**Best Sellers**

**ATX TO BENCHTOP POWER SUPPLY CONVERSION KIT**
Handy conversion kit plugs into your ATX power supply to create a benchtop power supply with enough juice to run most of your electronics projects. Provides quick access to the typical voltages needed including 3.3V, 5V, 12V and -12V. Each output channel has replaceable 5A fuse and corresponding ground connection with binding post. Easy to connect on-board standard 24pin ATX port; just plug-in, and you're ready to go. Power indicator, power switch and LEDs. Added bonus, on-board USB port for charging or power of external devices. Board Size: 128 x 48 x 30mm / 5.04 x 1.89 x 1.18 inch (L*W*H).

**CAT # ATX-BT**

$15.95 each

**NEW ITEM**

**IR VACANCY SENSOR SWITCH**
RPP Devices # VCSSVW15-IV (Ivory).
Passive infrared, 15 Amp single pole wall switch with manual override. cULus.

Features:
- Manual “On” only
- Automatic off after time delay expires with manual “Off” option
- Adjustable time delay from 15 seconds to 30 minutes
- Adjustable sensitivity settings
- Standard decorator ivory wallplate included

**Specs:**
- 500W at 120 Vac
- 1/8 H.P. at 120 Vac, 60 Hz
- Covers 150° 450 square feet

**CAT # PIR-11**

$6.50 each

**NEW ITEM**

**3.5MM - 3.5MM AUDIO AUXILIARY CABLE, 5’**
5’ cable with 3.5mm stereo mini-phone plugs on each end. Flexible, good-quality cable, made for Motorola (MOT# SKN6393A). Straight plug on one end, right-angle on other. Perfect for iPhone, Android and other audio connections.

**CAT # CB-453**

$1.00 each

50 for 75¢ each • 100 for 60¢ each

**THERMOSTATIC CONTROL MODULE**
Digital module can be programmed to turn equipment on or off at specific, pre-set temperatures. Also has hysteresis setting, delay setting, upper-limit setting and upper limit alarm setting. Displays temperature in Celsius on 3-digit LED display. On-board 20A relay. Waterproof temperature sensor. Three buttons for navigating temperature parameters and other functions. Operating voltage 12 Vdc. Overall dimensions 48mm x 40mm x 14mm.

**CAT # THM-4**

$6.00 each

**RF TRANSMITTER / RECEIVER MODULES**
433 MHz RF transmitter and receiver. Use to send audio or data signals, or use as a remote control on/off switch.
With a few extra parts you can use these modules in a variety of applications. Right-angle headers (0.1” spacing) plug into solderless or solderable breadboards, for convenient experimentation. Operates on 5Vdc power. Transmitter is 19mm square, receiver is 14 x 30mm.

**CAT # RC-16**

$3.00 set

**NEW ITEM**

**12VDC PUSH-TYPE SOLENOID**
EMI # TSP-55.
0.52” diameter x 0.97” body.
0.32” (5/16”) threaded bushing.
12 Vdc, 43 Ohm coil. Plunger has a 0.15” diameter vinyl tip. Spring return. 5” Teflon insulated leads.

**CAT # SOL-154**

$5.85 each

**NEW ITEM**

**5VDC 3A POWER SUPPLY, USED**
Input: 100-120V 0.4A 60Hz.
Output: 5V, 3A, 15W.
6’ output cord with 1.7mm coax power plug, center positive. UL. Used, functional power supplies. Guaranteed.

**CAT # PS-531U**

$3.50 each

10 for $3.25 each

**NEW ITEM**

**1W LED W/ REFLECTOR IN HOUSING**
This good looking fixture is a great beginning for a shelf or display lighting project. Bright, white 1 Watt LED enclosed in a rugged black and yellow hard plastic housing with a conical reflector and a clear plastic front lens. Overall dimensions, 2.16” diameter x 3.45” long. Two wire leads. Operates on 3 Vdc @ 300 mA. For higher voltages use a dropping resistor.

**CAT # LMP-26**

$2.50 each

10 for $2.25 each

**NEW ITEM**

**3-18VDC PIEZO BUZZER**
FY14-G. 3-18Vdc mini-piezo beeper. Emits a medium, high-pitched tone when energized. 80 dB. 12Vdc, 7mA, 4Khz. 13.8mm diameter x 7.5mm high. PC pins on 7.5mm centers.

**CAT # SBZ-204**

$1.45 each

10 for $1.35 each • 100 for $1.15 each

**NEW ITEM**
LIGHT SENSORS

CdS PHOTOCERELS – PHOTO RESISTORS

Light dependent Cadmium sulfide (CdS) resistors. Plastic coated resistors on ceramic, 0.2-0.25" diameter. Light and dark resistances are approximate.

2MO Dark  1K – 60K Light
CAT# PRE-24  1.25 each
10 for $1.10 each

30K Dark – 1.5K Light
CAT# PRE-25  95¢ each
10 for 85¢ each • 100 for 70¢ each

Arduino-style module. Approximately 100Ω light, 10KΩ+ dark resistance. 0.60" x 0.75" pc board with 3-pin output, 0.10" spacing.
CAT# SE-12  $2.40 each

PHOTO DETECTOR

Photonic Detectors Inc # 1541-80A
Miniature photovoltaic cell in a 5mm diameter LED-type package. 0.53Vdc.
CAT# PD-8  3 for 99¢

INFRARED SENSORS

IR VACANCY SENSOR SWITCH
RPP Devices# VCSSVV15-IV (Ivory).

Specs:
• 500W @ 120Vac • 1/8 H.P. @ 120Vac, 60 Hz
• Covers 150° 450 square feet
CAT # PIR-11  $6.50 each

IR RECEIVER MODULE

Simple IR receiver module used to read infrared light value. Can be used to communicate with our IR transmitter module (CAT# SE-28).
Detection angle 60°. Can receive transmissions from a distance of 8 meters. Operating voltage 5 Vdc. 25mm x 15mm.
CAT# ST-1089  $2.40 each

INFRARED SENSOR

RE 200B passive infrared sensor. Two active elements helping compensate for differences in environmental temperature. Used in alarm systems and automatic switches that respond to human body motion. Hermetically sealed TO5 metal case with 3 leads.
CAT# PIR-200B  $1.00 ea. • 10 for 90¢ ea.

PIR SENSOR HC-SR501
Can be used alone or with Arduino or other microcontroller. Adjustable sensitivity and timing. 33 x 24mm pc board. 25mm overall depth.
CAT# PIR-7  $3.25 each

IR OBSTACLE AVOIDANCE SENSOR
Uses IR beam to detect proximity of obstacles. Great for sounding an alarm or changing direction of a robot or self-propelled vehicle. Potentiometer \( \pm \) adjust detection distance (2-40cm). Supply voltage 5 Vdc. 45mm x 16 mm x 9mm.
CAT# ST-1081  $2.75 each

LINE FOLLOWING / REFLECTIVITY SENSOR

Measures the reflectivity of a surface using infrared emitter/ detector pair. Built around the LM393 comparator, it requires only 3 connections, V+, 5VDC, and GND. LED indicator. Can make a robot follow a painted line or count rotations of a motor shaft. 1.64" x 0.42" x 0.40". Three pin header, 0.1" centers. Operates on 3.3-5Vdc. 20mA @ 5Vdc.
CAT# ST-1140  $2.75 each

IR TRANSMITTER MODULE

IR transmitter module designed for IR communication when paired with IR receiver (CAT# ST-1089). Indicator LED lights when signal voltage change is detected. Operating voltage 5Vdc. Includes 3-pin female jumpers for attachment to header pins. 34mm x 20mm.
CAT# SE-28  $3.40 each

TEMPERATURE SENSORS

TEMPERATURE SENSOR

National Semi # LM34DZ
Precision Fahrenheit sensor. Voltage is linearly proportional to the temperature. Operates on 5-30Vdc TO-92 package.
CAT# LM34DZ  $3.25 each

TMP36 TEMPERATURE SENSOR

Precision centigrade temperature sensor. It provides a voltage output that is linearly proportional to the Celsius temperature.
+125°C temperature range. TO-92 case.
CAT # TMP-36  $2.00 each

DIGITAL TEMPERATURE SENSOR

DS18B20 1-Wire digital temperature sensor. Reports degrees C with 9 to 12-bit precision, -55C to 125C (+/-0.5C). Sensor has a unique 64-Bit Serial number etched into it. TO-92 case.
CAT# DS18B20  $1.50 each

TEMPERATURE / HUMIDITY SENSOR

Digital temperature and humidity measurement device with a high-performance 8-bit microcontroller connected. Standard single-bus interface.
CAT# SEN-4  $3.50 each

FAST FRIENDLY SERVICE
THERMOSTATIC CONTROL MODULE
Digital module can be programmed to turn equipment on or off at specific, pre-set temperatures. Also has hysteresis setting, delay setting, upper-limit setting and upper limit alarm setting. Displays temperature in Celsius on 3-digit LED display. On-board 20A relay. Water-proof temperature sensor. Three buttons for navigating temperature parameters and other functions. Operating voltage 12 Vdc. Overall dimensions 48mm x 40mm x 14mm.
CAT # THM-4 $6.00 each

TEMPERATURE SENSOR MODULE
NTC thermistor sensor. LM393 voltage comparator for clean output waveform. Driving ability more than 15mA. Working voltage 3.3V-5V. Digital switching outputs (0 and 1). PC board. 32 x 14mm.
CAT # SEN-19 $1.50 each

THERMISTORS
NTC – Negative Temperature Coefficient. Resistance drops as temperature increases.

10K OHM NTC THERMISTOR
5mm epoxy coated disc. 500mW max power rating. -20 to 125C operating temperature.
CAT# TNR-103 10 for 55¢ each • 100 for 40¢ each

10K NTC TEMPERATURE SENSOR
Gold-plated 3mm dia. x 14.5mm long probe compresses, with spring-return, into a 4.2mm dia. x 9mm long collar. Removed from new equipment in excellent condition.
CAT# THM-43 $1.00 each

INRUSH CURRENT SUPPRESSOR, 3.9 OHM
Murata # NTPAD3R9LDN80. 3.9 Ohm NTC thermistor. Current rating: 3.3A. Voltage: 264V.
CAT# TNR-3.9 65¢ ea. • 150 for 40¢ ea.

HALL EFFECT SENSORS

HALL EFFECT SENSOR BOARD
44E938 and related components on a pc board designed for use with Arduino boards. 30 x 15mm overall dimensions. Operates on 5V.
CAT# SE-54 $2.25 each

HALL EFFECT SENSOR
Allegro MicroSystems # UGN3503U Ratio metric, linear hall-effect sensor in a miniature three-lead plastic SIP package. Flat Response to 23 kHz. 4.5V to 6V Operation.
CAT# HES-2 $1.50 each

LINEAR MAGNETIC HALL SENSOR
Simple analog hall sensor module used for proximity switching, positioning, speed detection, and current sensing applications. Signal output is low when magnetic field is present, signal output is high when magnetic field is absent. LED indicator. Potentiometer for adjustable sensitivity. Operating voltage 5Vdc. 44mm x 15mm x 13mm.
CAT# SE-14 $2.50 each

ROTARY MAGNETIC MODULE
RLS # RM221G3 / SKM 3208. Encoder module with a magnetic actuator. 20mm dia. x 4mm thick. Includes small neodymium magnet.
CAT# HES-3 $1.75 each

BI-POLAR HALL EFFECT SENSOR
MICRONAS HAL115UA-C Detects the presence or the absence of a magnetic field. TO-92UA. VDD = 4.5V to 24V. Typical VDD = 12V.
CAT# HES-1 10 for 65¢ each • 100 for 55¢ each

ULTRASONIC SENSORS

ULTRASONIC DISTANCE SENSOR
The HC-SR04 is an affordable proximity/distance sensor that can be used for object avoidance in various applications from robotics to car parking. The module has integral ultrasonic transmitters, receiver and control circuit and is for use in conjunction with Arduino boards. 45 x 27 x 17mm.
CAT# UST-4 $4.00 • $3.25 each

32 KHZ ULTRASONIC TRANSDUCER
Nippon Ceramics R32-16CN 0.64” diameter x 0.37” metal case. 0.70” long pc leads on 0.45” centers.
CAT# UST-32 4 for $1.40

40 KHZ ULTRASONIC TRANSDUCER
Nippon Ceramics AT40-12PK 0.50” diameter x 0.36” black plastic case. 0.30” long pc leads on 0.32” centers.
CAT# UST-40P 4 for $1.40

3-AXIS ACCELEROMETER
3-axis accelerometer with signal conditioned voltage outputs. Measures acceleration with a minimum full-scale range of ±3 g. It can measure the static acceleration of gravity in tilt-sensing applications, as well as dynamic acceleration from motion, shock, or vibration.
CAT # ACX-61 $8.95 each

ORDER TOLL FREE 1-800-826-5432
LIQUID SENSORS

FLUID PRESSURE SENSOR
Using a 5 Vdc input, the fluid pressure sensor provides a 0.25 - 4 Vdc output proportional to pressure from 0-5” H2O max. Typical applications include duct air flow, filter pressure monitoring, combustion air flow and gaseous leak detection. Measures 1-5/16” x 17/32” on a pair of 7/8” long slotted mounting wings. Two 3/16” O.D. barbs. 3-pin connector with 3” wire leads for power and output.

CAT # FLS-4 $3.15 each

LIQUID LEVEL SENSOR
Float switch closes circuit when float rises to top of switch (end opposite leads). Can be used in opposite direction as well to close circuit when water level drops. 0.96” diameter plastic float and 0.35” threaded bushing with plastic nuts and rubber O-ring. 2.64” overall length. 14” pigtail leads.

CAT # FLW-2 $3.35 each

FLOAT SWITCH WITH INTEGRATED THERMISTOR
Gems Sensors. Horizontal liquid level float switch. For sensing rising or falling liquid levels (normally open or normally closed). Hermetically sealed magnet and reed switch for accurate, reliable long-life operation. Polypropylene float, 2.4” long from hinge to end. Four 10” leads, two for switch (red) and two for thermistor (green).

CAT# FLW-1 $3.50 ea. • 10 for $3.00 ea.

LIQUID FLOW SENSOR
Measures the rate of liquid flowing through it. Consists of a plastic valve body, flow rotor and hall effect sensor. Can be used with a microcontroller such as Arduino to monitor devices. Operates on 5vdc @ 15mA. Water flow range 0.3-6 L/min. Water pressure <0.8MPa. 4mm I.D. x 6mm O.D. inlets. Overall dimensions 35mm x 35mm x 26mm. 6” 3-wire leads with 3-pin connector.

CAT # FLW-3 $5.00 each

PROXIMITY SENSOR
P/N: LJ12A3-4-Z/BX. Inductive-type proximity sensor with NPN, Normally open transistor switch. Output upon detection. Power: 6-36 VDC. Output Current: 300mA. Detection Range: 4mm. Detected material: Iron/Steel alloys. 64mm long x 12mm diameter threaded bushing. Includes hardware. 3-wire, 43” cable.

CAT # PSW-21 $3.75 each

THROUGH-BEAM PHOTO-ELECTRIC SENSOR PAIR
SICK Optics WS15-D1130 / WE15-A1130. Photo-electric sender and receiver pair detects the presence of an object when the beam between the two is interrupted. When the beam is broken, the receiver produces a current that can be used to trigger an audio-visual signal or relay-operated device. 5 Meter range. Built-in LED alignment and power indicators. Modules are 38 x 21 x 16.2mm and can be front or side-mounted. Front-mount hardware is included. Operate on 10-30Vdc. Power supply not included. cULus.

CAT # OSU-1130 $11.35 pair

RED LASER MODULES

LASER DIODE
LiteOn # LTLD505T. 6mm diameter. Gold-plated heat-sink base and leads.

CAT# DLM-6 85¢ each
100 for 40¢ each

LASER ASSEMBLY W/ PINS
Mounted on pc board with header pins for use with Arduino and other projects. Can be used as a trip wire for theft detection or for optical effects. 26 x 16 x10mm.

CAT# ST-1172 $2.80 each

MODULE WITH ADJUSTABLE LENS
Metal enclosed module. 12mm diameter x 35mm long. 5” pigtail leads.

CAT# DLM-8 $4.55 ea. • 10 for $4.00 ea.

RED X MODULE
Projects a red X. Visible approximately 10’ in daylight. Metal enclosed module, 12mm diameter x 35mm long. 5” pigtail leads.

CAT# LL-6 $5.00 each

CD LASER OPTICS AND MECHANISM
Sony# KSM213CLCM / KSS213CL. Optical pickup mechanism with CD laser lens assembly. 3.93” x 3.15” metal bracket. New, original condition.

CAT # LA-10 $7.50 each
10 for $6.70 each

New Item
TRANSFORMERS

10V / 5V @ 5VA TRANSFORMER
Triad # VPL10-500
Primary: 115/230V 50-60Hz
Secondary: Series: 10Vct @ 0.5A
           Parallel: 5V @ 1A
36.52 x 44.00 x 36.52mm h.
8" wire leads. cULus.
CAT# TX-105 $6.85 ea. • 10 for $6.65 ea.

24V @ 30VA
115 Vac primary, 50/60 Hz.
2.13" x 2.25" x 1.87" high. Wire leads.
CAT# TX-2432 $7.00 each

ISOLATION TRANSFORMER
Bel Signal Transformer
# DP-241-7-120
Primary: 115/230V 50/60 Hz
Secondary: 120 VCT 56 VA
Signal's 241 transformers use a split bobbin construction that provides superior isolation and low capacitive coupling. 2.70" x 1.94" x 2.28" high. Mounting holes on 3.12" centers. 0.187" QC/ solder lugs. UL, CSA.
CAT # TX-1255 $11.00 each

COUPLING TRANSFORMERS
Midcom 671-1538.
Designed to reflect 600 Ohms on primary with 536 Ohms on secondary. 1.12" x 0.75" x 0.47".
CAT# TCTX-18 Reduced Price $2.75 each

Impedance Matching Transformer
Current Controls Inc. CC030517.
Primary: 80 Ohms, 10mH/0.8Q.
Secondary: 1K Ohms, 170mH/0.9Q @1KHz.
Secondary: 12K Ohms, 2.6H/1Q @ 1KHz.
0.78" x 0.66" x 0.48" high. PC pins.
CAT# MTX-4 Reduced Price $1.00 each

5A CURRENT SENSOR MODULE ZHT103
A simple and effective way of monitoring current in your project. Accurate AC current measurement up to 5 Amps. A proportional voltage signal is provided on the output pin, at a 1000:1 ratio.
CAT# TXC-4 Reduced Price $3.85 each

DC-DC UP/DOWN REGULATORS

1.2 AMP Reduced Price
Input: 4-32V
1.2A continuous current. 3A max.
Output: 1.25-35V adjustable.
1.90" x 0.98" x 0.5". Mounting holes.
CAT# UDC-5 Reduced Price $7.50 • $6.50 each

7 AMP
Input: 5-32 Vdc.
Output: 1-30 Vdc, continuously adjustable.
Output current:
7A continuous, 10A peak.
Output power: 80W continuous, 130W peak.
Output ripple: 50Mv. 1.83" x 3.05" x 0.58".
CAT# UDC-10 Reduced Price $27.50 each

2A STEP-UP VOLTAGE CONVERTER
Step-up voltage "Boost" converter based on the MT3608 chip.
1.47" x 0.89" x 0.25" pc board with solder spots for input and output voltage.
On-board trimmer for adjustment.
• Input: 2-24 Vdc
• Output: up to 28Vdc @ 2A
CAT# UDC-2 Reduced Price $4.60 • $3.00 each

STEP-UP VOLTAGE CONVERTER
XL6009 DC-DC UP voltage regulator (boost driver).
Input: 4-32V, 1.2A continuous current. 3A max.
Output: 5-35V adjustable.
1.90" x 0.98" x 0.5". Mounting holes.
CAT# UDC-3 Reduced Price $4.50 each

DC STEP-DOWN REGULATORS
Circuit based on LM2596 Step-Down regulator (buck driver). Input: 4-40V. Output: 1.25-37V adjustable, 1.5A continuous current. 3A max.
With LED digital display and screw terminals. 2.6" x 1.4"
CAT# DCC-3M Reduced Price $11.95 • $8.75 each
1.95" x 0.96" CAT# DCC-3 Reduced Price $7.95 • $7.50 each

IMPEDANCE MATCHING TRANSFORMER

VARIABLE TRANSFORMERS
Input: 110 Vac
Output: 0 - 130 Vac
Fully enclosed variable transformers in ventilated steel cases with 6" power cord, 3 prong grounded receptacle, output voltage meter, on/off switch, fuse and power cord.

<table>
<thead>
<tr>
<th>Amps</th>
<th>Size</th>
<th>Weight</th>
<th>CAT#</th>
<th>Each</th>
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<td>3</td>
<td>5.35&quot; x 4&quot; x 5.5&quot;</td>
<td>6.5 lbs.</td>
<td>SC-3M</td>
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<td>5</td>
<td>4.75&quot; x 7&quot; x 6&quot;</td>
<td>8 lbs.</td>
<td>SC-5M</td>
<td>120.00</td>
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<td>21 lbs.</td>
<td>SC-10T</td>
<td>185.00</td>
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<td>22 lbs.</td>
<td>SC-20M</td>
<td>210.00</td>
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