LIGHT SENSORS

CdS PHOTOCELLS – PHOTO RESISTORS

Light dependent Cadmium sulfide resistors. Plastic coated resistors on ceramic, 0.2-0.25” dia. Light & dark resistances are approximate.

2MΩ Dark – 1K – 60KΩ 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

3MΩ Dark – 100Ω Light
CAT# PRE-26 95¢ each
10 for 85¢ each • 100 for 70¢ each

NEW ITEM
Arduino-style module. Approximately 1000Ω 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¢
50 for 20¢ each

INFRARED MOTION DETECTOR MODULE

Mini-passive infrared motion detection module (PIR). Senses changes in infrared heat patterns. 3-pin configuration ideal for use with Arduino / RaspberryPi / Adafruit microcontrollers. Lens diameter, 14mm. Overall length, excluding pins, 19mm.
CAT# PIR-12 $3.75 each

NEW ITEM
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 to 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 $3.30 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, -55°C to 125°C (+/-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
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

DIGITAL THERMOMETER W/ PROBE SENSOR

-50 to 110° Celsius thermometer with digital LCD readout. Moisture resistant, waterproof probe on 38" lead. Snap-mounts in 1.75" x 1" panel cut-out.

CAT# THM-5 $3.75 each

TEMPERATURE SENSOR MODULE

NTC thermistor sensor. LM393 voltage comparator for clean output waveform. Working voltage 3.3V-5V. Digital switching outputs ( 0 and 1 ). PC board, 32 x 14mm.

CAT# SEN-19 $1.50 each

KNOCK SENSOR MODULE

3-pin knock sensor attached to PC board with 10K resistor. Designed for use with Arduino and similar microcontroller systems. 18.5mm x 19.0mm x 8mm thick.

CAT# SE-29 $1.85 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 125K operating temperature.

CAT# TNR-103 65¢ each

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 Reduced Price $1.00- 75¢ each

10 for 60¢ each

INRUSH CURRENT SUPPRESSOR, 3.9 OHM

Murata # NTPAD3R9LDN0B. 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 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# HES-3 $1.75 each

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
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 dia. 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

12 NO HASSLE RETURN POLICY
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 $2.75 each

DATA TRANSFORMER

Datatroninc# SM501-1
600:600 Ohms. 12.50 x 9.60 x 7.36mm.
Surface-mount. UL60950-1.
Cut-tape (tape & reel) packaging.
CAT# TCTX-501 $1.50 each
10 for $1.30 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 $1.00 each

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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<tbody>
<tr>
<td>3</td>
<td>5.35” x 4” x 5.5”</td>
<td>6.5 lbs.</td>
<td>SC-3M</td>
<td>64.00</td>
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<tr>
<td>5</td>
<td>4.75” x 7” x 8”</td>
<td>8 lbs.</td>
<td>SC-5M</td>
<td>120.00</td>
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<td>10</td>
<td>6.75” x 8” x 8”</td>
<td>21 lbs.</td>
<td>SC-10T</td>
<td>195.00</td>
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<td>6.5” x 9” x 7.5”</td>
<td>22 lbs.</td>
<td>SC-20M</td>
<td>220.00</td>
</tr>
</tbody>
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CURRENT TRANSFORMER

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 $3.85 each

DC-DC UP/DOWN Regelulators

1.2 AMP
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 $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 $27.50 each

2A STEP-UP VOLTAGE CONVERTER
Step-up voltage "Boost" converter based on the MT3608 chip.
1.47” x 0.69” 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 $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 $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 $8.75 each
1.95” x 0.96”
CAT# DCC-3 $7.50 each