| Product Name | Description | Price
|--------------|-------------|--------
| CLOCK MODULE | The DS1302 trickle-charge timekeeping chip contains a Real-Time Clock/calendar. It communicates with a microprocessor via a simple serial interface. On-board CR2032 backup battery. Operates on 2-5.5VDC @ 300mA. 44mm x 23mm x 11mm. | $3.00 each
| SPARKFUN INVENTORS KIT | A very handy kit containing 37 different devices with the standard 3-pin interface for Arduino. We sell many of these modules and sensors separately, but this kit would be a bargain for a classroom or experimental setting. In addition to a useful assortment of sensors, the kit includes a joystick, relay module, sound and light emitting modules and a pushbutton. Packaged in individual compartments in a sturdy clear plastic case with an easy-to-use display map on the cover showing the location of each item. | $36.00 each
| LOGIC LEVEL CONVERTER, BI-DIRECTIONAL | Bi-directional logic level converter safely steps down 5V signals to 3.3V and steps up 3.3V to 5V at the same time. This level converter also works with 2.8V and 1.8V devices. 0.63 x 0.52" (16.05 x 13.33mm). | $2.95 each
| ARDUINO STACKABLE HEADER KIT | Works with Arduino Main Board, Pro & Mega. They clear the USB-B connector and enable stacking of multiple shields. This kit includes four headers (2 8-pin and 2 6-pin). | $1.50 each
| WiFi MODULE - ESP8266 | Self contained WiFi module capable of either hosting an application or offloading all Wi-Fi networking functions from another application processor. Pre-programmed with an AT command set firmware. Operating voltage 3.3V. | $5.00 each
| 16 X 2 LCD W/ KEYPAD | For Arduino compatible boards for user input and menu selection in custom applications. Features a 1602 white character LCD with blue LED backlight and 4-bit Arduino LCD library. Character size: 2.95 x 4.35mm. Keypad consists of 6 keys: select, left, up, down, right and reset. Potentiometer for dimmable backlighting. LED indicator. Operates on 5Vdc. 80mm x 58mm x 13mm. | $5.95 each
| RFID READ AND WRITE KIT | Allows you to both read and write MiFare-type cards. Includes one credit-card style tag and one key-fob style tag. | $5.75 each
| JOYSTICK SHIELD | Turn your Arduino into a gamepad. Features the Nokia 5110 LCD / nRF24L01 interface. 7 pushbuttons (four big, two small, joystick select button) and a two-axis thumb joystick. Operates on 3.3-3.5Vdc. | $4.00 each
| SENSOR KIT FOR ARDUINO | A very useful, not to mention economical, kit including an Arduino Uno R3 microcontroller and a large selection of devices you will want for a number of projects using the Arduino microcontroller. Includes an expansion board, extra breadboards, motors, motor drivers, a relay board, a remote control keypad, joystick, LCD, LED displays, LEDs, jumpers, headers, sensors, switches, pots, battery holder and more. All of this packaged in a well organized, divided plastic case. You can't go wrong with this. These items purchased separately would be considerably more. | $36.99 each
| RFID MODULE - ESP8266 | Self contained WiFi module capable of either hosting an application or offloading all Wi-Fi networking functions from another application processor. Pre-programmed with an AT command set firmware. Operating voltage 3.3V. | $5.00 each
| 16 X 2 LCD W/ KEYPAD | For Arduino compatible boards for user input and menu selection in custom applications. Features a 1602 white character LCD with blue LED backlight and 4-bit Arduino LCD library. Character size: 2.95 x 4.35mm. Keypad consists of 6 keys: select, left, up, down, right and reset. Potentiometer for dimmable backlighting. LED indicator. Operates on 5Vdc. 80mm x 58mm x 13mm. | $5.95 each

**New Item**

ORDER TOLL FREE 1-800-826-5432
ALPHANUMERIC DISPLAYS

4 DIGIT RED CLOCK DISPLAY, 0.4” DIGITS
MSCQ4911C
4 character
7-segment LED display module.
Common Anode. 0.508” H x 1.582” W x 0.276” D.
Fits our part# ICS-22W.
CAT # FDA-5 $1.00 each
10 for 75¢ each

3-DIGIT 7-SEGMENT LED DISPLAY, .28” GREEN
LTC-2621G. 7-segment, 3 character
LED display module. Lights green. Common anode.
2.1V 20mA. 0.891” L x 0.394” W x 0.24” h (22.64mm L x 10mm W x 6.1mm H).
0.28” (7.00mm) digits. 16-pin DIP configuration.
CAT # TDA-26 85¢ each
10 for 80¢ each • 100 for 70¢ each

2.3” X 8 RED-GREEN DOT MATRIX
Lite-On # LTP2558AA-RA
Large, 2.3” matrix height.
Red-Orange and Green LEDs. Overall dimensions, 2.40” x 1.5” x 0.33”.
Gray face with white dots in off-state. Spec sheet available.
CAT# SDD-25 $1.00 ea. • 10 for 80¢ ea.

COOL-WHITE DUAL LED ASSEMBLY

Nice bright miniature LED light source for display and lighting applications.
2 high-brightness surface-mount white LEDs mounted on a 0.56” x 0.31” (7 x 14mm) pc board. Built-in circuitry for 8V operation. Two pc pins on 5mm centers.
CAT# LED-2W 4 for $1.00. 5 for $1.00
100 for 12¢ each

LED INDICATOR ASSEMBLIES

12 VDC W/ PLASTIC HOUSING

Threaded bushings with nuts. Solder-lug terminals. 2 sizes, 4 colors (red, green, blue, yellow).
10mm diameter lens. 10mm bushing.
CAT# IND-10(R,G,B,Y) $1.25 each
10 for $1.10 each
12mm diameter lens. 12mm bushing
CAT# IND-12(R,G,B,Y) $1.35 each
10 for $1.15 each

12 VDC RED LED
5mm red diffused LED.
Press-fit mounting in 0.25” diameter hole.
Two 10” pigtail leads.
CAT# LED-12VR $1.15 each
10 for $1.05 each • 100 for 90¢ each

12 VDC W/ CHROME HOUSING

5mm diameter LED in 10mm diameter chrome bezel. 8mm threaded bushing with mounting hardware. Extends 34mm below mounting panel. Available in Red (R), Blue (B), Green (G) and Amber (A).
CAT# IND-160(R,B,G,A) $2.25 each

12 VDC LED MODULES & STRIPS

WEATHER-RESISTANT 12 VDC LED MODULE, COOL-WHITE
Miniature lensed weather-resistant LED module provides 160° of cool white light. Narrow footprint and adhesive backing makes it easy to mount, even on curved surfaces. IP67 rating for outdoor use. Wired together in 20 module strands, with LEDs on 2.36” centers. Can be purchased individually.
CAT # LED-161CW $0.80 module
20 for 70¢ per module

12 VDC MODULE STRIPS
Rugged, high-luminosity 3-LED modules suitable for indoor or outdoor, shelf, display or sign lighting. Operates on 12Vdc. Dimmable. Covered lens protects against humidity and sun damage. Double-stick tape on back of each module for attachment to clean, flat surface. Hole for screw mounting. Modules linked on 2-conductor 18AWG zip cord, 161mm (6.5”) center-to-center spacing. Maximum string is 50 modules, 10 meters (32Ft). 0.72W per module, 36W per string. UL, CE. Can be used w/ dimmer CAT# DMR-8

Warm White CAT# LS-123WW
Cool White CAT# LS-123CW
Red CAT# LS-123R
Yellow CAT# LS-123Y
Green CAT# LS-123G
Blue CAT# LS-123B
Cool White CAT# LS-123HCW
High-Power. 1.2W per module.
60W (50 x 1.2W) per string.
$2.65
$2.25 per module
10 for $2.00 per module
50 for $1.75 per module

LOW PROFILE 3-LED MINI MODULE, COOL-WHITE
Miniature 3-LED module, ideal for indirect lighting, cabinet lighting, sign backlights or outdoor lighting. Provides 120-degrees of cool white light. 12 Vdc. 30mA current. 36W per module. Narrow footprint and adhesive backing makes it easy to mount, even on curved surfaces. IP67 rating for outdoor use. Wired together in 20 unit strands, with modules on 2.72” centers. Can be purchased individually.
CAT # LPM-3 85¢ module
20 for 75¢ per module

ORDER TOLL FREE 1-800-826-5432
12 VDC LED LIGHT STRIPS

Adhesive-backed ribbon with surface-mount ultrabright LEDs. Ideal accent lighting in auto or home. Dimmable. Can be cut every third LED or 50mm (approx. 0.2”) and each segment can be lit independently. Wires can be soldered directly to solder spots on ribbon tape. 5 Meters, 100 segments per continuous strip. Can be connected end-to-end for longer strips. Can be purchased in 2” (3-led) segments.

Cool-white CAT# LS-12-CW
Warm-white CAT# LS-12-WW
$1.00 per 3-led segment
10 segments $9.00 per segment
100 segments $75.00 per segment

Neutral-white CAT# LS-12-NW
$1.50 per 3-led segment
10 segments $13.00 per segment
100 segments $100.00 per segment

ECONOMY MODULES COOL-WHITE

Very bright, but less bright than our other modules. 3.5” wires between modules. 20 modules per string. 0.72W per module

CAT# LS-200CW $1.40 per module
20 modules for $1.10 per module
100 modules for $0.85 per module

RF REMOTE CONTROL FOR RGB LED STRIPS

Allows flashing, sequencing and dimming of tri-color LED strip. CAT# LS-22.
Will operate up to 5 strips, 1500 LEDs. Operates on 12-24Vdc. Input via screw terminals or 2.5mm coax power plug. Power supply not included.

CAT# LT-100 $8.95 each

12-24 VDC 8A DIMMER

Designed for 12-24 VDC LED strip lights like our CAT#s LS-12-CW, NW, WW. Clearly-marked screw-clamp input/output terminals. Rotary adjust ment. 3.5” x 2.35” x 2.25” high. Mounting holes on 1.6” x 3.1” centers.

CAT# DMR-8 $19.95 each

LED FESTOON LAMPS

6 LED festoon lamps operates on 12 AC/DC 45ma.
120° radiance angle. 10.7mm dia. x 44mm L.
Cool-white - 45 lumen. 6000 CCT(K).
CAT# HFL-12CW $4.50 each
10 for $4.35 each
Warm-white - 40 lumen. 3000 CCT(K).
CAT# HFL-12WW $4.50 each
10 for $4.35 each

Festoon socket for 44mm lamps. Fits CAT#s HFL-12CW and HFL-12WW. Can be used with other 37-44mm festoon based lamps and LEDs.

CAT# FLS-3 75¢ each • 10 for 70¢ each

FLUSH-MOUNT LED FIXTURE, 120 VAC

Earthtronics Model LEDX485090
120Vac, 60Hz, 0.062A, 3.5W. Color temperature: 5000K “Cool-white”. 6” dia. LED fixture. Off-white (beige) plastic assembly snaps into a 7.5” dia. metal rough-in frame. Array of 61 LEDs provides a fairly bright light. We don’t have specs, but intensity is approx imately that of a 50-60W incandescent lamp.

CAT# LED-485 $4.75 each

LED 5”/ 6” DOWNLIGHT, 9 WATT, N-W, 4-PACK

Dimmable 9W retrofit lamp. Fits 5” / 6” cans, 120 Vac screw base. 650 lumens. Dimmable 10% to 100%. Normal-white, 4K. Energy Star, cULus, RoHS, FCC. Sold in package of 4.

CAT# LMP-56NW $19.95 pack of 4

FUSE LAMPS

Popular lamps which are the same size as a 3AG 1/4” x 1 1/4” (AGC) fuse.

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**DIGITAL PANEL METERS**

**DUAL DIGITAL LED PANEL METERS**
Volts and Amps on the same compact digital meter.
Built-in shunt. Bright 0.28" red LEDs. Snap-mounts into 46 x 27mm (1.80" x 1.05") rectangular cut-out. Black bezel. 47.5 x 28.5mm.

**3.3–30 VDC AND 0-5A SCALES**
3-wire, common ground, connection. Can monitor its own voltage.
CAT# PM-233 $12.00 $10.50 each

**0-100VDC AND 0-5A SCALES**
5-wire connection. Can be used like CAT# PM-233 to monitor its own voltage (3.3-30 Vdc) or, using separate power source for display, can measure to 100 Vdc.
CAT# PM-23 $17.00 $12.00 each

**60-500 VAC DIGITAL PANEL METER**
3-digit AC panel meter. Bright 0.57" high LED digits. 1.875" x 1.15" black bezel. Snap-mounts in 1.8" x 1.1" panel cut-out.
Detachable connector w/ 5" leads.
CAT# PM-117 $8.75 each

**3.3-30 VDC DIGITAL PANEL METER**
3-digit DC panel meter. Bright 0.57" high LED digits. 1.875" x 1.15" black bezel. Snap-mounts in 1.1" x 1.8" panel cut-out.
Detachable connector w/ 5" leads.
Red CAT# PM-123 $8.35 each
Green CAT# PM-123G $8.35 each
Blue CAT# PM-123B $8.35 each

**0-100V DC VOLTMETER**
3-digit LED voltmeter for 0-100VDC range. 0.28” digits on a 0.89” x 0.39” display. Available with red or blue digits on black background. Three wire operation. Red-black for power; yellow-black for voltage being monitored. Will monitor its own voltage. Mounting ears with holes on 1.03” centers. Working current: 20mA. Operating voltage: 4-40 VDC. Measurement rate: 200mS/Times.
Red digits CAT# PM-126 $3.95 each
Blue digits CAT# PM-126B $3.95 each

**TIME - TEMPERATURE - VOLTAGE METER**
3 in 1 module -- clock, thermometer, voltmeter, using the DS3231 chip. Can display any one or cycle through all three. Power supply voltage: DC5.0 ~ 30V. Temperature range: -40 to 85°C, resolution 0.1°. Voltmeter range: DC5 ~ 30V. Dimensions: 40 x 13mm. Requires connector we suggest our CAT# CON-240. Requires power supply, any 5-30 Vdc 300 mA.
CAT # DCLK-1 $5.50 each

---

**PM89 SERIES PANEL METERS**

**DC MICROAMMETERS**

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**DC AMMETERS**

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*SHUNTS REQUIRED FOR ALL METERS 25 AMPS AND GREATER. Under 25A, shunts are included.

**DC VOLTMETERS**

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**AC AMMETERS**

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**AC VOLTMETERS**

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**SHUNTS**

For use with DC Ammeters where external shunts are required. Adjusted for 50 mV drop.

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