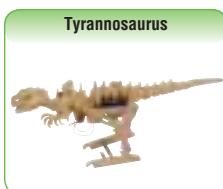**DIY Spider Robot**
2190717

Tyrannosaurus
242923

Construction Robot
358272

Mini Robot
2150619

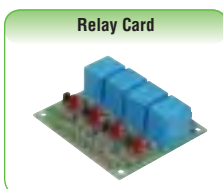**Electronic Robot**
2170273

Running Micro Bug
200328

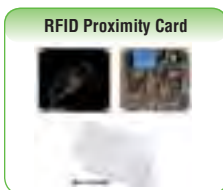**Crawling Micro Bug**
200336

Relay Card
239476

Line Tracing Robot
2200081

RFID Proximity Card
2123936

Titan Tank
2128374

Terrain Tracked Robot
2128331

SnackMan Bundle
2190231

Robotic Arm
2095023

Mr. General
2150580

3pi Robot
2136403

JAMECO KitPro — Open Source Arduino Compatible 8-Digit LED Clock

NEW — MARKED IN PINK

Not seen for a decade, we've updated a classic kit with modern components. The clock is based on a DS1307 Real Time Clock (RTC) and has a battery backup to keep time in the event power is lost. A header is provided for future upgrade to a more accurate DS3231 RTC. With large prototyping space, you can easily add your own features. Functions include 12 hour and 24 hour time display, 12 hour with AM/PM, full date, and a stop watch function. USB/Serial device required to program (not included, use P/N 2152340, pg 159).

Part No.	Cross Ref. No.	Description	Dimensions (in.)	Price
2217078	JE270	Red 8-digit, 7-segment with dual LED colon. Hackable	6.0 x 3.75 x 2.0	$79.95

velleman — 3D Printer Pen

Extrude heated 1.75mm filament and draw your own 3D structures.

★ **Web Code: TDP**

- 26 watts, 350°F – 482°F
- Uses 1.75mm PLA/ABS
- Adjustable print speed and temp
- Standby function after 5 mins idle
- Size: 7.3"L x 1.7"W x 1.2"H

NEW — MARKED IN PINK

Includes: (3) 5m ABS filament samples and 12V/3A power supply

Part No.	Description	Price
2217019	3D printer pen	$149.95

velleman — 3D Printer Kit

Print objects using 3mm PLA or ABS plastic filament wire.

- Technology: FFF (Fused Filament Fabrication) for PLA and ABS
- Maximum print speed: 150 to 300 mm/s (depending on the object to be printed)
- Typical printing speed: 120 mm/s
- Printable area dimensions: 7.87"W x 7.87"D x 7.87"H
- Software: Repetier v0.84 and up, www.repetier.com
- Size: 19.7"W x 16.5"D x 24.4"H • Wt.: 19.84 lbs.

★ **Web Code: TDP**

Includes: 5 meter PLA black sample

Part No.	Description	Price
2184561	DIY 3D printer kit, assembly required	$649.95
2184667	1kg spool, black (3mm PLA filament)	36.95
2184739	1kg spool, white (3mm PLA filament)	36.95

velleman · Pololu · BAGU — Electronic Kits

NEW — MARKED IN PINK

★ **Web Code: ERK**

Robotic and Computer Control Kits

Part No.	Mfr. P/N	Description	No. of Pieces	Exp. Level	Dimensions (L" x W" x H")	Wt. (lbs.)	Pricing 1	Pricing 5
2190717	ROB0103	DIY Spider Robot using your controller (Romeo recommended)	70	BEG	6.0 x 4.0 x 3.0	0.6	$8.95	$7.95
242923	21-601	Mechanical Wooden Tyrannosaurus kit	116	BEG	1.5 x 3 x 6.5	0.9	14.95	13.49
2111960	535-USB	USB Arm controller for P/N 2095023	1	BEG	5.5 X 1.8 X 7.5	0.3	34.95	29.95
358272	70162	Design a robot w/ this RC Robot Construction set! Lift, scoop and drop all kinds of stuff.	144	BEG	6.5 x 3.5 x 3	1.0	46.95	42.95
2150619	RS014-USB	2-in-1 Mini Robots include IR compound eye, 4 mini servos and universal remote. Tools included	22	BEG	3 x 3 x 5	1.0	59.95	54.95
2196713	650-0124	littleBits KORG Synth kit. DIY music maker with connectable bits. No soldering!	15	BEG	—	1.4	159.95	—
2170273	PACE ROBOT	Personal & Classroom Electronic Robot. Grades 4-12	200+	INT	8.0 x 8.0 x 4.0	6.2	299.95	274.95
200328	MK127	Light-Following Running Micro Bug kit	26	INT	4.0 x 2.4	0.2	9.95	9.49
200336	MK129	Light-Seeking Crawling Micro Bug kit	29	INT	4.0 x 2.4	0.2	13.95	12.49
239476	K2633	Relay Card kit (req. pwr supply P/N 133891 pg 93)	29	INT	3.0 x 2.7	0.4	14.95	13.95
386708	21-880	Line Tracking Robot Mouse (solder required)	130	INT	3 x 3 x 3	0.9	22.95	20.95
2130600	K8015	Multi-function Relay Switch with 14 different functions and pushbutton control	37	INT	3.4 x 1.5 x 1.0	0.5	23.95	21.95
2200081	93559	PC Programmable Line Tracing Robot via drag/drop commands	42	BEG	4.9 x 3.5 x 2.2	0.6	29.95	28.49
386708	21-880	Line Tracking Robot Mouse (solder required)	130	INT	3 x 3 x 3	0.9	22.95	20.95
358352	75020	Line Tracing Snail Robot kit	40	INT	6.9"H	2.0	36.95	32.95
2123936	MK-179	RFID Proximity Card Reader kit, include 2 tags EM4100 compatible (more tags on pg 155)	52	INT	2.6 x 2.4 x 0.8	0.5	29.95	26.95
2128374	21-531N	Titan Tank kit, IR remote control, 4-ch selection for battle, 4xAA & 4xAAA batteries required	121	INT	6.5 x 6.5 x 3.6	1.5	34.95	32.95
2128331	OWI-536	3-In-1 All Terrain Tracked Robot; transform to a forklift, rover or gripper; wired remote control	120+	INT	—	2.2	45.95	42.95
2190231	KIT-EISB	Parts bundle for SnackMan candy machine hack adds WiFi control via Electric Imp module. Candy machine not included.	5	INT	—	0.1	44.95	—
2095023	OWI-535	Robotic Arm. 5 DoF, base rotates 270˚. Lifts 100g. 12.6" reach	87	INT	6.3 x 15 x 9	2.5	49.95	46.95
2150580	RS002	Mr. General mobile robot platform features compound IR eye, 2 servos for pan/tilt and 2 cont. rotation servos. MCU & batteries not included	206	INT	7.5 x 4.8 x 4	1.5	59.95	54.95
2136403	975	3pi Robot with 2 gear motors, 5 reflectance sensors, LCD, buzzer, connected to an ATmega328 microcontroller	1	INT	3.7" Dia.	0.18	99.95	94.95

★ *For additional products, availability and specifications visit Jameco.com and enter the Web Code in the product search box*

Edu & Hobby

3 LEVELS OF SAVINGS
NAME BRANDS · HOUSE BRANDS · SPECIAL BUY

JAMECO KitPro | **velleman** | ## Electronic Kits (Continued) | **Evil Mad Science** | **NEW** MARKED IN PINK
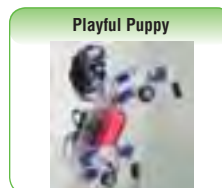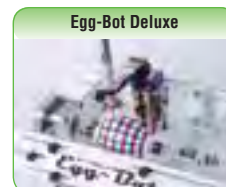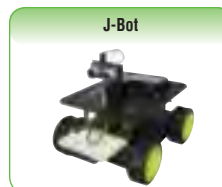
Robotic and Computer Control Kits (Continued)

★ Web Code: ERK

Part No.	Mfr. P/N	Description	No. of Pieces	Exp. Level	Dimensions (L" x W" x H")	Wt. (lbs.)	Pricing 1	Pricing 5
2140285	J-BOT	Build your very own customizable robot with ultrasonic sensors, 4WD platform, breadboard, MotorShield kit and much more	22	INT	9.5 x 7 x 8	3.6	$144.95	$134.95
2157124	J-Bot v2	Build a customizable mobile robot with ultrasonic sensor, 4WD chassis, breadboard and Romeo microcontroller w/ built-in motor control	17	INT	9.5 x 7 x 8	3.8	144.95	139.95
2157116	258	Egg-Bot Deluxe is an open-source robotic arm that can draw on spherical shapes like eggs, ping-pong balls, golf balls and christmas ornaments up to 4.25" diameter. No soldering/programming required. PC/Mac required to create designs	126	INT	11 x 7.5 x 6	2.8	199.95	174.95
386610	21-886	Terrain Escape Robot kit with infrared emitting diode and receiver module (4 x AAA required)	86	EXP	5 x 5 x 5	0.9	22.95	19.95
2123952	K8090	8-ch. USB Relay Card. Up to 16A/relay, can use with iPhone application. Assembly required	124	EXP	6.3 x 4.2 x 1.2	1.0	69.95	64.95
2190101	RS032	Playful Puppy Quadruped Robot w/ 10 servo motors. Arduino compatible. (7.4V @ 2.2Ah LiPo recommended P/N 2167787, see Web)	85+	EXP	7 x 4.5 x 5	1.3	149.95	139.95

Audio Transmitters, Amplifier, Sound Generator and Detection Kits

★ Web Code: AAK

Part No.	Mfr. P/N	Description	No. of Pieces	Exp. Level	Dimensions (L" x W" x H")	Wt. (lbs.)	Pricing 1	Pricing 5
2136956	MK104	Electronic Cricket kit. Activated by darkness; effect, tone and light sensitivity adjustable	25	BEG	2.2 x 1.6 x 1.0	0.11	$7.95	$7.49
2131012	MK120	Infrared Light Barrier kit with 85dB audible alarm and visible LED alert	46	BEG	2.2 x 1.6/3.9 x 2.0	0.18	9.95	8.95
2130984	MK136	Super Stereo Ear audio amplifier boosts sound up to 50 times louder	35	BEG	2.4 x 2.1 x 1.7	0.15	9.95	8.95
2130731	MK171	Voice Changer kit. Add effects to your voice with robotic, vibrato, high-low effects and more	36	BEG	3.0 x 1.8	0.11	12.95	11.95
2130870	MK113	Siren Sound Generator. 4 different sounds with pitch adj. (9V required)	17	BEG	2.4 x 1.6	0.1	12.95	11.49
2123944	MK-182	Digital Echo Chamber kit. Echo effect, line-in & out, output 8Ω, 500mW (9V required)	63	BEG	3.35 x 2.76 x 0.78	0.5	24.95	21.95
2151671	VM144	Telephone ring detector with relay output. Pre-assembled. (12V/0.1A supply required)	1	BEG	3.2 x 2.2 x 1.4	0.3	39.95	36.95
285624	RS-TGI	Build your own Telegraph. Send an SOS!	9	BEG	3.0 x 3.0 x 3.3	1.3	49.95	47.49
2135751	AP-MP3	MP3 playback module. MP3/PCM/WAV supports up to 32GB micro SD	1	BEG	2.5 x 2.0	0.2	99.95	94.95
147571	MK103	Voice Activated kit. Requires 8-15VDC Power Supply or 9V battery, sound activates 4 flashing LEDs	33	INT	2.5 x 1.6 x 1.4	0.1	6.95	6.25
662670	EBST-11	Audio Stereo Amplifier kit. 1 watt (9V required)	32	INT	2.8 x 2.3	0.2	9.95	8.95
117612	K1803	Univ. Mono Pre-Amp kit (req. 10-30VDC pwr supply)	17	INT	1.2 x 1.8	0.3	10.95	9.95
151204	AA-1	Super Snooper Big Ear Audio Amplifier kit (9V req.)	17	INT	1.8 x 1.0 x 0.6	0.1	10.95	9.95
2196588	MK190	2x5 watt amplifier: 3.5mm stereo input jack, screw terminal output	25	BEG	2.6 x 2.1 x 1.0	0.2	16.95	15.49
127255	K4001	7-Watt Amplifier kit. Requires 15VDC @ 500mA power supply, music output power: 7 watts, 4Ω	22	INT	2.2 x 1.4	0.3	15.95	14.95
211772	MK118	FM Radio kit, 88-108MHz (12VDC, 2.1mm req.)	65	INT	4.8 x 3.3	0.3	24.95	23.49
151239	FMST-100	FM Stereo Transmitter Mini kit, 9V battery	37	INT	2.7 x 2.0	0.2	29.95	26.95
129138	K4003	30W Stereo Pwr Amp. (req. 1x 24VCT @ 2A pwr supplies)	38	INT	2.8 x 2.0	0.7	29.95	26.95
127562	K4401	Sound Generator kit with 10 unique sounds	61	INT	2.8 x 2.8	0.4	29.95	27.95
2130491	K4305	20-LED Stereo VU Meter. -20dB to +3dB, 10-15VDC/0.25A via solder pad	45	INT	1.5 x 2.7 (x2)	0.5	29.95	27.95
2120815	K8098	Audio Analyzer, display EMS/peak power, mean/peak dB, audio spectrum	73	EXP	5 x 2.5 LCD	0.6	66.95	62.95
2120823	K8095	MP3 Player kit, create your own jukebox, sound effects, mp3 and more! SD card operation, Hi-quality VLSi decoder, vol. control, up to 32GB, up to 1024 folders with 16,348 songs each	100	EXP	5.11 x 3.9	0.7	74.95	69.95

J-Bot
2140285

Egg-Bot Deluxe
2157116

Terrain Escape Robot
386610

USB Relay Card
2123952

Playful Puppy
2190101

Electronic Cricket
2136956

IR Light Barrier
2131012

Super Stereo Ear
2130984

Voice Changer
2130731

Siren Sound Generator
2130870

Digital Echo Chamber
2123944

Telephone Ring Detector
2151671

Telegraph
285624

MP3 Playback Module
2135751

2x5 Watt Amplifier
2196588

Stereo Power Amplifier
129138

Sound Generator
127562

LED Stereo VU Meter
2130491

Audio Analyzer
2120815

MP3 Player
2120823

Edu & Hobby

JAMECO KitPro   **velleman**   **Electronic Kits** (Continued)   **NEW** MARKED IN PINK

Test and Measurement Kits

Part No.	Mfr. P/N	Description	No. of Pieces	Exp. Level	Dimensions (L" x W" x H")	Wt. (lbs.)	Pricing 1	Pricing 5
2136930	MK105	Signal Generator. 1KHz fixed freq. 0-100mVrms pot adj. 9V battery required	30	BEG	2.2 x 1.6	0.1	$8.95	$7.95
662725	EBLOG-300A	Logic Probe kit. 3V-16VDC, detect high, low, pulse signal	14	BEG	4.0"L x 0.75"Dia.	0.1	10.95	9.95
2210360	NFS-01	Make a fabric bend/flex sensor with neoprene, Velostat & conductive thread	9	BEG	4.72 x 0.59	0.1	17.95	—
2210386	NPM-01	Make a piezoresistive pressure sensor with neoprene, Velostat & conductive thread/fabric	6	BEG	1.97 x 1.57	0.1	17.95	—
2175568	EDU06	Oscilloscope Tutor: Learn about AC, DC, sine and square waves, power supply ripple, full and half-wave rectifiers, oscillators and more. O-scope required.	37	BEG	4.6 x 2.9 x 0.9	0.3	29.95	28.49
2181343	M-2666K	Deluxe Digital Multimeter kit. 3½-digit display and AC/DC current up to 20A	135	BEG	7.5 x 3.5 x 1.3	1.8	41.95	39.95
2119662	SL004	Electronics Discovery kit. 16+ projects work with LEDs, switches, buttons, sensors	130	BEG	10 x 6.7 x 3	1.0	49.95	44.95
2210394	UFO-01	UFO detector illuminates blue LEDs and beeps when the magnetic field changes	62	BEG	3"Dia. x 4"H	0.7	49.95	47.95
2210407	UFO-02	UFO detector illuminates red LEDs and beeps when the magnetic field changes	62	BEG	3"Dia. x 4"H	0.7	49.95	47.95
2210415	UFO-03	UFO detector illuminates green LEDs and beeps when the magnetic field changes	62	BEG	3"Dia. x 4"H	0.7	49.95	47.95
129091	K7102	Metal Detector kit. Sensitive within 8cm (req. 9V battery)	22	INT	2.1 x 2.1	0.4	15.95	14.49
20685	JE2206	Function Generator kit. 1-100kHz in 4 ranges	21	INT	4.1 x 1.5	0.1	27.95	24.95
2210159	GCK-01-02	Geiger Counter: GMT-02 tube detects beta & gamma particles	68	INT	3.8 x 3.3	0.4	129.95	119.95
2210440	GCK-01-02-ENC	Geiger Counter enclosure for P/N 2210159. Pre-drilled and decaled	1	—	3.5 x 5.75 x 1.25	0.3	39.95	36.95
2210167	GCK-01-06	Geiger Counter: GMT-06 tube detects beta & gamma particles	68	INT	3.8 x 3.3	0.4	129.95	119.95
2210458	GCK-01-06-ENC	Geiger Counter enclosure for P/N 2210167. Pre-drilled and decaled	1	—	3.5 x 5.75 x 1.25	0.3	39.95	36.95
2210141	GCK-01-01	Geiger Counter: GMT-01 tube detects alpha, beta & gamma particles	67	INT	3.8 x 3.3	0.4	169.95	159.95
2210175	GCK-01-01-ENC	Geiger Counter enclosure for P/N 2210141. Pre-drilled and decaled	1	—	3.5 x 5.75 x 1.25	0.3	39.95	36.95

Power Supply and Motor Kits

Part No.	Mfr. P/N	Description	No. of Pieces	Exp. Level	Dimensions (L" x W" x H")	Wt. (lbs.)	Pricing 1	Pricing 5
2115750	34020	Breadboard Vreg kit. 6-18Vin, 5V @ .5A out, 2.1mm jack	12	BEG	2.2 x 0.6	0.1	$7.95	$7.49
2159349	DFR0123	DC-DC boost converter. Input: 3.7-34V, Output: 3.7-34V. 15W max.	1	BEG	1.3 x 1.4	0.1	7.95	7.49
181833	VM-1	DC Voltage Monitor kit with 7 LED display	46	BEG	2.7 x 1.3	0.2	9.95	8.95
2119751	C-8051	Adjustable Gear Motor kit. 4k-14k RPM	22	BEG	4.3 x 4.9	0.2	11.95	11.49
2184229	815	16-channel 12-bit PWM/servo driver with I²C interface. PCA9685. 5V tolerant	7	BEG	2.5 x 1	0.1	16.95	15.95
2210255	SMC-01V2K	Control a servo motor 1:1 via illuminated potentiometer. Servo & 5-9VDC source required	17	BEG	1.86 x 1.86	0.2	19.95	—
2210271	SMC-02K	Control 2 servo motors 1:1 via illuminated potentiometers. Servos & power required	32	BEG	2.65 x 2.3	0.3	39.95	—
2210298	SMC-04V2K	Control 4 servos 1:1 via PC-USB or manual potentiometers. Servos & power required	42	BEG	3.2 x 2.9	0.7	59.95	—
117621	K1823	1.5A @ 1.5-35VDC Power Supply kit	12	INT	2.1 x 2.1	0.3	13.95	11.95
2137166	K8042	Symmetric 1A Power Supply kit. Output of 1.2-18VDC depends on AC transformer (not incl.) see web	46	INT	3.1 x 2 x 0.9	0.5	16.95	15.95
20626	JE215	Dual Adjust Regulated Power Supply kit, 5-15VDC	48	INT	5.1 x 3.5 x 2.0	2.1	29.95	26.95
127829	GMC-1102	Motor Speed Control kit. Powers up to 5A @ 100VDC	35	INT	3.6 x 2.3 x 1.2	0.3	39.95	36.95
358248	70097	Twin Motor Gearbox kit. 58:1 & 203:1	61	EXP	3.0 x 4.0	0.3	11.95	10.95
120539	K8004	DC Pulse Width kit. Proportional DC to PWM	40	EXP	3.3 x 1.9 x 1.8	0.5	23.95	21.95

Logic Probe

662725

Electronics Discovery

2119662

Fabric Bend/Flex Sensor

2210360

Piezoresistive Sensor

2210386

Oscilloscope Tutor

2175568

UFO Detector

2210394/2210407/2210415

Metal Detector

129091

Geiger Counter

2210159

Geiger Counter Enclosure

2210440/2210458

Geiger Counter

2210167

Geiger Counter

2210141

Breadboard Voltage Regulator

2115750

DC-DC Boost Converter

2159349

PWM/Servo Driver

2184229

Servo Motor Controller

2210255

Dual Servo Motor Controller

2210271

Quad Servo Motor Controller

2210298

Dual Adjust Power Supply

20626

Symmetric Power Supply Kit

2137166

Twin Motor Gearbox

358248

Edu & Hobby
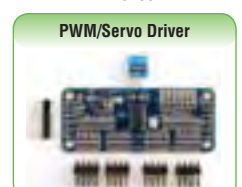
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Electronic Kits

JAMECO KitPro | **velleman** | **Electronic Kits** (Continued)

NEW MARKED IN PINK

★ Web Code: **DLK**

Distance and Light Kits

Part No.	Mfr. P/N	Description	No. of Pieces	Exp. Level	Dimensions (L" x W" x H")	Wt. (lbs.)	Pricing 1	Pricing 5
2131207	MK135	Electronic Decision Maker kit. Rapidly flashes lights untill it slowly stops at one	19	BEG	2.2 x 1.2 x 1.4	0.1	$6.95	$6.25
2136972	MK109	Electronic Dice simulates the roll of a die and generates a random number	13	BEG	2.4 x 1.7	0.1	8.95	7.95
147635	MK100	Flashing Christmas Tree kit. 16 LEDs, 9V battary req.	30	BEG	4.0 x 2.4 x 1.0	0.1	7.95	7.49
2136964	MK131	4-way Traffic Light kit. 12 LEDs with realistic operating and adjustable delay	63	BEG	2.0 X 1.4 X 4.5	0.2	8.95	7.95
2136999	MK112	Electronic Brain Game kit just like Simon Says. Visible/audible modes. 4 skill levels. 3xAA not included.	28	BEG	2.0 x 2.6	0.2	9.95	8.95
2130933	MK147	Dual white LED stroboscope creates a powerful flash effect. Speed adjustable 1-60 flashes/sec. 9V battery not included.	21	BEG	2.2 x 1.3 x 1.6	0.1	9.95	8.95
236081	MK145	Halloween Pumpkin with 25 yellow LEDs	71	BEG	2.48 x 2.24	0.2	13.95	12.95
2130802	MK150	Shaking Dice kit. Just give it a shake and the LEDs will automatically light a value	23	BEG	3.0 x 1.8	0.2	13.95	12.49
157964	LED1007	Infrared Illuminator kit. 13.2VDC, 8' dia. @ 24'	41	BEG	2" Dia.	0.1	13.95	12.95
2136534	091	Larson Scanner kit. Create the scanning LED effect from Battlestar Galactica or Night Rider	22	BEG	5.0 x 1.5 x 1.0	0.1	13.95	11.95
2136542	080	Deluxe Menorah kit. (9) 10mm yellow LEDs, press button to light another candle, soldering required	28	BEG	5.0 x 1.5 x 4.25	0.1	15.95	13.25
2123928	MK149	Love Tester kit. 10-LED "love level" indicator	44	BEG	4.1 x 3.1 x 1.0	0.2	16.95	15.95
2128286	MK172	60 LED Sound Star. "VU-meter" flash to audio	113	BEG	4.2 x 4.4 x 1.4	0.1	19.95	18.95
2137191	MK119	Game of Roulette. 37 LEDs, a spinning sound and "winner" tune for each color. Pushbutton operation	66	BEG	3.6 X 1.3	0.2	19.95	18.95
211764	MK116	Santa Sleigh and Reindeer kit, 9V battery required	201	BEG	5.7 x 3.2	0.1	24.95	22.49
2128278	MK170	60 LED Star, 24 flashing patterns, soldering req.	94	BEG	4.1 x 4.3 x 1.4	0.1	27.95	26.95
147580	MK102	Flashing LED kit. 2 red 5mm LEDs, 9V battary req.	23	INT	1.3 x 1.4 x 0.6	0.1	5.95	5.49
211781	MK130	3D Flashing Christmas Tree kit. 16 LEDs	36	INT	3.1 x 3.5 x 4.0	0.1	10.95	9.95
147555	MK101	Flashing LED Sweetheart kit. Flashes 25 T1 (3mm) red LEDs, 9V battery required	46	INT	1.3 x 2.3 x 1.3	0.1	9.95	8.95
2150694	MK183	USB Surface Mount Christmas Tree kit. 7 bright SMD LEDs	27	INT	2.48 x 2.24	0.07	14.95	13.49
200310	MK124	Scrolling Message kit. 16 characters	76	INT	3.5 x 2.6 x 1.8	0.2	19.95	17.95
177092	IR-10	Infrared Transmitter & Receiver kit, 9V battery req.	26	INT	1.0 x 0.8	0.1	19.95	17.95
147643	K4304	10-LED Mono VU Meter kit	36	INT	2.7 x 1.4	0.3	23.95	19.95
236072	MK117	Deluxe Christmas Tree kit. 134 LEDs	208	INT	3.2 x 5.6	0.2	26.95	24.95
129120	K3502	Parking Radar kit. Adjustable 2"-59"	55	INT	4.9 x 1.9	0.5	39.95	37.95
2136551	800820	Meggy Jr. RGB. Develop a handheld pixel-scale video game, 8x8 RGB matrix, includes one pre-programmed game, reprogrammable	80	INT	6.0 x 1.5 x 3.5	0.9	74.95	69.95
2186822	K8018B	5x5x5 Blue LED Cube. Connet to your PC (USB) and create your own effects w/ free software	170	EXP	4.3 X 4.3 X 5.9	0.6	104.95	99.95

Alternative Energy – No Batteries Required

★ Web Code: **NRG**

Part No.	Mfr. P/N	Description	No. of Pieces	Exp. Level	Dimensions	Wt.	Pricing 1	Pricing 5
2150424	DG-S001	Solar Man Walking Robot	18	BEG	1.8 x 2.2 x 3.5	0.2	$9.95	$8.95
2112006	MSK670	Frightened Grasshopper kit. Solar powered	7	BEG	1.75 x 1.0 x 0.6	0.1	10.95	9.95
2112014	OWI-MSK671	Super Solar Racing Car for ages 10 and up. Assembly is a snap. 1.1VDC panel & motor	11	BEG	2.1 x 1.0 x 0.6	0.2	10.95	9.95
2128340	OWI-750	Salt Water Fuel Cell Car. Magnesium metal sheet (3 incl.), provides 5-7 hrs continuous play	20	BEG	3.0 x 1.6 x 0.7	0.5	12.95	11.95
2097521	MSK610	6-in-1 Educational Solar kit. Create a solar car, airboat, windmill & more. No tools required	33	BEG	4.75 x 2.4 x 3.4	0.5	17.95	16.95
2112090	MSK679	Solar-Powered Solar System kit. Build, paint and watch the solar system come to life using solar energy	70	BEG	4.4 x 3.7 x 3.2	0.5	17.95	15.95
2111986	MSK614	T3 Transforming Solar Robot. Create a solar tank, scorpion or robot	71	BEG	9.8"Dia. x 3.6"H	0.5	16.95	15.95
2144382	EDU02	Solar Energy Experiment kit. 10 projects	13+	BEG	3.15 x 2.36	0.5	27.95	24.95

Electronic Decision Maker — 2131207

Electronic Dice — 2136972

4-Way Traffic Light — 2136964

Brain Game — 2136999

LED Stroboscope — 2130933

Larson Scanner — 2136534
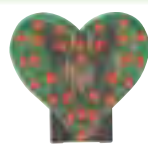

Love Tester Kit — 2123928

Game of Roulette — 2137191

LED Star Kit — 2128278

LED Sweetheart Kit — 147555

Mono VU Meter — 147643

Parking Radar — 129120

Meggy Jr. RGB — 2136551

5x5x5 LED Cube — 2186822

Solar Grasshopper — 2112006

Super Solar Racing Car — 2112014

Salt Water Fuel Cell Car — 2128340

Solar-Powered Solar System — 2112090

Transforming Solar Robot — 2111986

Solar Energy Kit — 2144382

Edu & Hobby

Electronic Kits (Continued)

Time and Clock Kits

★ *Web Code: TCK*

Part No.	Mfr. P/N	Description	No. of Pieces	Exp. Level	Dimensions (L" x W" x H")	Wt. (lbs.)	Pricing 1	5
2170839	264	Real Time Clock Breakout Board – includes PCB, battery and header	8	BEG	0.95 x 1.2 x 0.2	0.02	$9.95	$9.49
2157079	MTRTC001	ChronoDot Real Time Clock module (DS3231SN)	4	BEG	1.2"Dia.	0.4	15.95	14.95
2187323	MK188	1 second to 60 hour pulse-pause timer. Relay: 16A max. Use 12-24VDC via terminals	30	BEG	3.2 x 1.8 x 0.9	0.2	19.95	18.95
2130520	VM141	Start-Stop Timer kit with a wide timing range, easy time setting, LED animation during operation and on-board start-stop buttons	40	BEG	2.8 x 1.8 x 0.8	0.2	29.95	27.95
2207831	ANGCLKV1	Angular Clock uses analog panel meters to display time. Clear acrylic enclosure	48	BEG	7.0 x 2.5 x 2.5	0.8	59.95	54.95
2150601	TK001	LCD Clock Training kit displays messages and builds an alarm clock. Comes w/ all components including ATMega8A pre-programmed microcontroller	24	BEG	7.3 x 4 x 1.5	1.2	69.95	64.95
2184237	TK1106	Timesquare DIY Wristwatch kit with red 8x8 display matrix and silicone watch band. Hackable!	20	INT	1.5 x 1.5	0.2	34.95	31.95
2136569	950+966	Desk/mantle LED shadow clock with 12 red, 30 green and 30 blue LEDs to mark hours, minutes and seconds	147	INT	8.8 x 2.3 x 4.5	1.1	79.95	74.95
2157087	280	Alpha Clock Five kit. Alphanumeric LED alarm clock with Chronodot RTC module, 2.3" tall digits and 12/24 hour modes	103	INT	9.4 x 2.8 x 3.8	2.2	144.95	134.95

Miscellaneous

★ *Web Code: ERK*

Part No.	Mfr. P/N	Description	No. of Pieces	Exp. Level	Dimensions (L" x W" x H")	Wt. (lbs.)	Pricing 1	5
358310	70098	Universal plate set for P/N 358299 (below)	25	BEG	2.4 x 6.3	0.1	$7.95	$6.95
358299	70100	Tank Track and Wheel set. 3 track lengths	40	BEG	—	0.5	9.95	8.95
2119734	C-9701	20 second voice recorder, assembled, 1 msg.	1	BEG	1.4 x 0.9 x 0.5	0.1	12.95	11.95
2161617	SP-1A	Learn to Solder Flashing Siren kit. Same as P/N 2124218 (below), w/o 25W iron and wire cutters	23	BEG	4.9 x 2.5	0.3	10.95	9.95
2124218	MKEL4	The Learn to Solder Flashing Siren kit teaches you the basics of soldering & includes 25W iron, wire cutters and solder. 9V battery not included	25	BEG	4.9 x 2.5	0.8	18.95	17.95
2124200	FO-30K	This kit teaches the fundamentals of fiber optics. You can transmit your voice or a 1kHz signal through the 3 ft. fiber optic cable	56	BEG	Rx: 1.3 x 4 x 1 Tx: 1.3 x 4 x 1	0.4	21.95	20.95
2214483	SM200K	Learn and practice soldering SMT with the Surface Mount Technology kit	38	BEG	4.5 x 3.0	0.3	21.95	19.95
2192333	OWI-MSK615	14-in-1 Educational Solar Robot. Ages 10 and older	40+	BEG	—	1.2	31.95	29.95
2168481	5060322 452104	Glowing Paper House kit, with conductive ink pen P/N 2168464 photoresistors, LEDs, transistors and batteries.	17	BEG	3.0 x 3.0 x 3.0	0.5	29.95	28.95
2143865	ROV5-1	Rover 5 Tracked Chassis. Height adjustable by 1.5" and has max speed of 10 in/sec. 87:1 gears.	5	BEG	9.5 x 9 x 3	2.2	49.95	44.95
285595	RS-LBI	Build your own light bulb, Edison style	11	BEG	6.0 3.0 x 7.5	1.2	54.95	49.95
2190928	KIT0030	Laser Keyboard v2: Project a QWERTY keyboard for Windows/Mac. 3D printed frame	22	BEG	2.2 x 1.6 x 3.9	0.8	59.95	55.95
2109747	29140	Introduction to sensors includes PING ultrasonic, 2-axis accelerometer, color sensor and PIR motion sensor	4	BEG	—	0.1	84.95	79.95
2161609	MX909	500-in-1 Electronic Projects Lab kit. Includes user's manual & detailed instructions. 6xAA batteries not included	200	BEG	16 x 24 x 4	11	259.95	249.95
2114520	70108	Tracked Vehicle Chassis kit. 2 gear ratios, 58/203:1	57	INT	2.8 x 2.4 x 1	0.6	19.95	18.95
2114546	70168	Double Gearbox, 4-speed, independent left/right	116	EXP	2.8 x 2.4 x 0.9	0.3	12.95	11.95
2146572	VM110N	Control your electronics from your computer w/ this USB Interface, 7 inputs and 10 outputs	1	EXP	5.7 x 3 x 0.8	0.6	89.95	79.95

Real Time Clock Board 2170839
Real Time Clock 2157079
Angular Clock 2207831
LCD Clock Training 2150601
LED Wristwatch 2184237
Bulb Dial Clock 2136569
LED Alarm Clock 2157087
Voice Recorder 2119734
Solder Flashing Siren 2161617
Fiber Optics 2124200
SMT Technology Kit 2214483
14-in-1 Solar Robot 2192333
Tracked Chassis 2143865
Build Light Bulb 285595
Laser Keyboard 2190928
Introduction to Sensors 2109747
Electronic Projects Lab 2161609
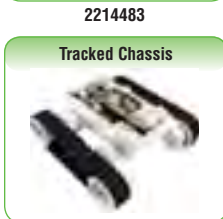**Tracked Vehicle Chassis** 2114520
Double Gearbox 2114546
USB Interface 2146572
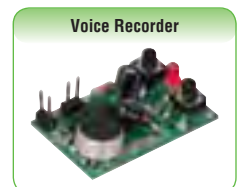
★ *For additional products, availability and specifications visit Jameco.com and enter the Web Code in the product search box*

PARALLAX ⅞ ## Kits and Modules

For Additional BASIC Stamp Modules, See Page 8

Parallax provides the electronics industry and hobbyists with products that are technically innovative, unique and economical. Parallax designs and manufactures microcontrollers and development software, SX chips and programmers/debuggers, Propeller chips and tools, project boards, robotics kits, educational tools and sensors. Not sure where to begin? Try a starter kit to familiarize yourself with the BASIC Stamp or Propeller microcontroller.

Kits, Protoboards and Development Boards – BASIC Stamp Series

★ Web Code: MBS

Part No.	Mfr. Part No.	Description	1	5
661116	27297	StampWorks Experiment kit, 35 projects based on the BASIC Stamp, includes Parallax Professional Development Board	$289.95	$264.95
2134871	32225	Understanding Signals w/ the PropScope, USB oscilloscope and test components. Learn to generate, view and measure a variety of wave forms. BOE & BASIC Stamp 2 required	229.95	219.95
387997	28832	USB Boe-Bot full kit, completely reprogrammable and uses a BASIC Stamp module, expandable for different robotic projects	169.95	149.95
282933	28132	Serial Boe-Bot full kit, completely reprogrammable and uses a BASIC Stamp module, expandable for different robotic projects	169.95	149.95
387971	27807	BS2 Educational Starter kit, USB version, includes Board of Education, BASIC Stamp 2 module & guide to complete over 40 activities	159.95	149.95
2109165	28803	Board of Education full kit, USB version, includes carrier board, BASIC Stamp 2 module, designed for those already familiar with programming Stamp modules	99.95	89.95
2109202	90005	BASIC Stamp Activity kit, learn electronics and programming, includes What's a Microcontroller? guide, components for over 40 hands-on activities, USB to serial adapter and homework board w/ BASIC Stamp 2 MCU	79.95	74.95

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Kits, Protoboards and Development Boards – Propeller Series

★ Web Code: MBS

Part No.	Mfr. Part No.	Description	1	5
2191998	32500	ActivityBot Robot kit teaches programming the multicore Propeller in C with easy to follow tutorials. High speed servos with optical encoders, PING sensor, mini audio jack & XBee header. No soldering required.	$199.95	$189.95
2007126	32111	Propeller Professional Development Board, 40-pin DIP socket for P8X32A-D40, variety of LEDs, and buttons and typical devices and circuitry are built in for rapid project development USB interface	159.95	154.95
2151494	40000	P8X32A Propeller QuickStart Board. A great way to familiarize yourself with the power multi-core Propeller chip. 64KB EEPROM, 8 blue LEDs, 8 resistive-touch buttons, 32 I/O, USB powerd. Open hardware design	34.95	32.95

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2007126

2151494

2007185

2111935

Sensors, Modules and Accessories

For more Sensors, see pg 74-75 ★ Web Code: PXS

Part No.	Mfr. Part No.	Description	1	5
2007185	28028	Sensor Sampler kit includes accelerometer modules, humidity/temp, flexiforce, PING ultrasonic, proximity (PIR), ColorPal, piezo film vibra tab, and QTI sensors	$174.95	$169.95
2111935	32213	X-band motion detector. Detection from 8-30ft. 10.525 GHz, 4-pin SIP interface, 5VDC	39.95	36.95
2150230	29174	Altimeter sensor module with SPI & I²C bus interface, 24-bit barometric pressure and temperature output	29.95	26.95
2150221	27911	3-axis gyroscope module w/ embedded temperature sensor. I²C/SPI, 2.7-6.5VDC	29.95	26.95
2150248	29133	3-axis compass module, HMC5883L, ±8 gauss, 2.7-6.5V, I²C raw digital output @ 160Hz	29.95	28.49
282870	28017	2-axis Accelerometer, measures ±3g on each axis, simple pulse output of g-force for each axis, 6-pin DIP module, analog output for temperature	29.95	26.95
2109667	28526	3-axis accelerometer, digital output, SPI or I²C, sensitive select ±2g/±4g/±8g	29.95	26.95
282861	28015	Ping Ultrasonic Range/Distance Finder, 0.5" – 10 ft., 5VDC, 3-pin header	29.95	26.95
2109413	570-28015	PING Mounting Bracket kit, includes Parallax standard servo, use w/ P/N 282861	26.95	24.95
2127081	28380	ColorPAL color/light sensor, detects a full range of colors and outputs data as RGB components	23.95	21.95
2109245	28031	USB to Serial (RS-232) Adapter, DB9 male socket, includes USB-A to mini-B cable, USB 1.1 and 2.0 compatible	19.95	17.95
2109456	28030	USB to serial (RS-232) adapter, DB9 male & USB mini-B port, use cable P/N 673694	16.95	15.95
2082935	32313	SD card adapter, SPI communication. Uses SMT components. Soldering required	15.95	14.95
2150256	28995	Sharp IR distance sensor GP2Y0A21YK0F, 10-80cm, 5V operation, 3-pin JST male header	15.95	14.49
2111901	29132	Sound impact sensor detects sound from up to 3m away, 3-pin SIP, 5V, digital output	12.95	11.95
2205018	28032	Wide angle PIR sensor, 180°, range up to 30 ft., 3-6VDC	12.95	11.95
2082927	555-28027	PIR Sensor kit, single bit high/low output, detection range up to 20 ft.	12.95	11.49
2082901	27920	HS1101 Humidity Sensor, 5VDC to 10VDC, 0.25"x0.40" Dia., -40°F to 212°F	9.95	9.49
2082855	27800	Modular 2-axis joystick, dual 10k pot with common ground, 1.64" x 1.2" x 1.1"	8.95	7.95
2109691	350-00014	Infrared receiver, 38kHz carrier freq. found in Boe-Bot and SumoBot kits	5.95	5.39
2109624	28109	Boe-Bot/SumoBot wheel & tire set, 1 wheel & 2 rubber band tires	5.95	5.39
2151451	604-00085	TSL237 light to frequency converter, 3-pin SIP, 320 to 1050nm, 2.7-5.5VDC	3.95	3.75
2109763	605-00004	Piezo film vibration sensor, use as flexible switch, freq. responce device	2.95	2.69
2129772	GP1UM287RK	56.8kHz IR detectiing unit for remote control (Sharp), anti EMI noise type	1.49	1.25
2211047	GP1UD271XK0F	38kHz 1R detecting unit for remote control (Sharp), low dissipation	.95	.85

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Edu & Hobby

RFID, Wireless Interface Devices & Embedded Neworking Solutions

NEW MARKED IN PINK

Use these modules for a variety of hobbyist and commercial applications, including data storage, access control, user identification, robotics navigation, inventory tracking, payment systems, car immobilization or security systems.

RFID Read/Write Modules and Tags

PARALLAX · JTP

★ **Web Code: RAD**

Part No.	Mfr. Part No.	Description	1	5
2109851	28161	RFID passive tag, blue eye key fob, EM-4100 family	$2.95	$2.75
2109739	28141	RFID passive tag, 54mm x 85mm rectangle, EM-4100 family	3.95	3.59
2123522	28441	RFID read/write module card, 2.1" x 3.3", EM4x50 family compatible only with read/write module (P/N 2123514, below)	3.95	3.49
2123514	28440	RFID read/write module, serial, use card 2123522, supports passive tags	59.95	53.95
2007169	32390	RFID Reader kit, serial card reader, includes 4 different passive tags	59.95	53.95
2190688	FIT0313	NFC MIFARE® Classic 1K sticker: 13.56MHz, 4 byte unique ID, 1.57" x 1.0"	1.95	1.75
2190670	FIT0315	NFC round sticker: 13.56MHz, 1K storage, 4 byte unique ID, 1" diameter	1.95	1.75
2190872	DFR0231	NFC module for Arduino. PN532 controller, UART interface, supports ISO1443A/MIFARE® and ISO 14443B in R/W mode only	21.95	19.95

Wireless Interface Devices

PARALLAX · DFROBOT

★ **Web Code: WID**

Part No.	Mfr. Part No.	Description	1	5
2160753	F301-SGP-D024-01	10-position singe row female header w/ 2mm pin spacing, mates w/ Xbee chips	$.99	$.89
2113412	32403	Xbee adapter board raw PCB with 40-pin single row header and 2mm sockets	6.95	6.25
2159331	TEL0002	USB Bluetooth v2.0 dongle, PC/MAC compatible, 33' range max. upto 3 Mbps	4.95	4.49
2123611	32401	Xbee adapter board, 3.3/5V, Vreg & Logic converter included	21.95	19.95
2159285	DFR0050	XBee USB adapter: supports X-CTU and can be used as USB-TTL adapter, 5V	22.95	20.95
2129326	A000021	Xbee/Zigbee Shield for Arduino, communicate wirelessly using an Arduino board up to 300 feet outdoors	22.95	20.95
2113375	32404	Xbee PCB antenna, 1mW, 2.4GHz, 300' line of sight, 802.15.4 network	29.95	26.95
2113421	32400	Xbee adapter board, USB interface, PCB mount, 0.1" spacing, soldering required	34.95	31.95
2123581	32409	Xbee, zigbee series 2, 1.25mW, wire antenna, <400 ft. line of sight range	34.95	31.95
2144438	TEL0023	Bluetooth Bee in XBEE footprint, 30m max range, CSR BC417143, v2.0+EDR, 2.4-2.48GHz	29.95	26.95
2144446	TEL0026	Bluetooth module, 3.5-8V. v2+EDR, 2.4-2.48GHz, 30m max range, can be paired	32.95	29.95
2109384	27982	433MHz RF Transceiver module, 1200-9600bps transfer rate, 250 ft. line of sight range	49.95	44.95
2213341	TEL0005	APC220 Radio Communication module: 0.6mi line of sight @ 9600bps, UART/TTL, GFSK	54.95	49.49
2113391	32406	Xbee chip antenna, 60mW, 2.4GHz, <1 mile range line of sight, 802.15.4	49.95	44.95
2123590	32408	Xbee, zigbee series 2 pro, 63mW, wire antenna, <2 mile line of sight range	44.95	39.95
2171225	32440	XBee Wireless Pack: (2) Series 1 802.15.4 modules, (1) USB adapter, (1) 5V/3.3V adapter	99.95	89.95
2185301	1507	Tracking Key Pro Passive GPS Tracker, Flash memory, logs detailed travel activities every second	119.95	—

Embedded Networking Solutions

WIZnet · electric imp

★ **Web Code: WHZ**

Part No.	Mfr. Part No.	Description	1	5
2189636	APRIL	Electric Imp Breakout Brd, SD card socket for use w/ WiFi card P/N 2189610, 3.3V input	$13.95	$12.49
2189610	IMP001-US-R-ENG	Electric Imp - Imp Card, WiFi module, 6-pin, ~70kB RAM, 6 I/Os, two I²C channels, SD card form	29.95	26.95
2132664	WIZ108SR	RS-422/485 to Ethernet module, connects with serial device directly, 10/100 Ethernet interface	24.95	22.95
2124322	WIZ110SR	Serial to ethernet module, 10/100Mbps ethernet max 230Kbps serial	34.95	31.95
2132779	WIZFI210	Ultra low-power Serial-to-WiFi module brings WiFi connectivity via serial host interface, IEEE 802.11b/g/n compatible, up to 11Mbps	34.95	29.95

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beagleboard.org — BeagleBoard Development Boards and Raspberry Pi Accessories

NEW MARKED IN PINK

The line of BeagleBoard development boards are low-cost, fan-less computers that are completely open-source and supported by a very active development community. Pair them up with the add-on capes for even more expandability and functionality.

Single-Board Computer Development & Add-On Cape Boards

See Enclosures on page 140

Part No.	Mfr. Part No.	Description	Size (in.)	Price
2207970	BeagleBone Black	Rev. C. w/ Debian OS, 1GHz processor, 512MB DDR3L, USB2.0 port, serial interface header, microHDMI port, on-board 4GB flash, 3D accelerator	3.4 x 2.1	$69.95
2176131	BeagleBone	Rev. A6. 720MHz processor, 256MB DDR2 RAM, USB2.0 port, on-board USB-to-serial/JTAG, 3.3V I/O expansion headers, 2GB microSD card	3.4 x 2.1	99.95
2183963	BB-BONE-BBBD-01	Breadboard add-on cape with adhesive patterned prototyping area, LEDs, switches, headers and 140-pc. jumper wire kit	3.4 x 2.1	39.95

Raspberry Pi Accessories

Part No.	Mfr. Part No.	Description	Size (in.)	Price
2185150	862	6" GPIO ribbon cable. 2x13 IDC socket on each end. Pin 1 marked with white stripe	6"L	$4.95
2184325	801	Prototyping Pi Plate Kit. Breadboard & protoboard layout. GPIO/SPI/I²C breakout & edge-mount terminal blocks	3.4 x 2.1	21.95

★*For additional products, availability and specifications visit Jameco.com and enter the Web Code in the product search box*

NEW MARKED IN PINK

TinyDuino and TinyLily Arduino-Compatible Microcontrollers and Shields

TinyCircuits develops cheap, smart and easy to use sensors based on a shrunk-down Arduino microcontroller. With modules around 1" x 1", you can add LEDs, WiFi, GPS, BT, and even motor control to your project. Use TinyLily for your wearable e-textile projects with all the power of the LilyPad Arduino at 1/12th the size! See compatibility matrix online for MCU/Shield combinations. (Conductive thread is P/N 2144489, pg 159)

TinyDuino Main Board and Kits

Part No.	Mfr. Part No.	Description	Size (L" x W")	1	10
2211207	ASK1001-R-P1-B	Basic kit: MCU board w/ battery holder, USB/ISP board, TinyShield Proto 1 and mounting kit	0.78 x 0.78	$39.95	$37.95
2211215	ASK1002-R-LG-B	Starter kit: MCU brd w/ battery holder, USB/ISP board, green 16 edge LED shield, Proto 1, 2 & 3, and mounting kit	–	59.95	56.95
2211223	ASM2001-R	Processor board w/o battery holder. ATmega328P, 8 MHz, 5V. Use proto shields for I/O access. USB programmer required to upload (P/N 156)	0.78 x 0.78	19.95	18.95
2211231	ASM2001-R-B	Processor board w/ CR1632 holder. ATmega328P, 8 MHz, 5V. Use proto shields for I/O access. USB programmer required to upload (P/N 156)	0.78 x 0.78	20.95	19.95
2211506	ASH1002	Mounting kit: (4) screws, (4) nuts, (12) spacers. Stack up to 4 TinyDuino boards	–	4.95	4.69

2211215

TinyDuino Shields

Part No.	Mfr. Part No.	Description	Size (L" x W")	1	10
2211240	ASD2101-R	USB/ISP programmer board: Required to upload sketches. ICP 6-pin connection available.	0.78 x 0.78	$17.95	$16.95
2211258	ASD2002-R	Proto 1: 2mm spacing, full TinyDuino I/O breakout provides a point you can solder to.	0.78 x 0.78	4.95	4.69
2211266	ASD2003-R	Proto 2: 0.1" spacing, partial TinyDuino I/O breakout, IO0-IO4, AD0-AD5. See Web	0.78 x 0.78	4.95	4.69
2211274	ASD2004-R	Proto 3: 0.1" spacing, partial TinyDuino I/O breakout, IO0-IO9, AD4-AD5. See Web	0.78 x 0.78	4.95	4.69
2211291	ASD2005-R-T	Proto w/ Terminal Blocks (kit): 0.1" spacing, full breakout with reliable screw terminals.	1.36 x 1.2	9.95	9.49
2211303	ASD2005-R-T-I	Proto w/ Terminal Blocks (assembled): 0.1" spacing, full breakout of all I/Os.	1.36 x 1.2	12.95	12.49
2211282	ASD2005-R	Proto w/o Terminal Blocks: 0.1" spacing, full TinyDuino breakout of all I/Os.	1.26 x 1.15	5.49	5.25
2211469	ASD2121-R	WiFi: Ti CC3000 module, 802.11 b/g 2.4 GHz, SPI interface, Active mode: 92mA typ. RX.	0.78 x 1.4	59.95	56.95
2211493	ASD2501-R	GPS: Telit JF2 module, SiRFstar IV, 48-CH, NMEA/OSP, 5V, 1Hz/5Hz. <2.5m accuracy.	0.78 x 1.1	59.95	56.95
2211485	ASD2112-R	Bluetooth LE 4: Bluegiga BLE112, 3.3V/5V, uses D0 & D1 pins. Supports up to 8 connections.	0.78 x 1.14	49.95	46.95
2211418	ASD2301-R	Motor x4: 4x DRV8837 H-bridge, 1.8A max. @ 1.8-11V, 4-CH. Uses pins 2-9 and A3.	0.78 x 0.78	19.95	18.95
2211426	ASD2611-R	Accelerometer: BMA250 3-axis, 1.8V, ±2/4/8/16g, 10-bit resolution. Uses A4 and A5.	0.78 x 0.78	14.95	13.95
2211434	ASD2613-R	Compass: HMC5883L 3-axis, 12-bit ADC, 1° to 2° compass heading accuracy. Uses A4 and A5	0.78 x 0.78	14.95	13.95
2211451	ASD2201-R	MicroSD: Allows a µSD card (not included) to be used, 5V. SPI mode and uses pins 10-13.	0.78 x 0.78	14.95	13.95
2211442	ASD2811-R	Ambient Light Sensor: TAOS TSL2572, dual diode and UV-filter, I²C, 3V/5V. Also I²C breakout.	0.78 x 0.78	14.95	13.95
2211400	ASD2421-R	7-Segment Display: 2 digit, 0.26" high, red, I²C, SX1506 I/O expander. Uses A4 & A5 pins	0.78 x 0.78	19.95	18.95
2211371	ASD2413-R-LR	Matrix LEDs: 54 red SMT LEDs in 6x9 grid, uses 8 I/Os (green & amber colors available online)	0.78 x 0.78	19.95	18.95
2211346	ASD2412-R-LR	Circle Edge LEDs, 21 side mount red LED, uses 6 I/Os (green & amber colors available online)	0.78 x 0.78	14.95	13.95
2211320	ASD2411-R-LA	16 Edge LEDs, side/circular mount amber LEDs. Uses 5 I/O (red & green colors available online)	0.78 x 0.78	13.95	13.25

2211240

2211291

2211451

TinyLily Main Board, Shields and Kits

Part No.	Mfr. Part No.	Description	Size (L" x W")	1	10
2211514	ASK2001	Basic kit: TinyLily MCU board and Mini USB adapter. LilyPad compatible, (8) I/O sewtabs	–	$23.95	$22.95
2211522	ASK2002-R	Starter kit: 2x TinyLily MCU boards, mini USB adapter, 3mm switch, batt. adapter &1206 LEDs (2 ea. amber, green, red)	–	42.95	39.95
2211531	ASM2101	Mini processor: 5V ATmega328P, 8 I/O sewtabs (4 D, 4 A/D). Arduino and LilyPad compatible.	0.55"Dia.	9.95	9.49
2211549	ASL2111	Mini USB Adapter: FTDI USB/serial converter for upload. Resistor jumper for 3.3V/5V. 3.3V default	0.75 x 0.35	14.95	13.95
2211565	ASL1201	Battery adapter: 2-pin JST-PH connector and 2 solder tabs. Connects to TinyLily.	0.63 x 0.39	3.95	3.75
2211573	ASL2001	Motor Board: 1 H-bridge, drive a 1.8A motor @ 1.8-11V/ TI DRV8837 motor driver (H-bridge)	0.39"Dia.	4.95	4.69
2211557	ASL1101	Momentary pushbutton 3mm switch: 2 sewtabs, SPST, NO. Non-corrosive gold finish.	0.28 x 0.16	2.95	2.79
2211602	ASL1001-LG	Green LED 0402, sewable and wearable (red available online, P/N 2211581)	0.26 x 0.1	1.75	1.49
2211611	ASL1002-LR	Red LED 1206 SMT, sewable and wearable (green and amber colors available online)	0.4 x 0.18	1.75	1.49

2211531

Rapid Wireless RF Development & Prototyping

NEW MARKED IN PINK

Honey, they shrunk the Arduino…and made it wireless! RFduino is an Arduino compatible, high-performance configurable wireless RF module that allows for fast development and prototyping of projects for the Internet of Things! The powerful RFduino features ARM Cortex M0, 128kB Flash, 2.4GHz transceiver, and Bluetooth 4.0 LE. Shield modules add servo, relay, protoboard, RGB/Button, battery and other capabilities.

Part No.	Mfr. Part No.	Description	Price
2209887	RFD90101	2-pc. Development kit: RFduino DIP & USB programming shield	$39.95
2209895	RFD90102	7-pc. Development kit: 2 ea. RFduino DIP & 1 ea. USB, servo, RGB pushbutton, prototyping, and dual AAA battery shield accessory boards	109.95
2209908	RFD90103	12-pc. Development kit: 2 ea. RFduino DIP & 1 ea. USB, RGB pushbutton, single & dual AAA bat holder, CR2032 dual relay, µSD, prototyping, USB & PCB shield accessory boards	189.95
2209916	RFD90104	16-pc. Dev. kit: Same as P/N 2209908 but has (5) RFduino DIP & 2 USB shields. See Web for details.	279.95
2209924	RFD90105	30-pc. Dev. kit: Same as P/N 2209908 but has (10) RFduino DIP & 2 of everything else. See Web for details.	499.95
2209772	RFD22102	RFduino DIP, 16MHz, 3V, 128 kB Flash, 18mA, Bluetoooth 4.0 LE. Requires P/N 2209781 to program.	22.95
2209781	RFD22121	USB shield to program RFduino, USB type-A male, 500mA max.	22.95
2209852	RFD22128	CR2032 coin battery shield. 2V-3V output @ 25mA. 1.85" x 0.9"	14.95
2209844	RFD22127	Single AAA battery shield with step-up regulator to provide stable 3.3V @ 40mA	18.95
2209836	RFD22126	Dual AAA battery shield with step-up regulator to provide stable 3.3V @ 100mA	18.95
2209861	RFD22130	MicroSD shield allows R/W of your µSD cards. 3V-3.3V @ 100mA max. 0.9" x 0.9"	14.95
2209828	RFD22125	Proto shield with 37 free pads and breakout to I/O pins. 0.9" x 0.9". Add your own small circuits.	8.95
2209879	RFD22131	Dual relay shield. 12VDC @ 1A max rating per relay. 1.4" x 0.9". Control higher voltage and current loads.	24.95
2209799	RFD22122	RGB/Button shield. Two momentary pushbuttons and RGB LED. Works with iOS apps.	11.95
2209801	RFD22123	Servo shield drives up to 4 servos @ 6 VDC each. Needs separate 5-6VDC supply.	14.95

2209908/2209916/2209924

2209772   **2209861**

Edu & Hobby

JAMECO.COM

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Arduino Microcontrollers, Kits, Shields & Accessories

Arduino is an open-source physical computing platform based on a simple microcontroller board. Create interactive objects that can read inputs from a variety of switches, sensors and computers to control lights, motors and other physical outputs. The shields are expansion boards that sit atop an Arduino and broaden the functions, from motor control to prototyping.

2151259	2115768	2157765	2151486	2163778	2163840	2170222	2121148
2173706	2171436	2152366	2170767	2152294	2163794	2163815	2163858	2193441
2167736	2213261	2208454	2171188	2193467	2152438	2159277	2193459	2152391

Microcontroller Boards

★ Web Code: ARD

Part No.	Manufacturer	Mfr. Part No.	Description	Dimension (L" x W" x H")	Pricing 1	Pricing 5
2151259	KitPro	BB-Arduino	Build an Arduino compatible circuit, Atmega328P, assembly required, breadboard/PCB not included	—	$13.95	$12.95
2115768	Solarbotics	KARDW	Ardweeny microcontroller kit, Arduino compatible, Atmega328, 7+ pieces, assembly/soldering required	1.6 x 0.54	14.95	13.49
2157765	DFRobot	DFR0159	DFRduino Pro Mini V1.2 (Arduino Pro Mini compatible) MCU board with 16MHz ATmega328, 14 digital I/O pins, 8 analog inputs, reset button, and holes for mounting pin headers	1.3 x 0.7	19.95	17.95
2184261	Adafruit	659	FLORA Arduino compatible wearable electronic platform. 3.5-16VDC, USB-mini	1.75"Dia.	29.95	26.95
2151486	Arduino	A000066	Uno Rev. 3, Atmega328 (DIP), 14 digital I/O, 6 analog I/O, USB, ICSP, 32K flash	2.7 x 2.1	32.95	29.95
2207700	Arduino	A000053	Arduino Micro: ATmega32U4 based, 6-20Vin, 20 I/O (7 PWM), 12 analog input, 32k flash, ICSP, µUSB connection	1.9 x 0.7	32.95	29.95
2207697	Arduino	A000087	Arduino Mini 05 (no headers): ATmega328, 7-9Vin, 14 digital I/O (6 PWM), 8 analog input. Program w/ USB adapter	1.3 x 0.7	32.95	29.95
2163778	Arduino	A000057	Leonardo with headers, 20 digital I/Os, 7 PWM channels, 16MHz crystal, 32k flash, 2.5k SRAM, microUSB	2.7 x 2.1	34.95	31.95
2163840	Arduino	A000073	Uno SMD Rev. 3, same as Rev.2 but has ATmega16U2 USB Serial converter & 1.0 pinout, USB-B	2.7 x 2.1	34.95	31.95
2170222	Arduino	A000062	Due, with 32-bit ARM core MCU, 54 digital I/Os, 12 analog inputs, 4 UARTs, 84MHz clock, 512kB flash	4.3 x 2.1	54.95	49.95
2121148	Arduino	A000005	Nano v3.1, ATmega328, 14 digital I/O (6 PWM), 8 analog input, 0.6" wide breadboard-ready, USB mini-B	0.7 x 1.7	49.95	44.95
2157466	WickedDevice	NAN-USA	Nanode Kit v5, similar to Uno but has built-in Ethernet 10baseT ability. Requires FTDI device to program	2.7 x 2.1	29.95	27.95
2157861	Dagu	RS019	Micro Magician v2 Robot Controller. Dual H-bridge, 3-axis accelerometer, IR. Arduino compatible	2.4 x 1.2	34.95	32.95
2213245	DFRobot	DFR0267	Bluno-BLE: Uno-compatible board with built-in Bluetooth 4.0 LE. USB/7-12Vin, App-ready for Andriod & iOS	2.4 x 2.1	49.95	44.95
2173706	DFRobot	DFR0225	Romeo V2 All-in-One controller, integrated 2-way DC 2A motor driver and Xbee socket, based on ATmega32U4	3.5 x 3.3 x 0.55	44.95	39.95
2171436	Arduino	A000095	Esplora microcontroller board w/ Atmega32U4 AVR, built-in sensors, joystick, 2 Tinker kit connectors, micro USB connection, and a socket for a color TFT display	6.5 x 2.4	54.95	49.95
2152366	Arduino	A000067	Mega2560 Rev. 3, 54 digital I/O (14 PWM), 16 analog input, 256K flash. ATmega16U2 USB-Serial converter	4.3 x 2.1 x 0.6	46.95	44.95
2170767	Secret Labs	Netduino Plus 2	32-bit microcontroller w/ 22 GPIOs combined w/ SPI, I²C, 4 UARTs (1 RTS/CTS), 6 PWM channels & six 12-bit ADC channels	2.8 x 2.1	69.95	62.95
2152294	DFRobot	DFR0162	XBoard v2 with WIZnet Ethernet port, XBee socket and ATmega328 MCU. 8 digital I/O, 8 analog input	2.6 x 1.6	34.95	31.95
2163794	Arduino	A000060	Arduino Ethernet w/ USB2 serial converter. Uno MCU & Ethernet shield in one board. PoE ready	2.7 x 2.1	69.95	64.95
2163815	Arduino	A000068	Arduino Ethernet Rev. 3 w/o PoE module, ATmega328, µSD slot & W5100 Ethernet chip, RJ45	2.7 x 2.1	56.95	54.95
2163858	Arduino	A000074	Arduino Ethernet w/ PoE module, Rev. 3. ATmega328, µSD memory slot & W5100 Ethernet chip, RJ45	2.7 x 2.1	89.95	80.95
2193441	Arduino	A000008	Yún. Built in Ethernet & WiFi, µSD slot, 20 digital I/O. Atheros AR9331 runs Linux	2.7 x 2.1	84.95	76.95
2167736	DF Robot	DFR0188	Flymaple Quadcopter Controller with ARM Cortex-M3 MCU, 3-axis accelerometer/gyroscope/compass, and barometric pressure sensor	2.0 x 2.0 x 0.5	74.95	69.95
2213261	DFROBOT	DFR0100	Beginner Kit for Arduino: DFRduino Uno R3, proto shield, USB cable, breadboard, sensors, power and passive components, 8 online starter lessons	—	54.95	49.95
2121121	KitPro	KIT-GSA	Get Started w/ Arduino kit, includes book, Arduino Uno, breadboard, LEDs, switches. No solder required	—	69.95	62.95
2208454	Intel	E000037	Intel Galileo: Quark SoC X1000, 32-bit, R3 shield-compatible, 5V, 14 digital I/O (6 PWM), 6 analog input, µSD slot, USB host/client, 80mA per I/O, 800mA on 3.3V and 5V pin	4.2 x 2.9 x 0.9	109.95	99.95
2171188	Arduino	K000007	Arduino Starter kit includes Uno Rev. 3 & 38 other components w/ book of 15 projects to learn and build	—	119.95	109.95
2193467	Arduino	A000078	Arduino Robot: Leonardo based, includes color TFT screen, 5 buttons, compass, IR floor sensors, µSD reader & more	7.5"Dia. x 3.9	279.95	259.95

Shields for Arduino (Arduino sold separately)

★ Web Code: AOS

Part No.	Manufacturer	Mfr. Part No.	Description	Dimension (L" x W" x H")	Pricing 1	Pricing 5
2152438	Arduino	A000082	Arduino Prototyping Shield PCB Rev. 3, compatible with new Arduino R3 pinout. PCB only.	2.7 x 2.1	$5.95	$5.39
2159277	DFRobot	DFR0019	Prototyping shield with mini breadboard. SOIC-14 pad, ICSP header, GND/5V rails (assembled)	2.7 x 2.1	12.95	11.49
2152446	Arduino	A000083	Arduino Proto Shield Rev. 3, 2 mini pushbuttons, 3 LEDs and a few resistors. Design your own shield!	2.7 x 2.1	17.95	15.95
2193459	Arduino	A000096	1.77" TFT LCD color display w/ µSD slot, 160x128px. AVR-based Arduino compatible. 5VDC	2.33 x 1.66	34.95	31.95
2152391	Arduino	A000077	Arduino Proto Shield Rev. 3 (assembled). Has reset button, ICSP connector and pass-through headers	2.7 x 2.1	21.95	19.95

★*For additional products, availability and specifications visit Jameco.com and enter the Web Code in the product search box*

Edu & Hobby

Arduino Microcontrollers, Kits, Shields & Accessories (Continued)

NEW MARKED IN PINK

2159314 | 2127582 | 2159306 | 2163751 | 2184202 | 2140402 | 2152358 | 2152260 | 2167744

2144411 | 2152286 | 2152403 | 2159429 | 2128534 | 2157802 | 2135734 | 2136657 | 2152374

Shields for Arduino (Arduino sold separately) Continued

★ Web Code: AOS

Part No.	Manufacturer	Mfr. Part No.	Description	Dimension (L" x W" x H")	Pricing 1	5
2152411	Arduino	A000080	MEGA Rev. 3 Protoshield printed circuit board, PCB only. For full protoshield kit, see P/N 2152420 below	4.0 x 2.1	$5.95	$5.65
2152420	Arduino	A000081	MEGA Rev. 3 Protoshield kit, multilayer PCB design, w/ ICSP header slot, two SOIC prototyping areas, and prototyping components: headers, resistors, LEDs, pushbuttons	4.0 x 2.1	14.95	13.49
2173829	Macetech	MTCEN001	Centipede add-on PCB shield, I²C interface, provides 64 GPIO pins, 5V, 2x10 headers, headers unsoldered	2.7 x 2.1	24.95	22.49
2144534	DFRobot	DFR0060	Screw Shield for Arduino. Convert female header pins to more secure screw terminals	2.7 x 1 (x2)	7.95	7.25
2159314	DFRobot	DFR0131	Proto Screw Shield (assembled). Provides prototyping area & screw terminals for secure I/O connections	2.65 x 3.17	14.95	13.95
2127582	Liquidware	DoubleWide	Replicate all Arduino pins into 2 locations so you can add 2 sheilds while having access to both at the same time. Shields sit side by side	2.7 x 4.2	19.95	18.95
2159306	DFRobot	DFR0015	XBee Expansion Shield. Allows an Arduino board to communicate wirelessly with XBee 1mW, XBee Pro or XBee 2.5 Series	2.5 x 2.4	12.95	11.95
2163751	Arduino	A000007	XBee Expansion Shield with Maxstream series 2 XBee RF module. Up to 100-meter distance transmission, fully assembled	2.5 x 2.4	45.95	—
2184202	Adafruit	1141	Data Logging Shield. Built in RTC & µSD slot, 3.3Vreg. Additional libraries required.	2.7 x 2.1	19.95	18.95
2140402	Arduino	A000064	Wireless Proto Shield with XBee communication support. Up to 100-ft indoors/300-ft outdoors	2.7 x 2.1	21.95	20.95
2152358	Arduino	A000065	Wireless SD Shield with µSD card slot and XBee socket. Up to 100-ft indooes/300-ft outdoors	2.7 x 2.1	29.95	27.95
2152260	DFRobot	DFR0144	Relay Shield controls up to 4 relays. Max. switching power: DC 90W or AC 360VA. Controllable with Arduino, Xbee or Bluetooth	3.25 x 2.2	18.95	17.95
2167744	DFRobot	DFR0071	SD Card Breakout Shield for standard SD and microSD cards. Switch-selectable, allows mass storage	1.5 x 1.2	12.95	11.95
2144411	DFRobot	DFR0009	LCD Shield. 16x2, HD44780 compatible. White text, blue backlight, uses LCD4Bit library	2.7 x 2.1	15.95	14.49
2152286	DFRobot	DFR0092	Graphics LCD Shield provides a 48x48 pixel display. 6 digital, 5 analog I/Os, displays English or Chinese, integrates a 5 DOF joystick	2.3 x 2.1	26.95	24.95
2193651	Adafruit	1438	Motor/Stepper/Servo Shield v2.0. Supports 4 DC or 2 stepper motors. 4 H-bridges; 1.2A per bridge	2.7 x 2.1 x 0.4	19.95	18.95
2152403	Arduino	A000079	Arduino MotorShield Rev. 3. Dual full-bridge for inductive loads like relays, solenoids, DC/Stepping motors. 2A per ch., 4A max.	2.7 x 2.1	29.95	28.49
2191218	DFRobot	DFR0265	I/O Expansion Shield v7. 3.3/5V Op. select, XBee/Bluetooth-ready, SD slot, 3.3V out	2.1 x 2.1	19.95	18.95
2159429	DFRobot	DFR0165	I/O Expansion Shield for Mega with 3 XBee slots, 1 microSD slot, prototyping area and Arduino shield headers	4.9 x 2.2	19.95	18.95
2157781	DFRobot	DFR0008	Input Shield with 2-axis mini joystick, 4 colored pushbuttons, XBee socket, ACP220 radio module ready	4.75 x 2.1	16.95	15.95
2128534	Robot Power	MEGAMOTO	High-power Motor Shield. 5-28V, 13A/30A peak, H-bridge or dual half-bridge	2.7 x 2.1 x 0.5	49.95	47.95
2157829	DFRobot	DRI0009	2-Amp Motor Shield. Allows drive of two 7-12VDC motors with 2A maximum current each way	2.3 x 2.2	17.95	16.95
2157802	DFRobot	DFR0105	Power Shield. Provides a voltage range from 1.25-12V with 3A peak current, supply voltage range: 4.5V-35V	2.3 x 2.3	19.95	18.95
2135734	Rogue Robotics	AP-RMP	MP3 playback module without stacking headers. Module only. Supports MMC/SD/SDHC up to 32GB	2.7 x 2.1	56.95	54.95
2136657	Rogue Robotics	AP-RMP-H	MP3 playback module with stacking headers. Arduino compatible, supports MMC/SD/SDHC up to 32GB	2.7 x 2.1	59.95	56.95
2152374	Arduino	A000072	Arduino Ethernet Shield Rev. 3 w/ µSD slot. PoE ready. Connects to LAN w/ Ethernet Library. Compatible w/ MEGA boards	2.7 x 2.1	35.95	34.95
2152382	Arduino	A000075	Arduino Ethernet Shield Rev. 3 w/ µSD slot & Power over Ethernet module. Embedded W5100 chip.	2.7 x 2.1	54.95	52.95
2157811	DFRobot	TEL0047	WiFi Shield v2.1 for Arduino. IEEE802.11b/g/n compatible, data rates: 11, 5.5, 2, 1 Mbps. Uses 3.3V	2.3 x 2.1	84.95	79.95
2163786	Arduino	A000058	WiFi Shield. Connects Arduino to the Internet wirelessly, 802.11b/g networks, WEP/WPA2 personal encryption	2.7 x 2.1	89.95	86.95
2153781	Parallax	35000	Board of Education Shield. Solderless breadboard prototyping & servo ports. Works with Uno & Mega	4.0 x 3.0	34.95	29.95
2184211	Adafruit	1272	Ultimate GPS Logger Shield w/ GPS module. -165dBm, 66-CH, RTC, µSD slot. Uno-compatible	2.7 x 2.1	54.95	49.95
2167779	DFRobot	TEL0051	GPS/GPRS/GSM Module v2. 4-band, AT-commands, 6-9VDC@0.1A, embedded SMD antenna	2.8 x 2.2	99.95	94.95
2157837	DFRobot	TEL0044	GPS Shield for Arduino, w/ KickStart technology. GALILEO receiver module, built-in flash memory, antenna included	2.8 x 2.2	99.95	—
2153799	Parallax	130-35000	Robotics Shield kit mounts on Boe-Bot chassis (not incl.) features 40+ hands-on activities	5.0 x 3.3	129.95	119.95
2127558	Liquidware	Touchshield Slide	320 x 240 pixel resistive OLED touch screen, ATmega2560, can store (60) 128x128 images	2.7 x 2.1 x 0.5	169.95	164.95

Sensors, Accessories and Miscellaneous Kits

★ Web Code: AOA

Part No.	Manufacturer	Mfr. Part No.	Description	Dimension (L" x W" x H")	Pricing 1	5
2137756	Arduino	A000040	Header kit for shields. (2) 1 x 6 pos & (2) 1 x 8 pos, 15mm pin length, 0.1" spacing	—	$1.75	$1.59
2152180	DFRobot	DFR0062	Wii Chuck Adapter is Arduino compatible. Inserts into connector of a Nintendo Wii Nunchuck controller. 4-pin header allows access to 2-axis joystick, 2 buttons, and 3-axis ±2g accelerometer	1.0 x 0.25	3.95	3.49
2159453	DFRobot	DFR0028	Digital tilt switch sensor. 3-pin connection: output, power, ground	1.2 x 0.8 x 0.35	4.95	3.95
2159381	DFRobot	SEN0114	Soil moisture sensor. Reads moisture present, includes analog sensor cable	2.4 x 0.8 x 0.35	5.95	4.95

Edu & Hobby

Arduino Microcontrollers, Kits, Shields & Accessories (Continued)

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2213384	2206133	2206125	2206109	2190733	2144462	2206150	2206168	2213413	2134926
2134993	2152340	2152243	2159461	2207718	2206141	2190864	2117341	2150521	2159402
2206117	2190805	2213368	2159251	2159390	2216631	2170581	2144665	2144489	2144500

Sensors, Accessories and Miscellaneous Kits (Continued)

★ Web Code: AOA

Part No.	Manufacturer	Mfr. Part No.	Description	Dimension (L" x W" x H")	Pricing 1	Pricing 5
2213384	DFRobot	DFR0032	Digital buzzer module. 3.3V/5V operating, drive with a high/low signal, 3-pin connection	1.2 x 0.9 x 0.5	$3.95	$3.75
2206133	ValuePro	U13-C0438	Moisture sensor detects moisture level based on resistance. 3V/5V@35mA max., 4-pin (2mm) connector	2.4 x 0.8 x 0.2	5.95	5.49
2159445	DFRobot	DFR0034	Analog sound sensor. Detects sound intensity, input voltage: 5VDC	1.2 x 0.8 x 0.4	7.95	6.95
2206125	ValuePro	U13-C0439	Sound sensor detects sound strength. 4V-12V (5V typ.) 52-48dB sensitivity. Mic freq. 20Hz-16KHz	0.96 x 0.8 x 0.4	6.95	6.25
2159568	DFRobot	SEN0128	Analog alcohol sensor. Sensitivity-adjustable, input voltage: 5VDC	1.7 x 0.8 x 0.5	9.95	8.95
2159373	DFRobot	SEN0101	Color sensor with RGB sensor chip and 4 white LEDs. Digital TTL interface, 2.7-5.5V, TCS3200	1.2 x 1.2 x 0.6	8.95	7.95
2206096	ValuePro	U13-C0449	Ambient light sensor uses LM358 chip, 3V/5V@0.5-3mA, 20k to 1M ohm, 4-pin (2mm) header	0.96 x 0.8 x 0.4	4.95	4.49
2157845	DFRobot	DFR0077	RS-232 to TTL converter. 4-pin connection: 5V, GND, logic in (SRX), logic out (STX), 300 to 115200 bauds	1.7 x 1.4 x 0.5	9.95	8.95
2144454	DFRobot	DFR0017	Relay module. Arduino compatible. 150VAC/24VDC max switching voltage, 10A(NO) 5A(NC)	1.4 x 0.9 x 0.7	9.95	8.95
2206109	ValuePro	U13-C0443	Relay module. Arduino compatible. Peak: 250VAC/30VDC@10A, Pin1 is ON, Pin 2 is COM	1.7 x 0.9 x 0.8	7.95	6.95
2152315	DFRobot	DFR0107	Arduino compatible IR remote and receiver kit. Includes 3-wire cable	3.4 x 1.6 x 0.3	9.95	8.95
2150441	Dagu	RS002A	Compound infrared sensor can be used as a range finder or movement tracker within 200mm, 4 pairs of IR phototransistors and (4) IR LEDs	1.9 x 1.2 x 0.5	8.95	7.95
2159437	DFRobot	DFR0061	2-axis joystick module with built-in button switch. Arduino compatible	1.5 x 1 x 1.26	10.95	9.95
2190733	DFRobot	DFR0053	Analog slide position sensor. 5V operation and has a red thumb slider. 5.4Ω resistance value	3.4 x 0.9 x 1.2	9.95	8.95
2144462	DFRobot	SEN0019	Adjustable IR sensor switch. 3-80cm range, 5V@100mA. 18" cable w/ 3-pin connector.	1.76"L x 0.70"Dia.	9.95	8.95
2206150	ValuePro	U13-C0441	PIR motion sensor, 3V/5V @ 150µA max. Range: 0.25-19.5 ft. Hold time: 1-25 sec. Detection angle: 120°	1.6 x 0.8 x 0.4	9.95	8.95
2206168	ValuePro	U13-C0442	Ultrasonic range/distance finder. 3.3V/5V @ 15mA. Range: 0.2-19.5 ft. 30° FOV. PWM output	1.8 x 0.8 x 0.6	14.95	13.49
2213413	DFRobot	SEN0018	Digital infrared sensor: 3V/5V @ 40µA, 110° detection angle, 23 ft. max distance, HIGH/LOW output level	1.4 x 1.1 x 0.3	5.95	5.65
2184288	Adafruit	1260	FLORA RGB Smart Neo Pixel v2 (4 pack). 24-bit, 5-9VDC, chainable. 18mA constant current per LED.	0.5" Dia.	11.95	10.95
2152251	DFRobot	DFR0106	Light disk with 7 SMD RGB LEDs. 5V operation, 4-pin header, 6000mcd	1.42"Dia.	10.95	9.95
2134926	Arduino	A000009	Project enclosure, ABS plastic, fits: Uno-Duemilanove-Diecimila-NG or MEGA, Ethernet shield and battery	3.4 x 2.5 x 1.1	12.95	11.95
2134993	ValuePro	PROTO KIT	830-contact breadboard with 70-piece jumper wire kit for easy prototyping	6.5 x 2.5 x 0.3	13.95	12.95
2152340	Arduino	A000059	USB to 5V serial adapter board. Includes pins for RX, TX, 5V, ground and reset	1.7 x 1.0 x 0.4	15.95	13.95
2152243	DFRobot	DFR0065	FTDI basic breakout board for USB to serial communication. Uses DTR pin for hardware auto-reset when a new sketch is downloaded	1.6 x 0.8 x 0.4	16.95	14.95
2159461	DFRobot	DFR0143	Triple axis accelerometer, with selectable sensitivity: ±1.5g/6g, 3 JST connectors, low pass filter, analog output	1.5 x 0.9 x 0.3	16.95	14.95
2207718	Arduino	E000019	Non-invasive AC current sensor. Clamp around the supply line and measure AC load up to 100A	2.3 x 1.4 x 0.8	16.95	15.95
2206141	ValuePro	U13-C0436	3-axis digitial accelerometer (±1.5g), MMA7660FC-based, I²C, 3V-5.5V, 47µA max., 21 LSB/g sensitivity	0.96 x 0.8 x 0.4	14.95	13.49
2190864	DFRobot	SEN0142	6 DOF I²C sensor. MPU6050 combines 3-axis gyroscope and 3-axis accelerometer. Get pitch, roll, yaw, quaternoin, euler.	0.8 x 0.5 x 0.2	29.95	28.95
2159496	DFRobot	DFR0126	Digital audio analyzer w/ graphic equalizer display filter giving your Arduino ears. Can be read in 7 different frequency bands	1.2 x 0.8 x 0.3	17.95	16.95
2117341	Solarbotics	50512	Basic breakout board. 3.3/5V, FTDI mini USB-B to serial 6-pin, works w/ Arduino & clone 5V Arduino boards can use as a USB port, FT232RL chip	1.4 x 0.7 x 0.3	19.95	18.95
2150521	Dagu	RS003HP	Wild Thumper high power switch for circuit protection. 6-20 bat. voltage, 2x15A H-bridge	2.4 x 1.9 x 0.8	19.95	17.95
2159402	DFRobot	DFR0066	Humidity and temperature sensor with SHT1x sensor. Individually calibrated in a precision humidity chamber	1.6 x 1.1 x 0.3	19.95	18.95
2206117	ValuePro	U13-C0434	Ambient temperature sensor, 3.3V/5V (5V recommended), -40°C to +125°C, 1.5°C accuracy, 10KΩ zero power	1.0 x 0.8 x 0.4	5.95	5.49
2190805	DFRobot	SEN0120	BMP085 barometric pressure sensor. 300-1100 hPa with 0.03 hPa accuracy. 1.8V-3.6VDC, I²C, 6-pin header	0.6 x 0.6 x 0.3	12.95	11.95
2213376	DFRobot	DFR0023	LM35 analog linear temperature sensor. 0°-100°C with sensitivity of 10mV per °C. 3-pin output	1.2 x 0.9 x 0.3	4.49	4.25
2213368	DFRobot	DFR0067	DHT11 temperature and humidity sensor. 3.3V/5V, 0°-50°C ±2°C, 20-90%RH ±5%RH, 3-pin digital output	1.3 x 0.9 x 0.3	4.95	4.69
2159251	DFRobot	DFR0141	Light disc with 12 SMD RGB LEDs. Individual color/brightness configurable, 5V operation, 12C Assembly req.	2.5"Dia.	19.95	17.95
2159390	DFRobot	DFR0129	Capacitive touch kit, with iPod-style wheel touch, keypad touch and a grid touch pad, includes cables	—	24.95	22.95
2216631	Gear Seven	SQ9209481	Hand gesture and 5 touch sensor development kit. Gestures: Up, Down, Right, Left up to 5". I²C & 2xGPIO. 3.3V	2.5 x 2.5 x 0.2	39.95	—
2170581	Tux-Lab	E001-TUX	Aluminum enclosure for Arduino Uno and Duemilanove. Clear acrylic cover, two slots for USB and DC power jacks	3.2 x 2.5 x 0.9	22.95	19.95
2144665	PowerSwitch Tail	80135	Power cord switch. Control outlet with microcontroller, 3-prong, 15A @ 125VAC, 5V control signal	4.0 x 2.1 x 1.5	29.95	26.95

★ *For additional products, availability and specifications visit Jameco.com and enter the Web Code in the product search box*

3 LEVELS OF SAVINGS
NAME BRANDS | HOUSE BRANDS | SPECIAL BUY

Edu & Hobby

Arduino Microcontrollers, Kits, Shields & Accessories (Continued)

NEW MARKED IN PINK

| 2127566 | 2157757 | 2157749 | 2167761 | 2152307 | 2210001 | 2190901 | 2124285 | 2209932 | 2159912 |

Sensors, Accessories and Miscellaneous Kits (Continued)

★ Web Code: AOA

Part No.	Manufacturer	Mfr. Part No.	Description	Dimension (L" x W" x H")	Pricing 1	Pricing 5
2144489	ValuePro	2601510235340Z	Conductive sewing thread. Size 92, 234/34 (4 ply), 50Ω/meter. Perfect for Lilypad or wearables	400'+ reel	$34.95	$29.95
2144500	DFRobot	DFR0018	9-pc analog sensor set for Arduino. Includes big push button, LED light module, ambient light, capacitive touch, LM35 temperature, magnetic, vibration, tilt and grayscale sensor. Each sensor has 12" wires	(1) 1.4"L x 0.8"W (8) 1.2"L x 0.8"W	39.95	36.95
2127566	Liquidware	HICAP Li Backpack	High capacity 2200mAh Lithium-Ion battery. Rechargeable via Arduino USB and USB type-B mini cable. Supplies regulated 5V and 3.3V	2.7 x 2.1 x 0.5	46.95	44.95
2157757	DFRobot	KIT0003	Auto-watering kit with control board, temp/humidity sensor, moisture sensor, water tube, immersible pump, mini USB cable, 6xAA battery holder, DC adapter and enclosure	3.7 x 2.4 x 2.4	59.95	54.95
2157749	DFRobot	DFR0182	Wireless gamepad v2.0. Supports Xbee, Bluetooth, RF and WiFi via the Xbee socket, allows the user to define the buttons and protocols via standard Arduino IDE, 3 AAA batteries required	5.5 x 4.6	64.95	59.95
2167761	DFRobot	KIT0011	24-piece advanced sensor set, including sensors such as light, gas, sound, touch, accelerometer, and more	—	84.95	79.95
2152307	DFRobot	COMB0002	Wireless programming kit for Arduino Uno/Duemilanove, Mega 1280/2560. Includes: 2 programming modules, I/O shield, Xbee USB adapter, USB cable	2.4 x 2.4	89.95	84.95
2183859	EarthLCD	ARLCD	3.5" Color TFT Touchscreen, Arduino compatible, 16-bit GPU, 320x240px, 65k color, LED backlit	3 x 3 x 0.9	89.95	—

Chassis/Mobile Platforms and Accessories

★ Web Code: MOB

Part No.	Manufacturer	Mfr. Part No.	Description	Dimension (L" x W" x H")	Pricing 1	Pricing 5
2150547	Dagu	DG008	4WD plastic mobile platform with (4) 4.5V motors. No load speed is 90 ±10 rpm	6.25"L x 5.0"W	$26.95	$23.95
2210001	Dagu	DG007	Magician acrylic chassis. (2) gear motors w/ 65mm wheels & rear caster. 6VDC, 90 rpm. 4xAA required	6.85 x 4.33	17.95	16.95
2190901	DFRobot	ROB0049	2WD miniQ aluminum mobile platform with (2) N20 6V, 50:1, 260 rpm gear motors. 10 oz/in torque	4.8"Dia.	42.95	39.95
2124277	DFRobot	ROB0005	2WD aluminum mobile platform with (2) 3-6VDC motors, speed: ~27.6"/sec.	6.7"Dia.	57.95	55.95
2124285	DFRobot	ROB0003	4WD aluminum mobile platform with (4) 3-6VDC motors, speed: ~35"/sec.	7.9 x 6.7 x 4.1	59.95	54.95
2144420	DFRobot	ROB0025	4WD aluminum mobile platform with wheel encoder, (4) 4.5-6V motors, speed: ~26.7"/sec.	9.0 x 7.3 x 4.3	79.95	74.95
2146345	DFRobot	ROB0022	4WD aluminum mobile platform with Romeo (v1.1) microcontroller. Romeo is Arduino compatible and features built-in motor control, speed: ~35"/sec. (4) 3-6VDC motors included	7.9 x 6.7 x 4.1	84.95	79.95
2209932	Dagu	RS035	T'Rex aluminum tank chassis can handle rough terrain. 45mm wide zinc tracks. 12V (typ.) 11A stall current	14 x 10.4 x 5.1	249.95	224.95
2159488	DFRobot	SEN0038	2 Wheel encoders with motors for DFRobot 3PA & 4WD Rovers. +5V, < 20mA, 20PPR	—	13.95	12.95
358336	Tamiya	70144	Ball caster set. (2) ball casters and height can be adjusted for various applications and projects.	1.1 x 1.1 x 1/1.4	6.95	5.95
2159912	DFRobot	FIT0003	Replacement wheels w/ tires. Used w/ above 2WD/4WD mobile platforms. Fits motor P/N 2150432, 2 wheels in the pack	2.58"Dia. x 1.03"W	12.95	11.95
2159921	DFRobot	RB-TIRE	Replacement tires only w/o rims to replace FIT0003 tires. 4 tires in the pack	2.58"Dia. x 1.07"W	2.49	2.25

Horizon

Alternative Energy Kits

★ Web Code: NRG

Horizon Fuel Cell Technologies has become the world's largest volume producer of commercial fuel cell products, serving customers in over 40 countries. The launch of the "H-Racer" toy-scale fuel cell car in 2006 offered a first glimpse of the company's unique technology and won several consumer product design awards, including a Time Magazine "Best Invention" award. Presently, Horizon produces extremely compact, lightweight and complex hydrogen generation solutions suitable for electronic hobbyists, including renewable energy science experiment sets and battery-free kits.

2153861

| 2112170 | 2112161 | 2206002 | 2095007 | 2206029 | 2163073 | 2163090 |

Part No.	Mfr. Part No.	Description	Price
2112170	FCJJ-16	Solar Hydrogen Education; invent clean energy applications using fuel cells and renewable hydrogen	$85.95
2112161	FCJJ-11	Fuel Cell Car Science, reversible PEM fuel cell combines electrolysis & power conversion in an autonomous car	83.95
2206002	FCJJ-34	Salt Water Fuel Cell science education kit. Electric motor with fan, wire leads with plugs and tubing included.	79.95
2095007	FCJJ-23	H-Racer 2.0 is the world's smallest hydrogen fuel cell car equipped with remote-control steering and light emitting features with the car	134.95
2112153	FCJJ-26	Hydro-Wind Turbine kit invents clean energy applications using fuel cells and renewable hydrogen-harness the energy of the wind	99.95
2206029	FCJJ-42	Ethanol Fuel Cell science education kit. Extract hydrogen from ethanol to produce energy without combustion. pH paper, fuel cell, fan and tubing included	159.95
2206011	FCJJ-35	Super Capacitor science kit. Store energy generated by the hand crank, measure stored voltage and run a small electric fan.	164.95
2184755	FCJJ-33	Renewable Energy Science Lab. Includes WindPitch turbine, PEM fuel cell, energy monitor and more.	279.95
2163090	LWH22-10L-5	Hydrostik fuel cartridge, stores 15Wh of hydrogen energy in a solid-state, use with MiniPak power supply (P/N 2163073) and Hydrofill station (P/N 2153861)	24.95
2163073	FCHP-02	MiniPak power supply, delivers up to 2W DC power, includes Hydrostik catridge (P/N 2163090), 0.5W LED flashlight, USB connector tips/adapters, storage pouch	129.95
2153861	FCH-010	Hydrofill refueling station, fills the Hydrostik catridge (P/N 2163090) with 99.9% hydrogen, produces 3 liters of hydrogen per hour, just add de-ionized or distilled water	349.95

Edu & Hobby

DIY Workshop Kits & Club Jameco Projects

JAMECO **KitPro**   ★ *Web Code: FMB*

Jameco's Workshop

Scan on your smartphone with a code reader app.

Forrest M. Mims III Kits and Books
See complete kit descriptions online, additional parts may be required

Part No.	Description	1	5
2155487	Atari Punk Console Kit: Sound synthesizer based on the 555 timer	$24.95	$22.95
2155508	Toy Organ Kit: Each button generates a different tone with tunable volume and pitch	39.95	36.95
2155495	The Fridge Alarm Kit w/ Forrest Mims Mini Notebook: Electronic Sensor Circuits & Projects	26.95	23.95
2155532	The Vibration Sensor Kit: Detect vibrations with a piezo speaker and signals via an LED	19.95	18.95
2158709	Forrest Mims Mini Notebook Series, Volumes 1-4	52.95	51.95
2158047	Forrest Mims Five Book Bundle: Includes a collection of 100 hand-tested circuits for building	69.95	66.95
2158725	Forrest Mims Five Book and Four Electronic Kits Bundle: Soldering is required	169.95	164.95

Circuit Skills Web Supported Kits & Projects
★ *Web Code: ERK*

Part No.	Description	1	5
2113244	Etch your own printed circuit board. Includes (2) 3"x4" pre-coated boards & etch solution★	$46.95	$42.95
2117202	Build a waveform generator and learn the basics for laying out an enclosure. Soldering required	64.95	62.95
2121092	Build a basic guitar effect pedal while learning the basics for perfboard prototyping. Soldering required	24.95	23.95
2124197	Try your hand at a SMT project w/ 1206 components and you too can build a light reactive tone generator	29.95	27.95
2126272	Learn the basic fuctionality of an LED Color Organ ("sound-to-light") circuit. 3.5mm audio jack input	34.95	29.95
2127970	Learn how to drive an 8x8 LED matrix using an LED driver IC and an Arduino. Includes Arduino Nano v3.0	54.95	49.95

★Shipped via ground to continental U.S. only

Jameco Builds
NEW *MARKED IN PINK*   ★ *Web Code: ERK*

Part No.	Description	Price
2216606	Simple dual jumbo LED flasher. Potentiometer adjustable flash rate. 14 components. Mountable. 9V battery required.	$5.95
2217174	Simple dual jumbo LED flasher breadboard project. Similar to 2216606, but no soldering involved. 9V battery required.	5.95
2217078	Open-Source Arduino Clock. Display 12/24 hr time & date, & select other modes like stop watch and count-down. Upgradeable.	79.95
2155516	Build a compact USB charger w/ 5V output to charge small electronic devices. Soldering required	14.95
2155567	RGB LED Origami Kit: Includes (3)10mm RGB LEDs, mini-breadbrd, hook-up wire, battery box & batteries	17.95
2155541	LED Color Organ Kit: Similar to 2126272 but includes PCB with labels. Mono channel.	39.95
2146329	4x4x4 LED Cube Kit: Advanced solder kit requires AVR programming for blue LED display visuals	69.95
2210651	8x8x8 Blue LED Cube w/ custom PCBs + 50 LEDs. Boards stack like shields on top of the Arduino Uno. Enclosure not included.	149.95
2210642	8x8x8 Green LED Cube w/ custom PCBs + 50 LEDs. Boards stack like shields on top of the Arduino Uno. Enclosure not included.	149.95
2210669	8x8x8 White LED Cube w/ custom PCBs + 50 LEDs. Boards stack like shields on top of the Arduino Uno. Enclosure not included.	149.95
2192296	Construct a simple DC motor by making use of electromagnetic principles	13.95
2192309	Construct a simple DC motor. Classroom pack for 20 students	99.95
2216841	RFID Deadbolt Hack. Includes serial reader and 4 tags, ProMini MCU, ProtoDough for custom bracket. Lock not included.	119.95

Club Jameco Projects
Earn with Club Jameco www.ClubJameco.com/Earn   ★ *Web Code: CJK*

Part No.	Description	Price
2168405	4 Input Audio Switch Box Kit: Switches any four male audio 3.5mm inputs to one 3.5mm output	$12.95
2160817	Super Simple Low Power AM Radio Kit: Learn basic RF concepts with this breadboard project	14.95
2158987	Cyclops Walkbot: A great beginner solder kit that builds a 1" square vibrating robot with LED eye. Sure to entertain kids and cats alike!	15.95
2204197	Pocket Power Supply: Select 1.5, 3, 4.5, or 6V from a 9V battery.	17.95
2182670	Simple Audio VU Meter: 20 LED bar-graph display, 3.5mm audio out	19.95
2169580	Easy Laser Alarm Kit: Senses light from a laser on a photocell to sound a buzzer when the beam is broken	19.95
2208702	Guitar to AV Receiver Interface: This filter allows you to plug your guitar directly into your home stereo via RCA jacks.	19.95
2183824	Solar Energy Converter/Transmitter converts solar (DC) to a high frequency pulsed DC (radiant energy). Additional components required.	19.95
2169694	The Science of Remote Controls shows you how to make a special LED circuit controlled by infrared light.	19.95
2205991	Portable LED Strobe: 30 bright white LEDs and the flash rate is adjustable	24.95
2177918	Electronic Organ: 555 timer based capable of producing DO, RE, MI, ... notes. 9V battery not included.	22.95
2184579	Arduino-compatible Temperature Sensor. FTDI breakout board & 4x7 segment display not included.	22.95
2192106	Car Battery Charging System Diagnostics: Indicates whether a car battery is good, cranking current and alternator function.	24.95
2188393	Raspberry Pi LED connects via GPIO and learn to write a program to control the 8 LEDs. Raspberry Pi not included.	24.95
2162505	x10 Appliance Module for LED & CFL lighting applications. MAX AC current rating is 6A.	24.95
2169459	Learn to Solder & Program Temp Logger. (PICAXE-08M2 sold separately)	24.95
2169571	8-Pin Programmer Kit: Program ATtiny series chips using an Arduino as the programmer	24.95
2170337	Free Charge Controller Development Kit- Participate in a collaboration to improve the design. See Web for full details.	24.95
2169109	Water Level Control: Sense high/low and trigger a relay. Pump not included.	24.95
2171591	Animated LED Eyes: Eyes blink and scan around and shoot forward when walking by	24.95
2191242	Bike Turn Signal and Headlight: Switch controlled LED blinkers and LED headlight	24.95
2170530	Programmable Light Chaser: An animation controller for 32 LEDs; program to create animation patterns	24.95
2171604	Universal IR Remote Receiver: Capable of controlling two channels in several selectable ways	24.95
2169504	Prank Box: A sealed wooden box with an electric bell inside that is secretly activated by a key switch	24.95
2160681	Transformer Kit: Learn how to wind a simple step-up or step-down transformer	24.95
2163962	Propeller Clock is a mechanically scanned LED clock in POV effect. (motor sold separately, see Web)	24.95
2171057	DIY RFID Reader: Build an EM4100 compatible reader w/ serial interface. RFID tags and 5V power source required.	27.95

2155487 **2155508** **2155495**
2155532 **2158709** **2158047**
2158725 **2117202**
2113244 **2121092** **2124197**
2126272 **2127970** **2216606**
2217078 **2155567** **2146329**
2168405 **2160817** **2158987**
2182670 **2169580** **2208702**
2183824 **2169694** **2177918**
2192106 **2188393** **2162505**
2169459 **2169571** **2170337**
2169109 **2171604** **2169504**
2160681 **2163962** **2171057**

Edu & Hobby

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JAMECO **KitPro** ## DIY Workshop Kits & Club Jameco Projects (Continued)

See complete kit descriptions online (Additional components may be required)

★ Web Code: CJK

club **JAMECO**®

Earn with Club Jameco www.ClubJameco.com/Earn

Club Jameco Projects (Continued)

Part No.	Description	Price
2161107	Variable Digital Load: Max. load volt.: 48V @ 0.5A, Max. load curr.: 3A @ 12V. 12VDC@100mA power supply not included.	$29.95
2168325	Metronome Kit: 7-seg display shows beats/min and allows you to switch between different time signatures	29.95
2170812	DIY geiger counter uses a PIN photodiode as a substitute for a Geiger-Mueller tube. Detect alpha and beta particles	32.95
2171516	Portable Retro Hi-Fi Speaker.(requires bookshelf speaker or equivalent)	34.95
2189548	Arduino Waveform Generator Shield: A function generator, perfect for testing and debugging circuits. Sine, triangle, pulse and saw from 1-50Hz.	34.95
2169061	Talking Voltmeter reads out whole number readings. Adjustable (0-20V) power supply required.	34.95
2173714	The Listening Tree combines a light organ and a fiber optic tree for music-synched visuals. Arduino & optical fibers not included.	34.95
2182661	Tripple Power Supply with Digital Monitor: Turn an unregulated 9V transformer into three selectable regulated output voltages of 5V, 9V and 12V.	34.95
2172623	Clock in a Bottle: This design uses a Russian Numatron nixie tube (not included) for each digit. Additional materials req.	39.95
2190178	PID Temperature Controller: Designed around the ATmega328P microcontroller utilizing the Arduino Duemilanove bootloader.	39.95
2190080	Vein Finder: Uses bright red LEDs to illuminate your veins!	39.95
2169467	Magic Morse Code Trainer Kit: Easily learn Morse code and get immediate feedback	39.95
2169475	Surveillance Camera Pan/Tilt Decoder Kit: An interface between your camera system and other devices	44.95
2170492	PS/2/You: Go-anywhere LED Digital Message Board: Instant updatable 768-pixel digital message board	44.95
2188406	Miniature Programmable Synthesizer: MIDI/USB cable, PIC18F4520-I/P, PIC programmer and switch caps are required.	44.95
2184587	Motion Triggered Room Light turns off the light after several minutes of inactivity. Additional components required, see Web.	44.95
2183816	PWM Stepper Motor Driver: Control a stepper motor using this circuit and a servo PWM signal from an R/C controller, Arduino or microcontroller.	44.95
2193846	3x3x3 Red LED Cube is assembled on an Arduino Protoshield. Instructional code helps you light specific LEDs	49.95
2171997	Medium Power Resistive Decade Load Box. 0.1 to 999.9Ω (resistors sold separately)	54.95
2170548	Arduino Waveform Generator Shield: Useful for testing/debugging circuits and frequency response	64.95
2168309	Fun Light Switch Box: Behavior of the lights vary depending on how the switches are set	69.95
2188326	Arduino Breadbox: Easy to use kit to experiment w/ servos & analog inputs. Works w/ Arduino Uno or Raspberry Pi (not included).	69.95
2203944	DIY Alarm Experimenter (w/o Arduino & USB cable): Test IR break-beam, magnetic proximity & force sensors w/ RGB display	69.95
2174670	Portable Propeller FM Radio lets you listen to FM radio anywhere. Uses Parallax Propeller MCU. MAX756CPA required.	69.95
2192886	Home Energy Monitor: Monitor AC voltage and current for an entire home. The data collected is then used to calculate usage.	79.95
2192093	DIY Robotic Hand Shadow. With additional parts, create a robot hand that mirrors yours	99.95
2203872	Experiment with Alarms. Learn about laser/IR break beam, magnetic proximity & touch sensors	99.95
2168940	8x8x8 LED Cube: Includes 550 3mm blue LEDs. Driven by included Arduino Uno. Programming required	149.95
2172017	8x8x8 LED Cube: Includes 550 3mm green LEDs. Driven by included Arduino Uno. Programming required	149.95
2169539	8x8x8 LED Cube: Includes 550 3mm white LEDs. Driven by included Arduino Uno. Programming required	149.95
2204365	Parts Bundle for Arduino Cookbook: Contains roughly 90% of the parts used for projects in the Cookbook (P/N 2168384, not included).	349.95

NEW MARKED IN PINK

2168325

2170812

2171516

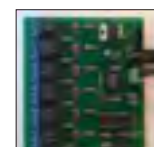2173714

2172623

2190178

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2188406

2184587

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2193846

2188326

2192093

2172017

MONDO·TRONICS — Flexinol® Shape Memory Alloy Actuator Wires

Small diameter nickel-titanium wires contract like muscles when electrically driven.

★ Web Code: WAU

- LT (low-temp) activate at 70°C
- HT (high-temp) activate at 90°C

Includes: Instructions and technical specs.

357641

357528

357835

Part No.	Mfr. P/N	Length (meter)	Wire Dia. (microns)	Linear Resistance (Ω/m)	Typical Current (mA)	Deform Weight* (grams)	Recovery Weight* (grams)	Typical Rate**	Pricing 1	Pricing 5
357931	075LT	1	75	200	100	815	80	40	$8.95	$7.95
357595	100HT	1	100	150	180	28	150	43	9.95	8.95
357472	100LT	5	100	150	180	28	150	33	26.95	24.95
141874	150LT	1	150	50	400	62	330	20	9.95	8.95
160055	375LT	1	375	8	2750	393	2000	4	12.95	11.49
357712	375HT	1	375	8	2750	393	2000	5	10.95	9.95

*Multiply by 0.0098 to get force in Newtons   **Cycles per minute, in still air, at 20° Centigrade

Muscle Wire Kits, Book, Nitinol Wire and Springs

★ Web Code: WAU

Part No.	Mfr. Part No.	Description	1	5
141330	3-133	Muscle Wire Project Book, 3rd Edition	$19.95	$18.95
357659	3-141	Project Book Sample kit (20cm of 50µm flexinol wire; 40cm of 100µm and 150µm LT wire)	32.95	29.95
357641	3-136	Muscle Wire Super Sampler kit (20cm each of 037µm, 050µm, 100µm, 150µm, 250µm)	35.95	32.49
357798	3-401	Nitinol SMA wire (1 meter L x 500µm Dia.)	16.95	15.49
357835	3-642	Nitinol tension springs (4pk.) 6.5mm OD x 26.5mm L x 750µm, black	39.95	37.95
357528	3-102	Muscle Wire R & D kit (5 meters each of 0.050µm, 100µm LT wire; 1 meter each of 250µm Flexinol LT wire	119.95	107.95

PNI — Vector 2X Compass Module

- Pin selectable BCD or binary output format (compatible with Motorola SPI and National Microwire)
- 2° accuracy, 1° resolution
- 3-wire serial output format
- Raw uncalibrated magnetometer output optional
- Hard iron calibration   • 5Hz sampling rate
- Master or slave capability for data clock generation

Part No.	Description	1	5
126703	Compass module	$24.95	$22.95

RC Eye One Quadcopters

Self-stabilizing, robust 4-rotor frame and smart flight control system is safe and easily maneuverable for beginners. 3 flight modes to match your experience.

2204373

Includes: Quadcopter, 7.4V/350mA LiPo battery, USB LiPo charger, RC, replacement rotors, 2xAAA

2204381: 2.4GHz, landing gear upgrade, 25% more power in Sport mode, acrobatic flip ability

Part No.	Description	1	5
2204373	915MHz Quadcopter	$59.95	$54.95
2204381	2.4GHz Quadcopter	79.95	74.95
2204390	Crash pack for 2204381	21.95	19.95
2204402	2x LiPo batteries & charger	24.95	22.95

Edu & Hobby

Solar Panels

★ *Web Code: AEK*

Solar Photovoltaic Arrays

- Full-size monocrystalline solar panels can be used to charge your batteries or power your project
- 2 different panels to suit your applications • Max. power voltage: 17.8V • Open-circuit voltage: 21.6V
- Panel frames are made from aluminum for lightweight quality • Maximum system voltage: 1000VDC
- Tested under Standard Test Conditions (STC – irradiance 1000W/m², AM 1.5 spectrum, cell temperature: 25°C)

2128569   2128585

Part No.	Mfr. Part No.	Max Power (W)	Max Current (A)	Short-Circuit Curr. (A)	No. of Cells	Dimensions (L" x W" x H")	Wt. (lbs.)	1	5	25
2128569	PM-25S	25	1.35	1.50	9	25.3 x 11.1 x 1.4	7.50	$109.95	$104.95	$99.95
2128585	PM-65S	65	3.65	4.04	36	32.8 x 21.2 x 1.4	18.96	239.95	229.95	219.95

Solar Hydrogen Education Kit

Create a mini power system that can store solar energy in the form of hydrogen, and drive a small motor or fan using the fuel cell. Just add water and sunshine!

Includes: Electric motor, propeller blade, water storage tank, reversible PEM fuel cell, solar panel, wire set

Horizon

Part No.	Mfr. Part No.	Price
2112170	FCJJ-16	$85.95

PARALLAX 1-Watt Solar Panel

- 9VDC max output
- 1W max power output
- 11V open-circuit voltage
- 0.11A Ipm max operating current
- 0.24A Isc short-circuit current
- Pre-soldered color-coded leads
- Can be expanded for more voltage/current
- Dimensions: 5.3"L x 5.3"W x 0.1"H

Part No.	Mfr. Part No.	1	5
2115291	750-00031	$12.95	$10.95

Monocrystal Sealed Solar Panel

- Equivalent to Panasonic BP-37334
- 12 cells
- Power: 98mW ±10%
- Rated voltage: 5.8V to 6.9V
- Rated current: 15mA
- Open circuit voltage: 7.2V
- Short circuit curr.: 17mA to 20mA
- 4 solder contacts on the back
- Size: 1.46"L x 1.28"W x 0.1" Thick

★ *Web Code: AEK*

Part No.	Mfr. Part No.	1	5	25
2162572	RU6715	$7.95	$6.95	$5.95

PowerFilm® Foldable Solar Chargers

★ *Web Code: FSC*

Ultra Compact, Ultra Lightweight, Easy-to-Use

PowerFilm develops and manufactures thin, flexible solar panels based on a proprietary low cost, high quality production process. The products encompass the consumer part of today's solar market and are used for recharging consumer electronics such as laptops, cell phones, GPS and mp3 players.

2108621: Charges 2 AA batteries (folds up compactly to fit into pocket)

2097133: Charges 2 AA rechargeable batteries and most small USB devices (folds up compactly to fit into pocket)

Fits in Your Pocket

2097133

Part No.	Mfr. Part No.	Description	Operating Volt. @ Curr.	Charging Volt.	Folded/Unfolded Dimesions (in.)	1	5
2108621	AA Charger	Solar, foldable charger	3.6V @ 0.6A	—	5.5 x 3.3 x 1.4 / 5.5 x 31.5	$79.95	$74.95
2097133	USB + AA Charger	USB + AA charger	3.6V @ 0.4A	5V	3.25 x 5.5 x 1.38 / 24 x 5.5	69.95	64.95

PowerFilm® Flexible Thin Film Solar Modules

★ *Web Code: AEK*

Wireless Electronics Series The Wireless Electronics Series offers a new opportunity to solve the old problem of limited power for wireless electronics in portable and remote applications. These modules are lightweight, paper thin and durable.

228099

Part No.	Mfr. Part No.	Operating Voltage	Operating Current (mA)	Size (L x W x T) Inches	Size (L x W x T) mm	Pricing 1	Pricing 5	Pricing 25
227985	SP3-37	3.0	22	2.5 x 1.5 x .01	64 x 37 x 0.2	$3.95	$3.49	$3.15
227993	TX3-25	3.0	25	4.5 x 1.0 x .01	114 x 25 x 0.2	3.95	3.49	3.15
171061	MP3-37	3.0	50	4.5 x 1.5 x .01	114 x 37 x 0.2	5.95	5.35	4.79
228030	SP4.2-37	4.2	22	3.3 x 1.5 x .01	84 x 37 x 0.2	5.95	5.35	4.79
228056	MPT4.8-150	4.8	100	3.7 x 5.9 x .01	94 x 150 x 0.2	15.95	14.95	13.95
228064	MPT6-75	6.0	50	4.5 x 3.0 x .01	114 x 75 x 0.2	12.95	10.95	9.95
228072	MPT6-150	6.0	100	4.5 x 5.9 x .01	114 x 150 x 0.2	19.95	17.95	15.95
228099	MP7.2-150	7.2	200	10 x 5.9 x .02	253 x 150 x 0.6	34.95	31.49	28.95
228101	MPT15-75	15.4	50	10 x 3.0 x .02	253 x 75 x 0.6	19.95	17.95	15.95
228110	MPT15-150	15.4	100	10 x 5.9 x .02	253 x 150 x 0.6	39.95	35.95	31.95

WeatherPro Series

The right choice for permanent outdoor applications that are directly exposed to the elements. These modules feature rugged construction, a UV-stabilized surface, an extra edge seal for weather protection and tin-coated copper leads that extend from the module.

228161

Part No.	Mfr. Part No.	Operating Voltage	Operating Current (mA)	Size (L x W x T) Inches	Size (L x W x T) mm	Pricing 1	Pricing 5	Pricing 25
228161	P7.2-75	7.2	100	10.3 x 3.9 x .04	270 x 100 x 1.1	$29.95	$26.95	$24.95
228195	PT15-150	15.4	100	10.3 x 6.9 x .04	270 x 175 x 1.1	44.95	42.95	39.95
228208	PT15-300	15.4	200	10.3 x 12.8 x .04	270 x 325 x 1.1	79.95	74.95	69.95

ALL YOUR WIRE AND CABLE NEEDS — Pages 43-45

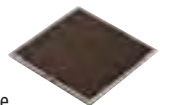- Speaker wire • Multi-conductor • Hook-up wire •CAT5 • 25' – 1000' spools

JAMECO ValuePro 60mm Solar Panel

★ *Web Code: AEK*

Photovoltaic Mini Module

- Clear coat plastic
- Power output: 0.25W max.
- Voltage output: 4.7VDC to 5VDC
- Size: 2.36"L x 2.36"W x 0.1"Thick
- Material: copper indium diselenide

Part No.	Description	1	5	25
1928142	Solar panel	$7.95	$6.95	$6.25

Mini-Panel Solar Cells

★ *Web Code: AEK*

Ready to Use! No Soldering

Mini-panels are secured in a plastic body with a prismatic cover to help capture all available light. 6" red/black wires attached.

200221

2113666: Solar Cell Grab Bag
- Contains fragile cells of various sizes w/ 0.5V output
- No leads attached and requires soldering

2113666

Part No.	Mfr. P/N	VDC @ mA	Size (L" x W")	1	5
2136913	SOL1	0.5 @ 400	2.8 x 1.8	$6.49	$5.95
2136921	SOL3	1.0 @ 200	3.0 x 1.8	5.95	5.49
2210079	FAD-1	1.2 @ 75	1.2 x 0.7	3.95	3.55
200221	SOL4	2.0 @ 200	3.0 x 3.7	10.95	9.95
215319	4-3.0-100	3.0 @ 100	3.8 x 2.5	12.95	11.95
2140373	750-00030	6.0 @ 167	4.9 x 2.5	12.95	11.95
215327	4-6.0-50	6.0 @ 50	3.8 x 2.5	14.95	13.49
2113666	SC-GRAB	Solar cell grab bag		9.95	8.95
		(min. 40pcs/bag, sizes vary)			

Edu & Hobby

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