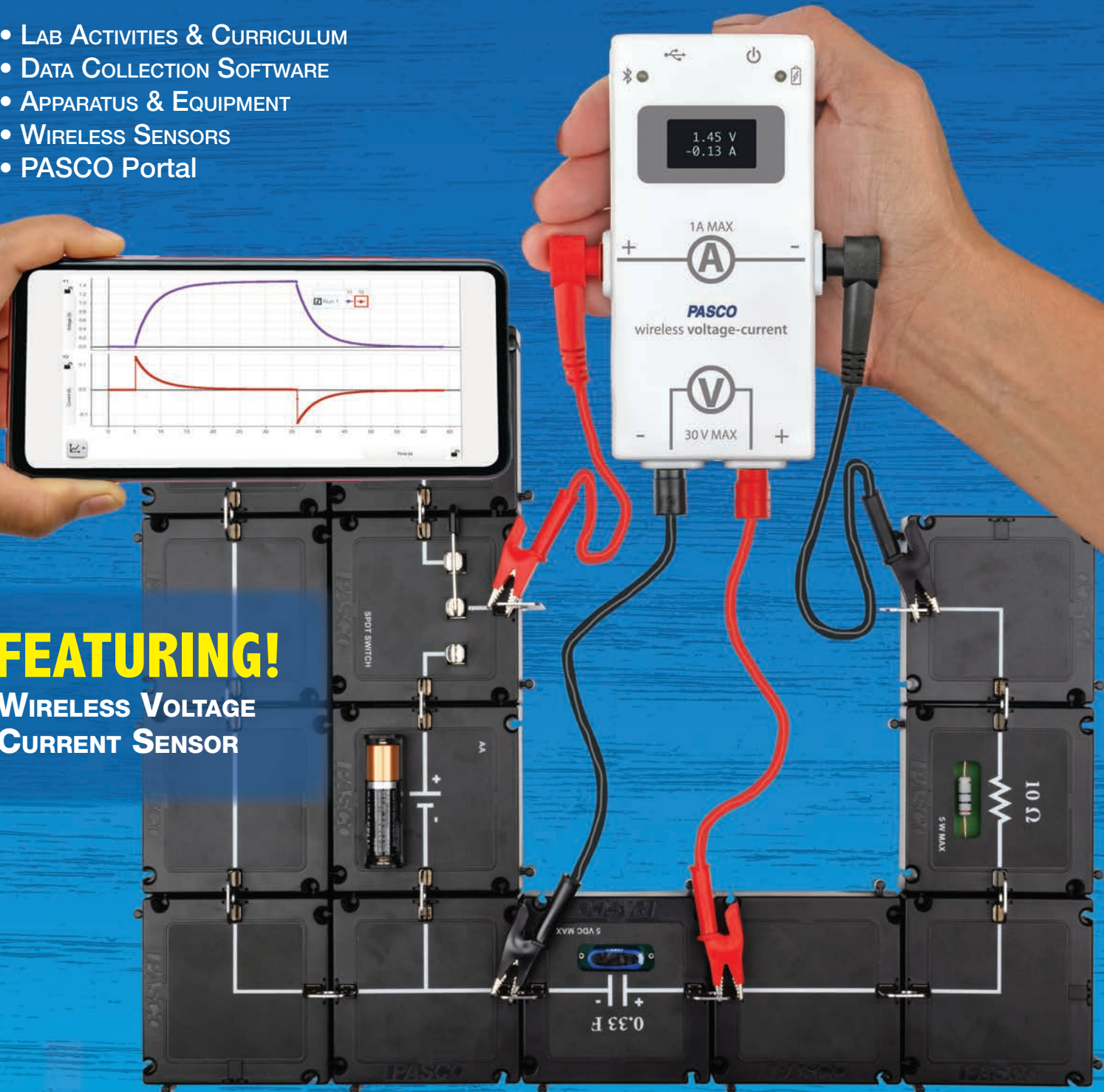


PHYSICS

TECHNOLOGY SOLUTIONS FOR PHYSICS

- LAB ACTIVITIES & CURRICULUM
- DATA COLLECTION SOFTWARE
- APPARATUS & EQUIPMENT
- WIRELESS SENSORS
- PASCO Portal

FEATURING!
WIRELESS VOLTAGE
CURRENT SENSOR



PASCO®



PASCO PORTAL

FOR SCIENCE EDUCATION



PASCO Portal is a Gateway to Science Designed by Teachers for Teachers

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PASCO Portal is wrapped in modern technology, compatible with most Learning Management Systems (LMS) including Google Classroom, Canvas, D2L Brightspace, Blackboard, and Schoology. Sign-On through Google, ClassLink, and Clever.

 **ClassLink**  **Clever**

SSO Support

 **Google Classroom**

 **canvas**
BY INSTRUCTURE

D2L

BRIGHTSPACE

Blackboard

 **schoology**

LMS Support

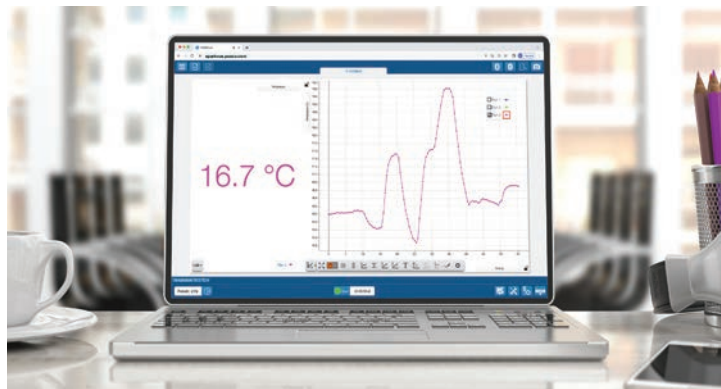
SPARKvue

This FREE award-winning data collection and analysis software works on any platform!

SPARKvue's intuitive design has made it an award-winning tool for collecting and analyzing experimental data. The user-friendly platform optimizes data collection and provides tools for in-depth analysis within a compact, yet powerful workspace.

SPARKvue features Blockly coding, allowing students to use block-based code for sense and control of PASCO devices, including any of our sensors.

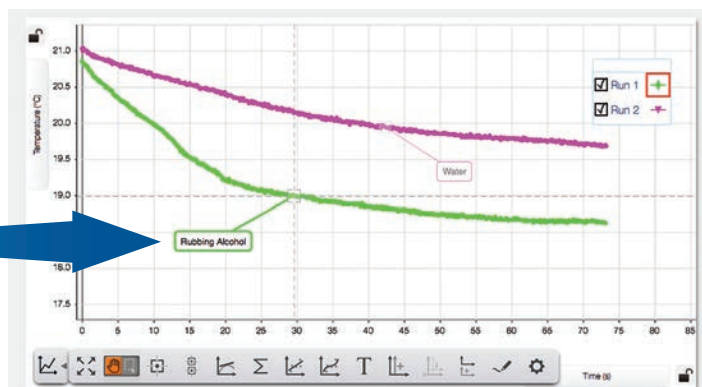
Windows • Mac OS • iOS • chrome • 안드로이드



Collecting & Graphing Sensor Data MADE EASY!

Automate sensor data collection to monitor measurements in real time.

Save time with pre-made experiment files, or build your own custom displays that will have you up and running in minutes.



Rapid, Real-Time Data Collection & Analysis



Digits Display



Bar Graph Display



Meter Display



GIS Map Display

SPARKvue® Free award winning data collection and analysis software now runs in your browser!

We're excited to announce SPARKvue is now available **FREE** of charge as a browser-based application. This new version of our software as a Progressive Web Application (PWA) means you have free access to all the features of SPARKvue from Google Chrome and Microsoft Edge browsers. That's right: No download fees, subscription fees, or update fees for Windows® and Mac®. Plus, the app is always updated to the latest version automatically, so you never have to worry about it. **Go to sparkvue.pasco.com to access the PWA.** SPARKvue is also available as a **FREE** app for iPad®, Android™ tablets, and Apple® and Android™ smartphones.

Launch now as
a Web App

PWA +

Download on the
App Store

ANDROID APP ON
Google play

Looking for additional options? See pasco.com/sparkvue for more details.

Also available:

PASCO capstone™ 2

**The Most Powerful Data Collection
Software in Science Education**

PASCO Capstone is a powerful and easy-to-use science program for collection and analysis of data from PASCO sensors.

Download a free 30-day trial at
pasco.com/capstone

macOS or Windows®



SPARK LXi2 Datalogger

PS-3600B

The SPARK LXi2 Datalogger is a Bluetooth, handheld datalogger that enables students to connect wired and wireless sensors, collect data, generate graphs, and analyze results. It is durable, splash-proof, and works seamlessly with PASCO sensors. The SPARK LXi2 can simultaneously accommodate up to five wireless sensors, includes two ports for PASPORT sensors, as well as two ports for the included Fast Response Temperature Probe and Voltage Probe. It can be used with PASCO Wireless sensors, PASPORT sensors and an AirLink, the SPARKlink® Air, and the 550 Universal Interface.

Built for Student Use:

- Portable
- Rugged, shock-absorbing case
- 8" Color Capacitive Touchscreen (1280 x 800 pixels)
- 2 GHz Quad Core Processor, 2.0 GB RAM, 32 GB Memory
- Voltage and temperature sensor ports with included probes



The SPARK LXi2 features two PASPORT ports as well as ports for the included temperature and voltage probes.

SPARK LXi2 Datalogger.....PS-3600B



SPARK LX Air Datalogger

PS-3620

The SPARK LX Air Datalogger is PASCO's slimmed down all-in-one device for data logging, data display, and data analysis. Don't risk damaging your school computer during hands-on experiments! With the LX Air, you are in control of the technology in your classroom. Designed for a wet-lab environment, the LX Air is portable, durable, and splash-proof.

SPARK LX Air Datalogger.....PS-3620



550 Universal Interface

THE 550 Universal Interface is fast, powerful, and incredibly affordable. The cost-effective 550 offers half the ports and many of the same features as our 850 Universal Interface, including both Bluetooth and USB connectivity. The 550 Universal Interface includes two PASPORT sensor ports, two digital sensor ports, two analog sensor ports, and a built-in signal generator.

The 550's two digital inputs are compatible with all ScienceWorkshop digital sensors, as well as timing devices, and photogates. The two analog ports connect with our analog ScienceWorkshop sensors and can support a 2.0 MHz max sampling rate and 1.22 mV resolution for voltage sensing.

The 550's built-in signal generator powers motors, speakers, circuits, and many other devices. With PASCO Capstone software and the 550, you can control various DC and AC waveforms, without requiring any other technology. The 550 provides 8 V at 400 mA, selectable voltage limits, built-in voltage and current measurements, and DC offset. Capstone software turns the 550 into a live oscilloscope that can display simultaneous traces.

Beyond having USB connectivity, the 550 can also send data wirelessly to any Bluetooth enabled computer, iPad, or Android tablet using PASCO Capstone or SPARKvue software.

FEATURES:

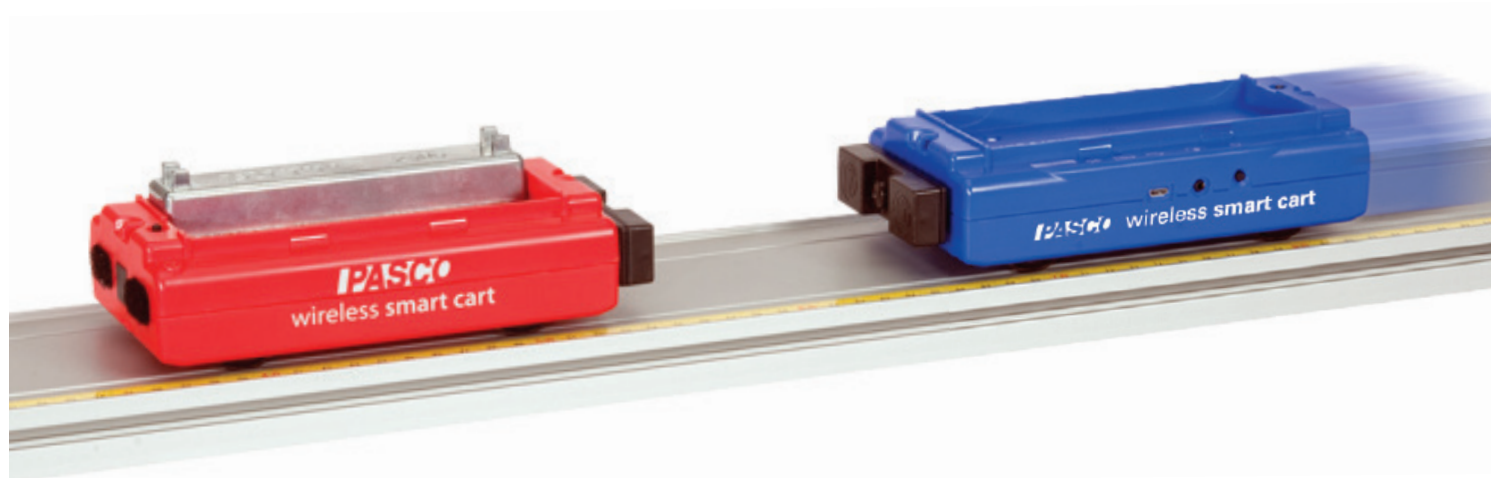
- USB and Bluetooth connectivity
- 3.2 W power amplifier
- 2.0 MHz max sampling rate
- 100 kHz signal generator with built-in Voltage and Current sensors
- Compatible with PASPORT, ScienceWorkshop, and Wireless Sensors
- 2 high-speed analog inputs
- 2 digital inputs for photogates and other timing sensors
- 2 PASPORT sensor inputs
- Can be used simultaneously with other PASPORT interfaces
- Uses PASCO Capstone Software or SPARKvue Software



The 550 Universal Interface allows you to connect Science Workshop (analog), PASPORT (USB), and Wireless (Bluetooth®) sensors. It also includes a power amplifier and signal generator (not shown).

550 Universal Interface.....UI-5001

Smart Cart and Accessories



Smart Cart (Red/Blue) Patent Number 10,481,173

ME-1240/1241

The patented Smart Cart is the ultimate tool for studying kinematics, dynamics, Newton's Laws, and more. It is based on a durable ABS body with nearly frictionless wheels, just like our high quality PAScars. Now, we've added built-in sensors that measure force, position, velocity, and acceleration. The versatile Smart Cart can collect measurements on or off a track and transmit the data wirelessly over Bluetooth. In essence, it is a wireless dynamics cart that combines all the necessary sensors, without requiring any additional hardware.

Smart Carts are ideal for studying mechanics topics, such as kinematics and dynamics. The built-in load cells enable two Smart Carts to visually demonstrate Newton's Third Law with ease. Additionally, built-in sensors for force and acceleration enable students to investigate Newton's Second Law in minutes. Smart Carts truly are a physics lab on wheels, and now you can own the most advanced physics cart ever created, all without the restrictions of cables.

Features:

- Built-in ± 100 N force sensor
- 3-axis accelerometer
- Bluetooth® connectivity
- Rechargeable battery
- Motion encoder measures position and velocity on or off the track
- Magnetic bumper for force sensor
- 3-position plunger
- Mass tray
- Velcro® tabs
- Force sensor hook and rubber bumper



Smart Cart Charging Garage

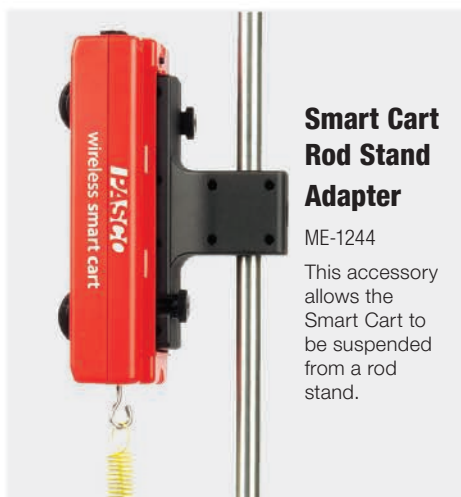
ME-1243

Charge up to five Smart Carts at once. Provides storage for the carts and accessory bumpers. Includes power adapter.



PASCO Dynamics Systems have been a staple in physics labs since the start of their innovation in 1992. They are ideal for investigating mechanics topics such as velocity, acceleration, Newton's laws, forces, collisions, and the conservation of momentum and energy. A variety of accessories can be added to expand your dynamics system's functionality, enabling students to study harmonic motion, projectile motion, optics and more. **The configuration (shown above) includes two Wireless Smart Carts (one red and one blue), a 1.2-m aluminum dynamics track, and the accessories package.**

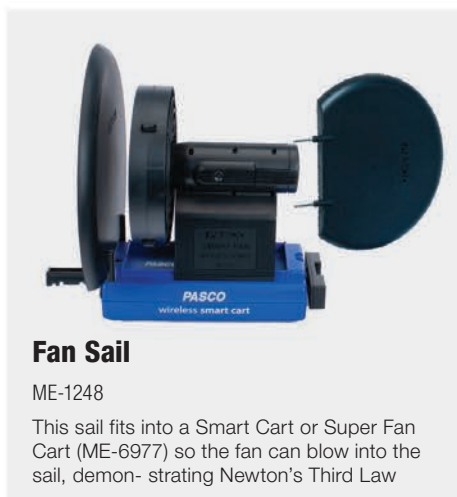
Smart Cart (Red)	ME-1240
Smart Cart (Blue)	ME-1241
Standard Smart Cart Metal Track 1.2 m System	ME-5718B
Smart Cart Charging Garage	ME-1243



Smart Cart Rod Stand Adapter

ME-1244

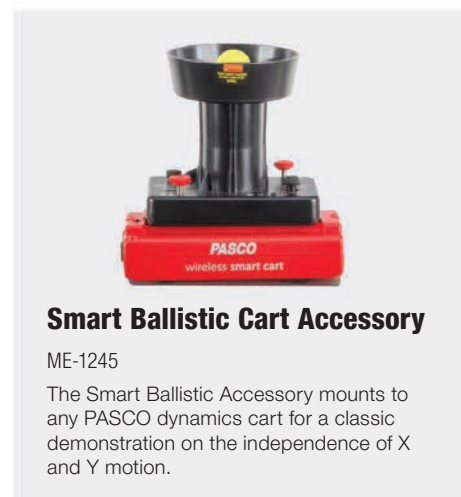
This accessory allows the Smart Cart to be suspended from a rod stand.



Fan Sail

ME-1248

This sail fits into a Smart Cart or Super Fan Cart (ME-6977) so the fan can blow into the sail, demonstrating Newton's Third Law.



Smart Ballistic Cart Accessory

ME-1245

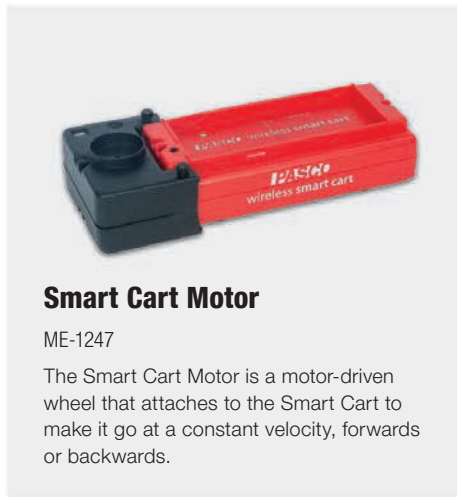
The Smart Ballistic Accessory mounts to any PASCO dynamics cart for a classic demonstration on the independence of X and Y motion.



Smart Cart Vector Display

ME-1246

The Smart Cart Vector Display adds visual vectors to your Smart Cart for force, acceleration, or velocity.



Smart Cart Motor

ME-1247

The Smart Cart Motor is a motor-driven wheel that attaches to the Smart Cart to make it go at a constant velocity, forwards or backwards.



Smart Cart Trigger Dropper

ME-1249

This dual-purpose device can trigger the Smart Cart plunger or drop a ball from the side of a Smart Cart.



Ball Catcher

ME-1252

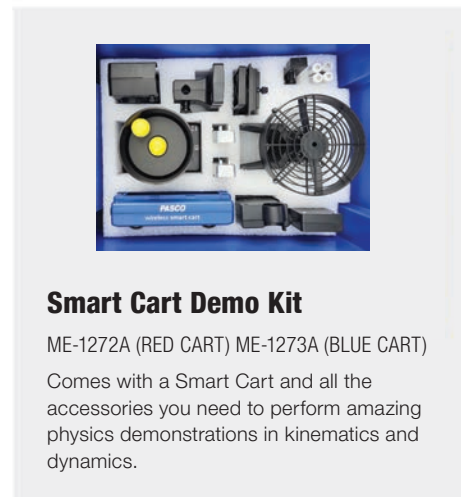
Mounted on a dynamics cart or rotating meter stick, this catches a ball shot from a projectile launcher.



Smart Fan Accessory

ME-1242

Mounts directly to all PASCO carts to provide a constant force. When used with Smart Carts, a vast array of functionality and programmability is available.

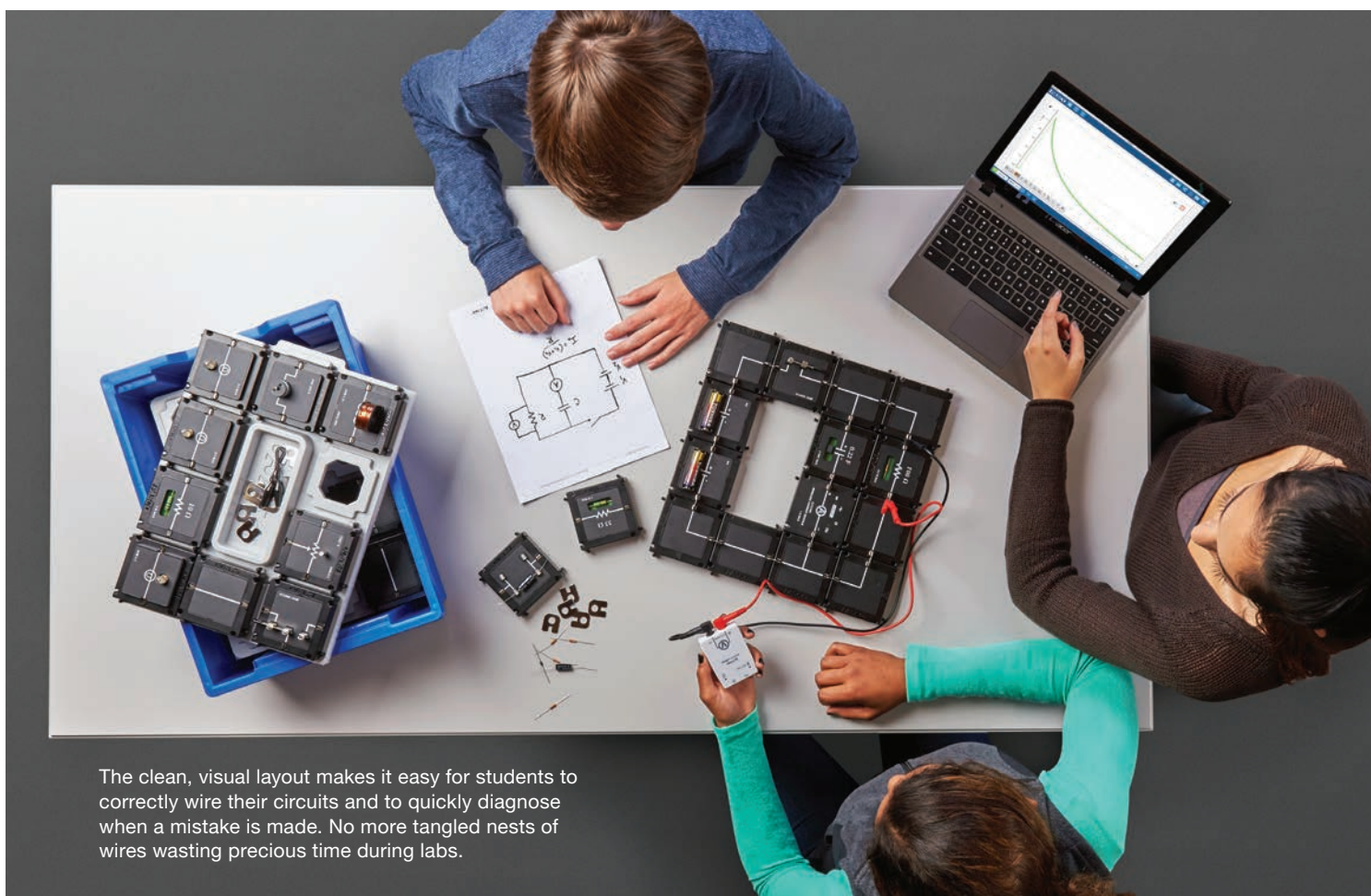


Smart Cart Demo Kit

ME-1272A (RED CART) ME-1273A (BLUE CART)

Comes with a Smart Cart and all the accessories you need to perform amazing physics demonstrations in kinematics and dynamics.

Modular Circuits



The clean, visual layout makes it easy for students to correctly wire their circuits and to quickly diagnose when a mistake is made. No more tangled nests of wires wasting precious time during labs.

Modular Circuits are a groundbreaking solution to complex circuit activities that accurately associates real circuits with textbook circuit examples. Using this familiar design, students can successfully recreate their drawn circuit diagrams, generate live data, and confidently explore electrical concepts. This page compares our Modular Circuit Kits to help you determine which kit is best for your needs



Basic Modular Circuits Kit

EM-3535

These circuit modules are designed specifically for introductory circuit investigations. For students who have never wired a circuit, this modular system makes it easy for them to see their circuit physically laid-out exactly as it appears in their circuit diagram.



Essential Physics Modular Circuits Kit

EM-3536

The Essential Physics Modular Circuits Kit includes more modules, such as the Wireless Current Sensor Module and Wireless Voltage Sensor. The Essential Physics Modular Circuits Kit will also support applications like RC and RLC circuit analysis, electric motors, Kirchhoff's laws, and much more!

The 8 cm x 8 cm modules promote collaboration and focus on conceptual understanding. Each module displays the schematic symbol as well as real components (resistors, capacitors, motors, etc.) to make the connection between circuit diagrams and functioning circuits.

Compare Modular Circuit Kits

Kits include these modules and apparatus:

	Basic EM-3535	Essential EM-3536		Basic EM-3535	Essential EM-3536
Corner Wire	4	4	Battery, AA	2	2
Straight Wire	4	5	Jumper Clips	30	45
Tee	2	2	Diode	1	1
Spring	1	1	330 ohm Resistor	1	2
Switch, SPDT	1	1	1000 ohm Resistor	1	2
Switch, SPST	1	1	100 microfarad Capacitor	1	1
Resistor	2	3	330 microfarad Capacitor	1	1
Capacitor	1	1	EM-3534 Wireless Current Module	0	1
Light Bulb	2	3	PS-3211 Wireless Voltage Sensor	0	1
Potentiometer	0	1	Magnets, 0.45" x 0.25"	0	8
Motor	0	1	Plotting Compass	0	1
LED	0	1	Alligator Clip Jumper Wire	0	1
1000 Turn Coil	0	1	Gratnells® Storage Tray	1	1
Battery Holder	2	2	Banana Jack Terminal		

NOTE

PASCO's Modular Circuits can now be purchased individually See pasco.com for a complete list of available modules and ordering information.

Modular Circuits Generator

NEW

EM-3455

This versatile hand-crank generator allows students to generate electrical energy and learn what variables affect the output voltage. The generator works by rotating a series of magnets in front of a coil which induces a voltage in the coil. The induced voltage and current are powerful enough to light multiple LEDs and a mini-incandescent bulb.



Wireless AC/DC Module

EM-3533

The Wireless AC/DC Module is a Bluetooth Low Energy wireless signal generator designed for use with PASCO's Modular Circuits.



Wireless Current Sensor Module

EM-3534

For use with PASCO Modular Circuits, this module can be placed anywhere in a circuit and wirelessly transmits current data to your devices.

Basic Modular Circuits KitEM-3535
Essential Physics Modular Circuits KitEM-3536
Modular Circuits GeneratorEM-3455

Wireless AC/DC ModuleEM-3533
Modular Circuits AC/DC Expansion KitEM-3555
Wireless Current Sensor ModuleEM-3534

NEW

Ball Ramp

ME-7075

The Ball Ramp can be used as a projectile launcher and as an inclined plane. Two meter sticks form rails for a ball to roll on. The curved end of the Ball Ramp allows the ball to roll off the end of the ramp horizontally. There is a level in the curved end so you can tell when the end is horizontal.

The angle of the Ball Ramp can adjust by clamping one end to a rod stand. Photogate Rod Clamps hold the meter sticks in place and provide a rod clamp as well as a place to attach a photogate. The Photogate Rod Clamp is compatible with Smart Gates and Photogate Heads. A photogate can also be mounted on the curved end of the Ball Ramp to record the speed right before the ball leaves the ramp.

To study Conservation of Momentum in two dimensions, the 2-D Collision Accessory can be mounted on the end of the curved end of the Ball Ramp, allowing the ball rolling down the ramp to collide with a second ball.

Built-in Features:

- Level in curved end to make the ball launch horizontally
- Photogate Rod Clamps hold the meter sticks in place, provide a rod clamp and a place to attach a photogate.
- The Photogate Rod Clamp can be installed upside-down to act as a back-stop to consistently start the ball at the same place by starting it pressed up against this back-stop.
- The curved end has a photogate attachment point so the speed of the ball can be measured just as the ball leaves the end of the ramp.



Use the ball ramp to launch the ball horizontally off a table to study projectile motion. The ball rolls down the ramp and collides with a second ball to study Conservation of Momentum in two dimensions

Ball RampME-7075

NEW



A Wireless Smart Gate is used to measure the angular acceleration to determine the rotational inertia of a point mass.

Meter Stick Rotation Set

ME-7074

In the Meter Stick Rotation Set, a Half-Meter Stick rotates about any point desired. The Wireless Force Sensor can be attached to the rotating meter stick to directly measure the centripetal force on a mass attached to the Force Sensor with a string.

The Meter Stick Rotation Set includes two mass holders that can slide freely on the meter stick or be fixed in place. The rotational inertia of the apparatus can be determined by accelerating the apparatus by a mass hanging over a pulley with a photogate.

Built-in Features:

- The Meter Stick Holder mounts on either a Pivot (ME-7034) or a Rotary Motion Sensor.
- The Meter Stick Holder has a post for mounting the Wireless Force Sensor.
- A screw on the Mass Holder for attaching a string makes it easy to change the radius in a centripetal force experiment.
- The Mass Holder, installed upside-down, has fins for attaching the Wireless 3-Axis Acceleration/Altimeter (PS-3223).



Meter Stick Optics Rotation Set.....ME-7074



Meter Stick Torque Set

ME-7033

Create an improved version of the meter stick balance by mounting the Pivot on a rod stand and using an aluminum meter stick. The meter stick clamp has a built-in bubble level to indicate when the meter stick is level.

The meter stick clamp fits onto either the provided dual-ball bearing Pivot or a Rotary Motion Sensor. It has two mounting points: One is centered on the center of the meter stick for rotation and pendulum experiments and the other is offset so the center of mass of the meter stick is below the pivot point for stability in meter stick torque experiments. There is a built-in bubble level to make it obvious when the meter stick is level.

The mass hangers have a mass of 10 grams each, which makes it easy to add to the hanging mass. The mass hangers have a degree scale so the angle of the applied force can be read.

The mass hangers can be used in two ways:

- As a mass hanger in a meter stick torque experiment with the masses hanging from it
- Upside-down, as an anchor point for a suspension string at any angle in a statics experiment.

Features:

- Dual ball bearings in Pivot
- Mount at any height on any rod stand
- Mass hangers (10 g) have built-in angle indicators
- Built-in bubble level on Pivot meter stick clamp

Perform These Experiments:

- Meter Stick Torque
- **Statics:** Suspended Boom
- Physical Pendulum



Meter Stick Optics Complete System

OS-7052

PASCO's Meter Stick Optics Complete System includes all of the components needed to explore essential optics topics like image magnification, lens focal length, real and virtual images, combination of lenses, and so much more! This simple but robust system is designed to fit directly onto the included PASCO Aluminum Meter Stick, making measurements of object distance and image distance easy and straightforward for students.

The rechargeable LED light source provides long-lasting battery life and is bright enough to form clear images in a fully-lit classroom! The component holders and the viewing screen mount firmly on the meter stick, but can also be easily moved along the length of the meter stick. This makes the formation of real images easy to find and measure.

The high-quality lenses are clearly labeled and held firmly inside component holders. Using the built-in holding tabs, the lenses can be quickly exchanged in the component holders. Each lens comes with built-in standoffs to protect the lens surface from scratching and scuffing when placed flat on a tabletop.

All the components, with the exception of the meter stick, fit in the included storage box. This cost-effective set offers an all-in-one alternative to traditional optics benches and meets all the needs of introductory optics lessons.

Features:

- Bright, rechargeable LED light source
- Lenses mounted in holders to protect from damage
- Organized storage box for easy classroom management

Aluminum Meter Sticks (6 Pack)

ME-7032

These aluminum meter sticks are rigid and straight. Because they are hollow, the aluminum meter stick has about the same mass as a wooden meter stick. Both sides are marked in centimeters.

Half-Meter Stick

ME-7044

This so-called "Half-Meter" Stick is actually 60 cm long. These aluminum meter sticks are rigid and straight. Because they are hollow, the aluminum meter stick has about the same mass as a wooden meter stick. Both sides are marked in centimeters.

Aluminum Meter Sticks (6 Pack)	ME-7032
Half-Meter Stick	ME-7044
Meter Stick Optics Complete System	ME-7033

Meter Stick Torque Set.....ME-7033

Wireless Sensors

Wireless Motion Sensor

The Wireless Motion Sensor connects via Bluetooth or USB to your device and uses ultrasound to measure the position, velocity, and acceleration of objects. With fast and reliable ultrasound detection, the Wireless Motion Sensor is ideal for student studies of kinematics, dynamics, and motion graphs.

Applications:

- Pair it with free MatchGraph software to teach motion graphing
- Explore speed and velocity
- Clips directly to PASCO Dynamics Tracks



Wireless Motion Sensor PS-3219

Wireless Smart Gate

Accurately measure speed and velocity with the Wireless Smart Gate's dual photogate beams. It also has a built-in laser switch for measuring objects that are too large to fit through the gate's opening.

Features:

- 180° pivoting head
- Accepts additional photogate head
- Log data directly on the sensor
- Auxiliary port for Time-of-Flight Accessory



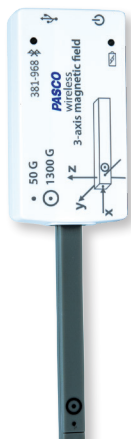
Photogate Wireless Smart Gate PS-3225

Wireless 3-Axis Magnetic Field Sensor

This 3-Axis Magnetic Field Sensor can sense the Earth's magnetic field and fields from coils and bar magnets. There are two ranges: ± 50 gauss and ± 1300 gauss. This sensor is primarily for static fields.

Applications:

- Determine magnetic field strength
- Electromagnetic induction
- Magnetic field in a current-carrying coil



Wireless Magnetic Field Sensor PS-3221

Wireless Force Acceleration Sensor

Capable of simultaneously measuring force, acceleration, and rotational velocity, this sensor is ideal for experiments involving rotating platforms, moving carts, spring oscillations, collisions, and impulse. Students can use the finger-holes for handheld applications, or mount it onto a cart or rod.

Features:

- ± 50 N
- 3-axis accelerometer
- 3-axis gyroscope
- Built-in rod clamp
- Onboard datalogging



Wireless Force Acceleration Sensor PS-3202

Wireless Rotary Motion Sensor

The Wireless Rotary Motion Sensor measures angle, angular velocity, and angular acceleration, as well as their linear equivalents.

Applications:

- Rotational kinetic energy
- Static equilibrium of a rigid body
- Rotational inertia



Wireless Rotary Motion Sensor PS-3220

Wireless 3-Axis Acceleration/Altimeter Sensor

The Wireless 3-Axis Acceleration/Altimeter can remotely log acceleration in three dimensions and altitude, making it ideal for recording roller coaster rides.

Features:

- Measures acceleration, altitude, and angular velocity
- Adjustable strap for stability
- Ranges of ± 16 g, ± 100 g, ± 200 g, and ± 400 g



Wireless Acceleration/Altimeter PS-3223

Wireless Sound Sensor

The Wireless Sound Sensor contains Sound Level and Sound Wave functions that measure both the true sound level (intensity) and the relative changes in sound pressure level as sound waves incident on the sensor.

Applications:

- Measure sound level and frequency
- Measure the speed of sound in air
- Study sound waves
- Investigate resonance and standing waves



Wireless Sound Sensor PS-3227

Wireless Temperature Sensor

The Wireless Temperature Sensor measures small but significant temperature changes produced by chemical reactions, convection currents, and even skin temperatures.

Features:

- Onboard memory for datalogging
- Records and displays live temperature data
- Water-resistant
- Includes Bluetooth® connectivity and long-lasting coin cell battery



Wireless Temperature Sensor..... PS-3201

Wireless Temperature Sensor with Display

PS-4201

We've added a bright organic light-emitting diode (OLED) display on the Wireless Temperature Sensor for users who want the ability to see instant data readings without the need for additional software, even in bright outdoor explorations.

Features:

- Simply charge, pair and go, no cables or adapters to manage
- Variable sampling rate for capturing small, fast changes or experiments that run for hours, days, or weeks
- Logs temperature data directly onto the sensor for long-term experiments
- Dust, dirt, sand and water resistant



Wireless Temperature Sensor with Display PS-4201

Wireless Thermocouple NEW

PS-4256

New wireless thermocouple extends the range of our temperature sensing line. Range from - 200 C to 1400 degrees C. Packaged with a type K thermocouple, students can follow solutions cooled with boiling liquid nitrogen, dry ice, or reached by commercial freezers. Temperatures of stove elements, matches, and non optimized bunsen burners (tip of the inner blue flame is close to the melting temp of the solder used for the two metals of the sensor and is not recommended). Small thermal mass responds quickly to changes in temperature. Good to thermally contact outsides of metal containers with reactions or heat exchange units.



Wireless Thermocouple.....PS-4256

Wireless Absolute Pressure-Temperature Sensor NEW

PS-4257

Pasco's wireless absolute pressure-temperature sensor is built to work with the ideal gas law apparatus (TD-8596A), Absolute Zero Sphere (TD-8595), and heat engine apparatus (TD-8572) (Not Included) to monitor pressure changes with increase or decrease of temperature. Great to display Boyles, Charles, Amonton's or the ideal gas laws. Helps gather the evidence to calculate work done by a gas. Can also show comparison of vapor pressure to temperatures of the exterior of sealed containers of liquids. Sensor reaches up to 7 atm pressure!



Wireless Absolute Pressure-Temperature Sensor.....PS-4257

Wireless Pressure Sensor

The Wireless Pressure Sensor allows students to easily collect accurate gas pressure data for a wide range of applications.

Applications:

- Study Boyle's Law and Charles' Law
- Hydrostatic pressure
- Determine absolute zero
- Ideal Gas Law



Wireless Pressure Sensor PS-3203



Wireless 1 & 2-Axis Force Platforms

PS-3229 & PS-3230

The Wireless Force Platforms build on the success of our PASPORT Force Platforms, offering users the same reliable performance with enhanced durability and a convenient, wireless connection.

The new design features a sturdy, glass-filled nylon platform and four supporting force beams that measure the forces acting normal to the platform's surface. The Wireless 2-Axis Force Platform also includes a fifth beam for measuring forces parallel to the platform. Along the bottom of each platform are four adjustable feet that make leveling quick and easy, while also ensuring stability between the force beams and the surface below. Students can measure the force applied to each beam independently or the overall resultant force acting on the surface of the platform (up to $\pm 5,200$ N). With their new wireless designs, the Wireless Force Platforms are easier to use than ever, providing both spacial flexibility and custom sample rates for high speed sampling over Bluetooth Low Energy (up to 10 kHz).

Features:

- Improved ruggedized design with increased maximum force range
- Mechanical force over-limit protection
- Wide top surface for jumping and standing
- Burst sampling option for high speed wireless data collection

Specifications:

1-Axis Product Range: -1320 N to 5280 N (resultant)

2-Axis Product Range: -1320 N to 5280 N (resultant); ± 1300 N parallel force

Surface Dimensions: 35 cm x 35 cm

Maximum Sample Rate: 10 kHz

Resolution: 0.2 N

1-Axis Force Over-Limit Protection: -500 N to 2000 N per beam

2-Axis Force Over-Limit Protection: -500 N to 2000 N per vertical beam; ± 2000 N parallel beam

The 2-Axis platform measures both the normal and parallel forces acting on the platform simultaneously. Determine the static weight of a structure or person, measure forces associated with the impacts of falling objects, and determine the dynamic vertical and parallel forces that arise when moving or jumping.



Handle Set, Force Platform.....	PS-2548
Wireless 2-Axis Force Platform	PS-3230
Wireless Force Platform	PS-3229



Wireless Charge Sensor

PS-3240

The Wireless Charge Sensor is designed to allow students to measure the electrostatic charge on an object. With the aid of PASCO data collection software, the sensor can measure either charge or voltage and plot them on a variety of displays.

The sensor comes with a BNC-to-alligator clip cable, which can be used to connect the sensor's BNC port to electrostatic equipment such as the Faraday Ice Pail. When used with the Faraday Ice Pail, the Wireless Charge Sensor can measure the total charge on an object by the induction method. The sensor can also be used as a high impedance voltmeter.

Features:

- No guessing if a charge is positive or negative – the polarity is shown.
- Measures both charge and voltage.

Specifications:

Charge:

Range: ± 0.1 μ C

Resolution: 5 pC

Voltage:

Range: ± 10 V

Resolution: 500 μ V

Maximum Sample Rate: 100 Hz

Connectivity: USB and Bluetooth 5.2

Logging: Yes

Battery Type: Rechargeable LiPo

Wireless Charge Sensor	PS-3240
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Wireless Geiger Counter

PS-3238

The PASCO Wireless Geiger Counter counts beta, gamma and alpha radiation particles as they enter the Geiger-Müller detector tube inside the counter. Designed for easy mounting, the Geiger Counter provides superior position control in inverse square law labs, as well as an audible beep to indicate the detection of ionizing radiation. The front plastic snout fits conveniently inside the NU-3344 Sample Holder stand (available separately).

Features:

- Built-in metal mesh screen to protect the delicate mica window in the front of the Geiger-Müller detector tube
- Audible beep to indicate count can be easily switched on or off



The NU-3344 Sample Holder stand is not included with the PS-3238 Wireless Geiger Counter, but is available separately. See below.

Wireless Geiger Counter.....	PS-3238
Geiger Counter Sample Holder	NU-3344

Wireless Current Sensor

The Wireless Current Sensor's wide current range enables introductory and advanced explorations of the fundamental concepts of electricity and basic circuits.

Features:

- Ranges of ± 1.0 A and ± 0.1 A
- Resolution of 0.2 mA at ± 1 A range and 0.02 mA at ± 0.1 A range
- Bluetooth® sampling rate of 1.0 kHz
- High-speed sampling via USB
- Variable sampling rate



Wireless Current Sensor PS-3212

Wireless Voltage Sensor

The Wireless Voltage Sensor is ideal for exploring the fundamental concepts of electricity, voltage, and basic circuits.

Applications:

- Measure the voltage across components in a simple circuit
- Measure the induced voltage in a wire coil as a magnet passes through
- Kirchhoff's Voltage Law
- Ohm's Law
- RC and LRC circuit analysis
- Faraday's Law of Induction



Wireless Voltage Sensor PS-3211



Wireless Light and Color Sensor

The Wireless Light and Color Sensor features two separate apertures: One measures ambient light from the side of the box, and the other measures percent color of directional light at the end of the box.

Features:

- Wirelessly connects to computers, Chromebooks, tablets, and smartphones
- On-board memory enables the sensor to function as an independent datalogger
- Variable sampling rate for short, precise experiments or lengthy, multi-day data collection

Wireless Light and Color Sensor PS-3248



AC/DC Smart Power Supply

PI-9525

The AC/DC Smart Power Supply is a Bluetooth Low Energy wireless signal generator. It outputs DC as well as sine, square, positive square, and triangle AC signals. The maximum power output is 10 V at 1 amp and the maximum output frequency is 100 kHz.

The AC/DC Smart Power Supply is controlled through PASCO Capstone or SPARKvue software. The ability to control this power supply through Bluetooth makes it possible for users of Chromebooks, Android, and Apple iOS devices to do experiments with wireless sensors that require a power source.

Features:

- **Maximum Power:** 10 V @ 1A
- **Output Functions:** DC, sine, square, triangle
- **Output Frequency Range:** 0.001 Hz to 100 kHz
- **Software controls:** Choose wave form, frequency, amplitude, and on/off in PASCO Capstone or SPARKvue
- Bluetooth or USB data connection
- Built-in output voltage sensor
- Current limit warning
- Programmable using Blockly code in PASCO Capstone or SPARKvue
- Blockly Library contains special functions for a long ramp and stepping through resonant frequencies.

Specifications:

Maximum Power Output: 10 V @ 1 A

Waveforms: DC, sine, square, positive square, triangle

Output Frequency Range: 0.001 Hz to 100 kHz; resolution 0.001 Hz

Power Adapter: 15 V @ 2.67 A

Output Voltage Sensor Range: ± 10 V

Output Voltage Sensor Maximum Sample Rate: USB: 100 kHz (monitoring); Bluetooth: 20 kHz (continuous)

Data Connectivity: USB-C and Bluetooth 5.2

Output jacks: Safety 4 mm banana jacks

Variable Duty Cycle: For positive square wave

AC/DC Smart Power Supply PI-9525

Wireless Voltage-Current Sensor

The Wireless Voltage-Current Sensor is a smart alternative to a traditional multimeter. It can be used as a standalone unit by using the built-in display, or connected to a computing device to output measurements to PASCO software for graphical analysis.

Features:

- Measures voltage and current simultaneously with synchronized measurements
- Automatically calculates power and energy
- Built-in OLED display for viewing two live DC and AC measurements
- Ports arranged to emphasize connecting the current sensor in series and the voltage sensor in parallel
- Alarm warns students if the current measurement is too high to protect the sensor from damage
- Remote logging with built-in memory
- High speed sampling
- Rechargeable battery that can be easily replaced

**NEW**

Wireless Voltage-Current SensorPS-4254