | | | |
| Overvoltage protection | 5.75-6.7V | 13.8-16.2V | 18-21V | 28.8-33.6V | 41.4-48.6V | 55.2-64.8V |
| | Protection mode:Lock protection and restore after power-on | | | | | |
| Short circuit protection | Output terminal short circuit | | | | | |
| | Protected mode:hiccup mode.The converter should re-work after fault disappear | | | | | |
| Over temperature protection | To protect back-end devices,turn off the output voltage and restart the device | | | | | |
| Fan On/Off Control (TyP.) | Rt3≥50°C the fan is on;≤40°C the fan is off | | | | | |
| Operating temperature/humidity | -30°C-+70°C/20-90%RH,No condensation (see "Derating curve") | | | | | |
| Storage temperature/humidity | -40°C-+85°C/10-95%RH,No condensation | | | | | |
| Temperature coefficient | ±0.03%/°C(0-50°C) | | | | | |
| Overvoltage level | 10~500Hz, 5G 10 minutes/cycle,X, Y, Z 60 minutes each | | | | | |
| Safety specification | Compliance with UL62368-1,TUV BS EN/EN62368-1, BS EN/EN61558-1/-2-16,CCC GB4943.1,BSMI CNS14336-1,EAC TP TC 004 | | | | | |
| Withstand voltage | I/P-O/P:4KVAC I/P-FG:2KVAC O/P-FG:1.25KVAC | | | | | |
| Insulation impedance | I/P-O/P,I/P-FG,O/P-FG:100M Ohm/500VDC | | | | | |
| Electromagnetic compatibility | Compliance with EN55032,EN55014,EN61000-3-2,GB/T9254, BSMI CNS13438, FCC Class A | | | | | |
| dimension | Reference structure diagram | | | | | |
| weight | 0.86kg | | | | | |
| Heat dissipation mode | Natural convection | | | | | |
| MTBF | >60Khours MIL-HDBK-217F(25°C) | | | | | |

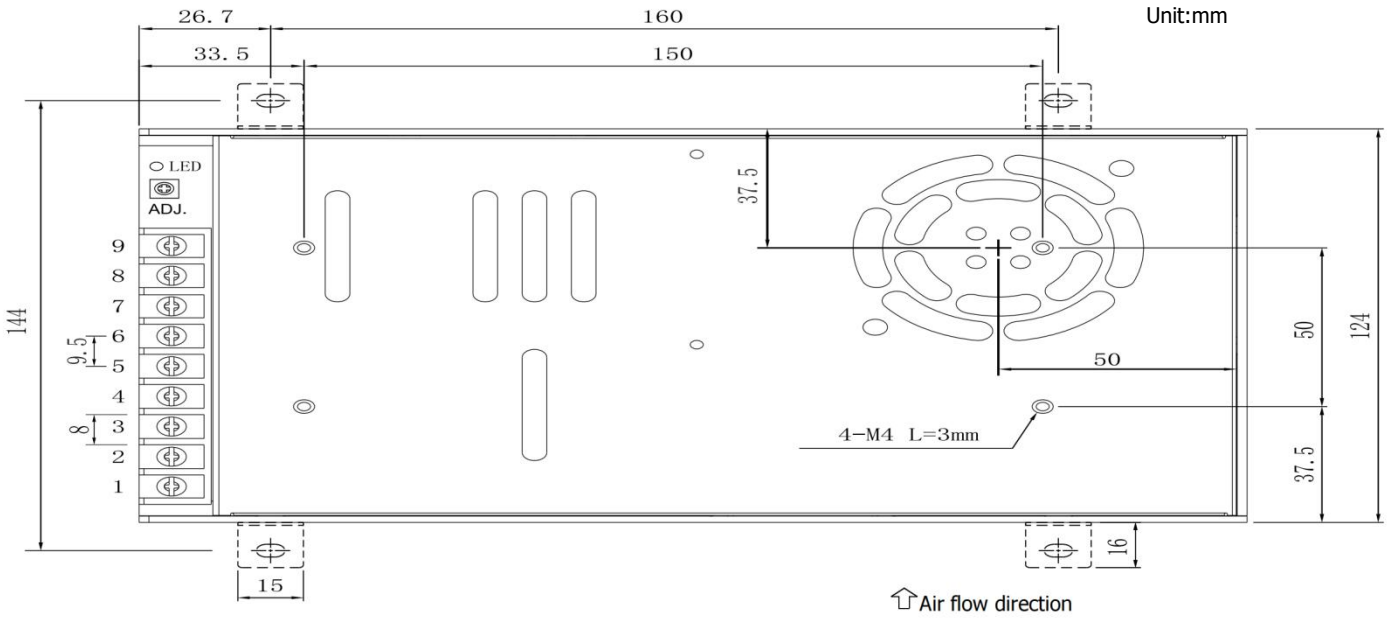
## Derating Curve

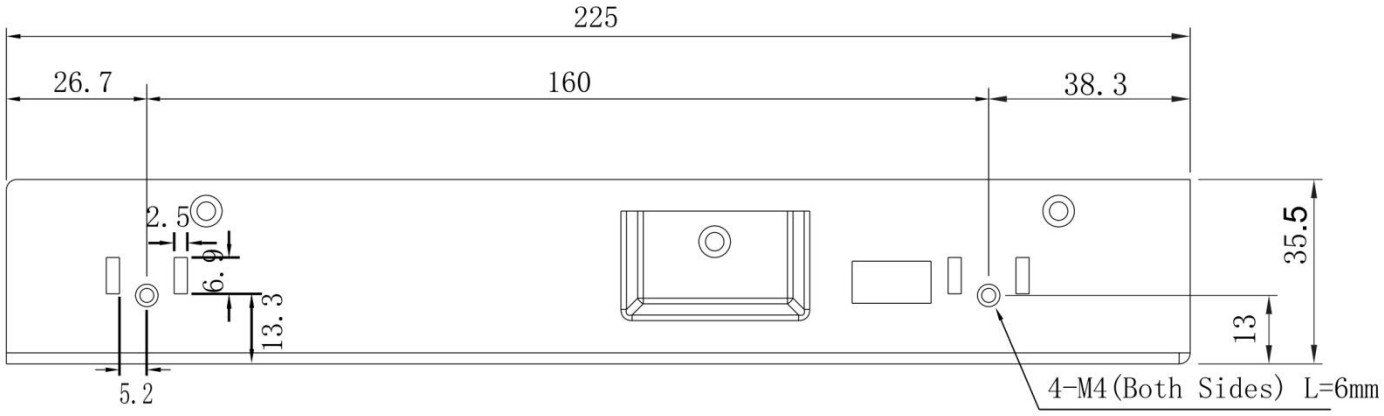



## Output Derating VS Input Voltage



## Mechanical Specification




Terminal Pin No. Assignment

| Pin | Function |
|---|---|
| 1 | AC/L |
| 2 | AC/N |
| 3 | FG⏚ |
| 4-6 | DC output -V |
| 7-9 | DC output +V |