

# ATX Power Supply Tester



## Description:

The ATX Power Supply Tester is designed to provide fast convenient verification of proper operation of ATX style computer power supplies. Connecting an ATX 20-pin or 24-pin connector to the MAIN POWER connector of this tester will provide immediate visual indication of operation of the power supply. An analog voltage meter is also included to verify correct voltage of all applicable pins on this connector, as well as the peripheral power, floppy drive power, +12V CPU and Serial ATA power connectors.

## Operation:

Typically, ATX style power supplies are switched on/off from the motherboard. The ATX Power Supply Tester simulates this command by pulling PIN-16 low (on the 24-pin connector), and placing an appropriate current load across Pin-4 and Pin-5. When the tester rocker switch is placed in the ON position, the power supplies cooling fan will engage and the LED indicator, located in the tester rocker switch, will light. This indicates that the power supply is functioning. In many situations, this level of pass/fail testing is all that is required.

In circumstances where the supply is operational yet erratic behaviour exists, it may be desirable to verify correct voltage at all pins. The DC panel meter, and 14 position and 15 position rotary switches allow easy verification of voltages at each of the MAIN POWER connections, as well as the SECONDARY power connectors, which are used to power external peripherals such as DVD/CD ROM, floppy and hard drives and Serial ATA devices.

Many low cost computer power supplies have one internal circuit for each of 3.3V, 5V and 12V voltages. In this case, all outputs whether on the motherboard, the processor or a peripheral connector, of the same voltage, are internally tied together. In higher quality supplies, these outputs are independent and isolated from each other. The Tenma #72-1086 ATX Power Supply Tester will independently verify each of these outputs, as well as -5V and -12V outputs located on some motherboard connectors.

## Directions:

### General Pass/Fail Test

- Disconnect the computer power supply from the AC power source
- Disconnect all IDE and other devices that are connected to the computer power supply
- Disconnect the large ATX connector from the motherboard
- Set the rocker switch on the tester to the OFF position
- Connect the large ATX connector, from the power supply, to the tester. This will be either 20 or 24-pin, depending upon the version of power supply under test
- If testing a 20-pin supply, it must be connected to the far right side of the MAIN POWER connector. In this case, the four pins on the left side are not used
- Connect the computer power supply to an AC power source
- Set the rocker switch on this tester to the ON position
- If the LED on the rocker switch lights, the power supply is functioning

### Testing Output Voltages

- The ATX connector must remain inserted into the MAIN POWER connector to allow the tester to keep the computer power supply in the ON mode
- Ensure that the slide switch, located in the center of the unit, is set to the left "MAIN" position
- Use the 14-position rotary switch labeled "MAIN" to individually test each of the outputs on the ATX connector. See the TYPICAL PIN CONFIGURATIONS in the following section for information regarding pin usage
- Each rotary switch position is labeled with the voltage that should be displayed on the panel meter
- If the meter displays the voltage level indicated by the switch, the supply should function properly
- Move the center slide switch to the right "SECONDARY" position



# ATX Power Supply Tester

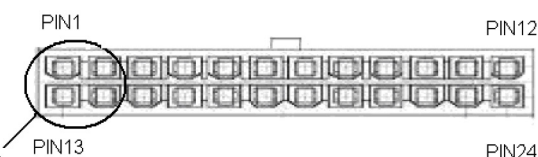


Insert the small floppy drive connector, larger peripheral connector, square P4 connector and Serial ATA connectors into the appropriate sockets. Depending upon the supply under test, multiple (or none) of these listed connectors may exist. Use the 15-position rotary switch labeled "SECONDARY" to individually test each of the outputs on these connectors. Note that each position on the SECONDARY selector is color coded to match the corresponding supply connector.

## Main Power Pin Configurations:

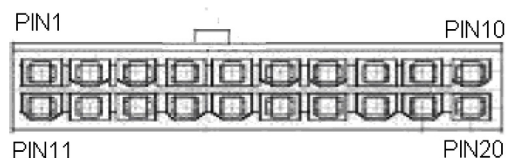
Note: Connector arrangement as shown facing pins on the tester, not on the power supply.

Newer style 24-PIN MAIN POWER connector



Not used on 20-pin style connectors

Pin 1	+3.3V	Pin 13	+3.3V (plus sense return)
Pin 2	+3.3V	Pin 14	-12V
Pin 3	Ground	Pin 15	Ground
Pin 4	+5.0V	Pin 16	Remote power "ON" connection. Pull low (tie to ground) to switch power supply on
Pin 5	Ground	Pin 17	Ground
Pin 6	+5.0V	Pin 18	Ground
Pin 7	Ground	Pin 19	Ground
Pin 8	Power status indicator "+" connection (directly feeds LED in tester rocker switch)	Pin 20	-5.0V (Not always used)
Pin 9	+5V Standby Power. This pin is always on, even when power supply switched off	Pin 21	+5.0V
Pin 10	+12V	Pin 22	+5.0V
Pin 11	+12V	Pin 23	+5.0V
Pin 12	+3.3V	Pin 24	Ground



Original style 20-PIN MAIN POWER connector

Pin 1	Ground	Pin 11	Ground
Pin 2	+5.0V	Pin 12	Remote power "ON" connection. Pull low (tie to ground) to switch power supply on
Pin 3	Ground	Pin 13	Ground
Pin 4	+5.0V	Pin 14	Ground
Pin 5	Ground	Pin 15	Ground
Pin 6	Power status indicator "+" connection (directly feeds LED in tester rocker switch)	Pin 16	-5.0V
Pin 7	+5V Standby Power. This pin is always on, even when power supply switched off	Pin 17	+5.0V
Pin 8	+12V	Pin 18	+5.0V
Pin 9	+12V	Pin 19	+5.0V
Pin 10	+3.3V (plus sense return)	Pin 20	Ground



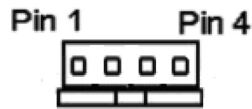
# ATX Power Supply Tester



## 4-PIN Floppy Power connector

Commonly used to power 3-1/2" floppy disk drives

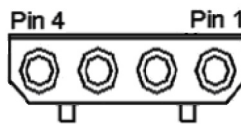
- Pin 1 +5.0V
- Pin 2 Ground
- Pin 3 Ground
- Pin 4 +12.0V



## 4-PIN Peripheral Power connector

Commonly used to power older 5-1/4" floppy drives, CD ROM, hard disk drives and similar devices

- Pin 1 +12.0V
- Pin 2 Ground
- Pin 3 Ground
- Pin 4 +5V



## 4-PIN P4 Power connector

Commonly used to power older 5-1/4" floppy drives, CD ROM, hard disk drives and similar devices

- Pin 1 Ground
- Pin 2 Ground
- Pin 3 +12V
- Pin 4 +12V



## 15-PIN Serial ATA connector

Used to power devices meeting Serial ATA Specifications

- |              |               |
|--------------|---------------|
| Pin 1 +3.3V  | Pin 9 +5V     |
| Pin 2 +3.3V  | Pin 10 Ground |
| Pin 3 +3.3V  | Pin 11 Ground |
| Pin 4 Ground | Pin 12 Ground |
| Pin 5 Ground | Pin 13 +12.0V |
| Pin 6 Ground | Pin 14 +12.0V |
| Pin 7 +5V    | Pin 15 +12.0V |
| Pin 8 +5V    |               |



## Part Number Table

Description	Part Number
Tester, Power Supply, ATX	72-1086

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