

# Mbsm.pro, Conversion circuit, from 220 v to 12 v / 1 A, to operate a, DC12V, fan, in the refrigerator

Category: electronique

written by rober us | 16 January 2024





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#### 1. AC-DC Adapter:

- **Convenient and compact:** Pre-built, plug-and-play solution.
- **Power rating:** Choose an adapter with a power rating sufficient for your fan's wattage.
- **Image:**



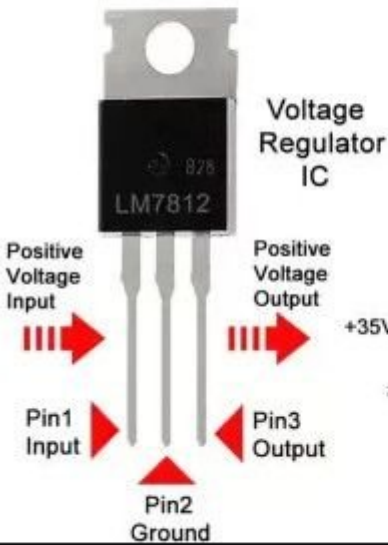
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## 2. Transformer and Rectifier Circuit:

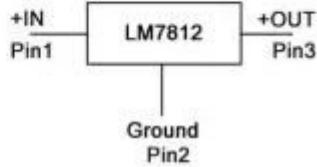
- **Step-down transformer:** Reduces 220V AC to a lower AC voltage (e.g., 12V AC).
- **Rectifier circuit:** Converts AC to DC.
- **Capacitor:** Smooths out voltage fluctuations.
- **Image:**

# LM7812 IC Pinout

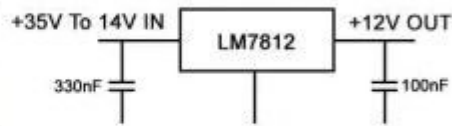
TO - 220 Package



Symbol In Diagram

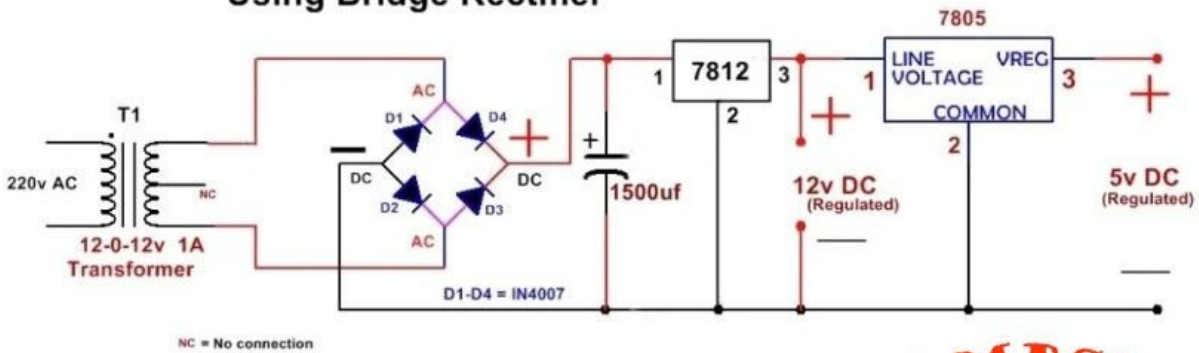


Application Circuit



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## 220/230v AC to 12V DC, 5V DC Converter Circuit Using Bridge Rectifier



NC = No connection

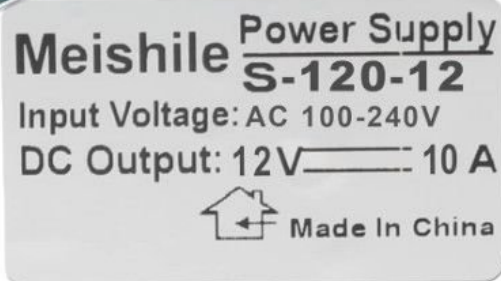
## 230v ac to 12v dc and 5v dc Regulated Power Converter



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### 3. Switching Power Supply (SMPS):

- **High efficiency:** Typically over 80%, reducing energy waste.
- **Smaller size:** Compared to linear power supplies.
- **Available as pre-built modules or DIY kits:**
- **Image:**



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#### Key Considerations:

- **Fan's power requirements:** Ensure the converter can supply the necessary current.
- **Safety:** Implement proper insulation and grounding for AC connections.
- **Heat dissipation:** Consider heat sinks for transformers or power supplies, especially for high-power fans.
- **Placement:** Avoid placing the converter in areas with high moisture or condensation.
- **Professional installation:** Recommended for those unfamiliar with electrical work.

#### Additional Tips:

- **Fuse:** Add a fuse to the circuit for added protection against short circuits.
- **Switch:** Include a switch to easily turn the fan on and off.
- **LED indicator:** Add a LED indicator to show when the converter is powered on.