

��>DATA HARVEST





Who we are and what we do

For over 30 years Data Harvest has continually adapted to modern technology, redefining our approach as to how students and teachers explore science.

As new technologies such as Bluetooth devices and mobile computers are introduced into schools, the demands on the modern classroom change. These changes enable us to deliver solutions that are right for today's approach to learning science.

We ensure that our products are tried and tested and not just the latest 'wave' of 'smart tech'.

We want to ensure that our solutions are right for you and the science that you want to teach.

We take time to understand what the modern classroom means, and how we can provide solutions that are easy to use with minimal learning, providing a progressive approach that helps teachers to adapt to new technologies.

You will see from our new wireless products that they fit within the existing range of Data Harvest products, allowing you to transition to a modern classroom with minimum disruption.

Award Winning Solutions

We are proud of our success, winning many awards for design, development and supply of high quality solutions for the UK and World education markets.







BETT Awards

ERA Awards

World Didac Awar

Telephone: +44 (0) 1525 373666 Email: support@data-harvest.co.uk

So, what do we think a modern science lesson looks like?

Over the years school classrooms have been transitioning from "traditional" to 21st century with the introduction of interactive whiteboards, computers, tablets and mobile devices. The approach to teaching science in the modern classroom has changed making learning science even more accessible to the young scientists of the future.

Today's technology means we can explore, collect, share and analyse our scientific data with the entire class without the need to be tethered to the science labratory or a traditional data logger.

Our wireless solutions allow you to move freely beyond the classroom and explore the science around you, and with our devices you can collect data in as little as three clicks of a button and wirelessly stream your data to the entire classroom in real time!

The process is simple because we know time is crucial in each lesson.

Our hands—on interactive technology offers a huge step forward in how you teach and how students learn science.

We want to ensure your investment plays an important part in the delivery of your lessons and that's why we work hard to ensure all our products meet with your needs; a progressive solution that's easy to understand, practical to implement and complies with the modern classroom.

Thank you for taking the time to learn more about Data Harvest and our solutions for the modern science classroom.

Data Harvest

https://data-harvest.co.uk

CONTENTS



Wireless Science Sensors

Pages 4-9

Take a look at the new smart sensors.

3 clicks to wireless science discovery makes getting started simple and easy to use.

EasySense2 Software

Pages 12-15

A redeveloped and new approach to exploring science with our free cross platform EasySense2 science software.

Wireless Dynamics

Pages 10-11

Forces and motion physics for the modern, practical classroom; a new wireless dynamics system will be coming in 2021.

Data Logging

Pages 16-17

With integrated sensors and Bluetooth you can now make your existing SmartQ sensors wireless with V-Hub & V-Log!

Customer Support

All Data Harvest products are covered by our five year warranty* and we give free support for the lifetime of your product. *See website for terms and conditions.

British Quality Assured

We design, develop & manufacture our products in the UK and are members of the British Educational Suppliers Association and The Association of Science (ASE).











WIRELESS SENSORS

"Function as a data logger in their own right"

WHY WIRELESS TECHNOLOGY?

Wireless Bluetooth technology has really changed the way we do practical science.

With the introduction of wireless connection the whole class can work untethered to a data logger, sharing and collaborating across multiple devices such as desktops and laptops running Windows & Apple Mac OSX, Chromebooks, iPads, iPhones, Android tablets & SmartPhones.

In 2019 we launched our range of Smart Wireless science sensors. In 2020 we will be increasing the range with Rotary Motion, Light and Colour, Magnetic Field, Gas Pressure & Force, etc. The new sensors can be used alone, alongside our other wireless sensors and mixed & matched with existing SmartQ sensors & V-series data loggers.

With ultra-long battery life and unpaired, password free connection, wireless sensors are a must for busy science practical lessons offering all the advantages of traditional data logging but with even greater versatility.

These Wireless sensors function like a data logger connecting direct to the cross platform EasySense2 software using Bluetooth or USB connectivity.





The Power of Smart Wireless

Our Smart Wireless sensors build on the design of our legendary SmartQ sensors adding Bluetooth wireless connectivity that allows users to connect to tablets and mobile phones using the new EasySense2 software.

Smart Connectivity

No pairing, no passwords, find the sensor by its name and connect. The Smart Wireless Sensors can also be used like a traditional data logger connected via USB to achieve ultra-fast data transfer and collection.

Smart Single Button

One press and the Sensor is ready to connect to your Bluetooth compatible device. Three presses to start logging data on the sensor. Now that's smart!

Smart Battery

The Smart Wireless sensors have a huge 1300 mAh battery making it a market leading sensor. A single charge powers the sensor for a whole year not just a class day!

Want to know if you have enough battery life available for your next experiment? Simply connect your sensor to the EasySense2 software and you will instantly see the battery life!





BLOOD PRESSURE SENSOR

This sensor is designed to measure human blood pressure.

It can be used to help explain why blood in arteries is under pressure due to contraction of heart muscles so that it reaches all parts of the body, and the factors that can contribute to high and low blood pressures such as exercise, smoking, weight, diet including salt and saturated fat.



Blood Pressure Order No. 1155 Ranges:

- Pressure in mmHg
- Pulse in bpm
- · Detailed waveform



CARBON DIOXIDE (CO₂) SENSOR

Temperature, Pressure and Humidity sensors included for higher versatility!

This sensor can be used to investigate the amount of CO2 in the air and how it changes over time. A Nalgene bottle, into which it fits, is included to create a contained environment for study of plants and small animals. (NB for gaseous use only. Not for use in water)



- 0 to 100,000
- Temperature 0-50 degrees
- Pressure 30-110kPa
- Humidity 0-100%

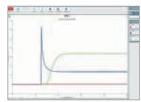


CURRENT AND VOLTAGE SENSORS - 5V & 20V

Combined Voltage and Current sensors in one package.

They can be used to measure both the electric current and the potential difference across a component in a circuit in low voltage AC or DC circuits. Voltage and current can be measured at the same time.

The four 4mm sockets (2 for Voltage and 2 for Current) allow for connection to most standard electronics kits.



Startup current of a lamp

Voltage - Current Order No. 1130 Range:

- +20 V
- ±1 A

Order No. 1131

- Range: • ±5 V
- ±0.1 A (±100 mA)



FORCE ACCELEROMETER SENSOR

This sensor is a combination of both a Force sensor and a 3 axes Accelerometer.

Force, both compressive and tensile, and acceleration in 3 dimensions, can be measured using this sensor. Collisions, SHM, bungee jumping and muscle fatigue can also be investigated. Angular motion can be measured with the high performance 3-axes Gyroscope. For ease of use, only one axis is turned on by default and you can turn the other two on in the software.

Force Order No. 1120 Ranges:

- ±100 N
- 3 axis accelerometer
- 3 axis Gyroscope



Leak-free Luer locking style ports

GAS PRESSURE SENSORS - ABSOLUTE & DIFFERENTIAL

There are two types of pressure sensor available:

- 1. Absolute Gas Pressure (one port) that measures the total pressure on a system. When the single port is left open the sensor will measure atmospheric pressure.
- 2. Differential Gas Pressure (two ports) that measures the difference in pressure between the two ports. If one port is left open the measurement will be relative to atmospheric value.

Gas Pressure - Absolute Order No. 1150

Range:

400kPa Absolute

Gas Pressure - Differential Order No. 1151

Range:

25kPa

GAS PRESSURE ACCESSORY KIT FOR WIRELESS SENSORS

New accessory kit for the new wireless Bluetooth Gas Pressure sensors coming soon.

Please see our website for more details.

Pack contents TBC





INFRA-RFD SFNSOR

Leslie's cube, insulation, heat along a metal rod, Hershel's discovery, Stefan-Boltzmann law, residual heat, efficiency of filament lamps, warm and cold-blooded animals, human body heat-loss and disaster victims are just some of the investigations which can be done with this sensor.

Being wireless allows pupils to investigate the IR coming from surfaces inside and out e.g. when looking at heat-loss from buildings and comparing results from their own insulation experiments. It also allows a demonstration such as Leslie's cube to be set up anywhere in the laboratory.

Infra-red Order No. 1205 Range:

• TBC



This sensor can be used to measure not only the level of light in the visible spectrum but also the primary colours of that light and the UV portion of the electromagnetic spectrum. The sensor also has a built-in white LED that can be used as a light source, especially useful in experiments on reflectivity.

Light and Colour Order No. 1160 Range:

- Ambient Light Lux
- Fast Ambient Light Lux
- Colour (RGB & LED)
- UV (UV Index, nominal UV)



LIGHT GATE

Each Light Gate is actually a double Light Gate; you can use these Light Gates individually or in pairs to calculate average speed and acceleration, acceleration due to gravity, Newton's laws, momentum and kinetic energy.

Alternatively, the students can get the raw data and do all the calculations themselves. Furthermore, being wireless you can set up a demonstration anywhere in the room and send the data straight to your screen and also the students' devices simultaneously using the share function in the software.

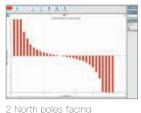
As an external laser detector is also included, this means that you can have objects of any size being detected if they are bigger than the gate's aperture such as a large toy car or a basketball.

Light Gate Order No. 1200



MAGNETIC FIELD SENSOR

Explore the nature and strengths of magnetic fields of solenoids and permanent magnets with this robust sensor that accurately measures the magnitude and direction of a magnetic field along three axes at right angles (X, Y & Z). It is sensitive enough to show variation of the Earth's magnetic field relative to magnetic north and inclination.



Magnetic Field Order No. 1140 Range: • ±130 mT

- +5 mT





MOTION SENSOR

This sensor can be used to show distance-time, velocity-time and acceleration-time graphs of students walking, falling balls for finding "g", a cart on an inclined plane or being accelerated by a falling mass. It easily shows the phase relationships between s, v, and a in SHM — mass on a spring system and can also be used to measure the speed of sound in air. It works using sonar and emits ultra-sonic pulses.



Conversion of energy ball drop

Motion Order No. 1190 Ranges:

- Distance
- Time



OXYGEN IN AIR SENSOR

Temperature, Pressure and Humidity sensors included for higher versatility!

This can be used to measure how the amount of O2 varies in the classroom and the variation of the rate of production in photosynthesis and respiration of small organisms such as microbes and maggots. Particularly useful with the wireless CO₂ sensor, the gaseous exchange of a burning candle in a bell-jar can be measured and with no wires to attach, it is much easier. With the built-in pressure, relative humidity and temperature sensors, environmental measurements in Biology can take on a whole new meaning. A Nalgene bottle, into which it fits, is included to create a contained environment for study of plants and small animals.

(NB for gaseous use only. Not for use in water)

Oxygen in Air Order No. 1170

- Range: • 0-100%
- Temperature 0-50 degrees
- Pressure 30-110kPa
- Humidity 0-100%

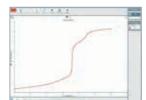


PH SENSOR PACK

This sensor can be used for testing acids and alkalis, acid-base titrations, dissolved oxygen in water, enzyme action, human or cell respiration, monitoring photosynthesis, fermentation, monitoring pH change during a chemical reaction and examining water quality.

The pH adaptor and general pH electrode combine to Titration Investigation form the immensely popular wireless Bluetooth pH sensor pack. This pH sensor has both a pre-set calibration range (so the sensor is ready for immediate use) and a user calibration range.

It also has a mV range, perfect for experiments on calibrating a pH sensor or for use with ion-selective electrodes (ISE) and oxidation reduction probes (ORP). The electrode in this pack is a general purpose plastic bodied glass non-refillable electrode, suitable for most investigations.



pH Pack Order No. 1110PK Range:

- Default calibration 0 to 14 pH
- User calibration 0 to 14 pH
- ±1.000 mV

includes: pH Adaptor Order No. 1110 pH Electrode Order No. 2253



ROTARY MOTION SENSOR

This Rotary Motion sensor, with its accessory pack, is a must for every Physics Department.

It can be used to show conservation of angular momentum, angular velocity, pendulums, linear-velocity, Young's double slits (with a light-level sensor) and so much more. The software can be used with the collected data to show phase relationship of distance, velocity and acceleration in a pendulum swing.



Conservation of angular

Rotary Motion Order No. 1195

Ranges:

- Angular position and velocity
- Distance
- Pendulum



ROTARY MOTION ACCESSORY PACK

This accessories kit extends the use of the Rotary Motion sensor and comprises of the Pendulum Rod, the Angular Momentum Disk Set and the Linear Rack.

Pack includes:

- 1 x Pendulum Rod
- 2 x Adjustable Masses
- 1 x Angular Momentum Disc Set
- 1 x Linear Rack



Rotary Motion Pack Order No. 3288



5 Year Warranty

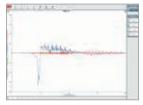
All Data Harvest products are covered by our five year warranty* and we give free support for the lifetime of your product. We ensure your investment gives you complete peace of mind.

*See website for terms and conditions.



SOUND LEVEL SENSOR

This sensor accurately measures the volume of sound in decibels (dB) and can show the frequency waveform using the mV setting. The A filter used in the dBA range measures mid-range frequencies to approximate the normal human ear in the range and intensity that it 'hears' sounds. The C filter (dBC range) suits low and high frequency sound levels.



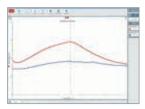
Sound Order No. 1145 Range:

- dBA
- dBC
- mV



TEMPERATURE SENSOR

This general purpose Wireless Temperature sensor is the most commonly used sensor and can accurately measure the temperature of air, water, soil and weak acidic solutions, making it indispensable in Science practicals.



Temperature Order No. 1100 Ranges:

- -40 °C to 125 °C
- -40°F to 275°F



TEMPERATURE SENSOR - FAST RESPONSE

This sensor is extremely responsive as it features an exposed thermistor.

It is ideal for determining changes in skin temperature, or for measuring air temperature in tight spaces.

Applications Include:

Biology: Skin surface temperatures e.g. body mapping, changes due to exercise. Chemistry: Universal gas laws

Temperature - Fast Order No. 1101 Ranges:

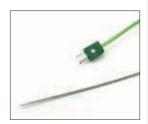
- -40 °C to 125 °C
- -40°F to 275°F



TEMPERATURE K-TYPE THERMOCOUPLE SENSOR

The wide temperature range of this sensor enables it to be used in a variety of experiments e.g. melting points and flame profiles. The sensing part is a replaceable K-type thermocouple, the junction of which is housed at the end of a stainless steel sheath.

The thermocouple junction is housed at the end of a 200 x 3 mm AISI 310 stainless steel sheath. The metal sheath of the type K thermocouple can withstand temperatures above 1,000 °C.



Thermocouple

Thermocouple Order No. 1102 Range:

• -200°C to 1000°C

► YouTube



Browse our sensor video playlist

We have a growing playlist of wireless sensor videos on our YouTube channel. We keep the videos very short and on point so you can learn more about our products within minutes.

Subscribe to keep up to date!















to do Lenz's law and



How to use EasySense 2 as a realtime off meter









How to measure the



https://www.youtube.com/dataharvestgroup



WIRELESS DYNAMICS

"Speed, velocity & acceleration without the wires"

WHAT IS A DYNAMICS SYSTEM?

The all new Data Harvest Smart Wireless Dynamics System provides an ideal way of investigating all types of mechanics work for GCSE & A level studies enabling you to achieve accurate and repeatable results.

Practical Investigations Include: Velocity, Acceleration, Newton's Laws, Forces, Collisions, Conservation of Momentum and Energy.



Smart Dynamics Features

The Dynamics pack is a complete solution supplied with a number of great features designed to make teaching physics easy and practical.

The Dynamics Track

The new wider dynamics track is 1.2 meters in length and constructed from extruded aluminium providing a flat smooth base for the low friction carts to operate on.

The track also features an integral precision ruler for accurate results. A retort stand can be attached to convert the track to an inclined plane.





The Wireless Smart Carts - AVAILABLE INDIVIDUALLY

The new wireless smart carts are Bluetooth enabled with built-in, spring loaded, 3 stop plunger to provide a graded set of constant force. You can also load the carts with the supplied stackable masses or attach magnets.

Each cart also includes a USB port for charging.

Dynamics Cart White – Order No. 1505 Dynamics Cart Blue – Order No. 1510

The Track & Cart Accessories

The Dynamics System is supplied with 2 end stops that house two magnets and connections to attach & line feed the included Spoked Pulley accessory. The pack also includes 2 height and slide adjustable feet, and an interrupt card.







EASYSENSE

"A free learning platform that allows teachers to engage through science"

WHAT IS EASYSENSE?

EasySense was first introduced in 2005 as a free science software solution that provides teachers with all the tools to teach scientific methods and allow students to learn and better understand scientific experimental data using our range of data loggers and sensors.

Over its history EasySense has reached a global audience and continues to feature at the heart of many science lessons in primary and secondary education.

EasySense has grown to include a number of software leading features that benefit teaching and learning.

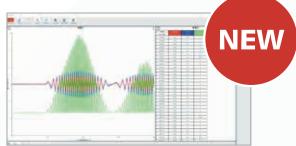
Fast forward to 2019 and a new version of EasySense has been born. This update is now fully cross-platform compatible which means you can use the exact same toolset on all the major computer platforms such as Windows PC, Mac OS, iOS, Android and Chromebook.

Our developers have been creating the all new EasySense2 software with smarter tools, an intuitive user interface and support for our new Smart Wireless sensors. Furthermore we provide our flagship software completely free of charge.

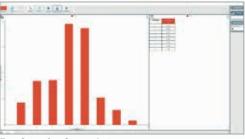
EasySense2 - Free Science Software

data-harvest.co.uk/easysense2

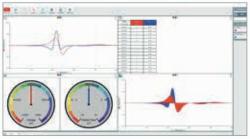
Always keep your products up to date for the latest features.



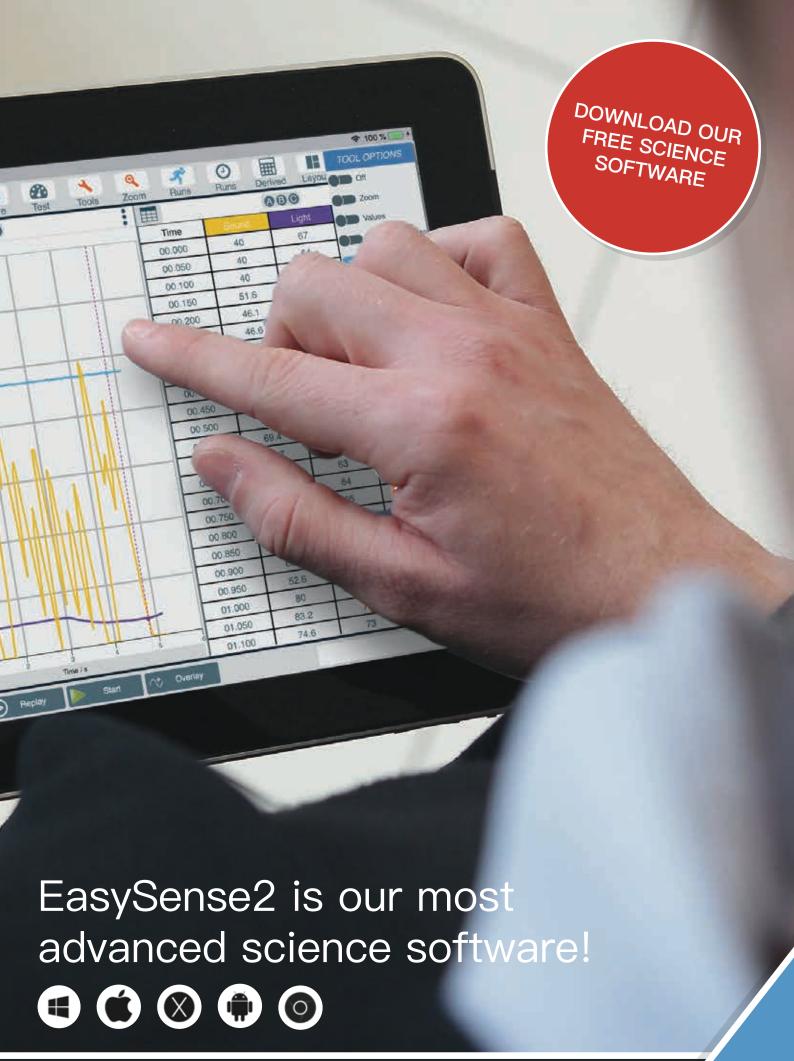
EasySense2 - Voltage, power and current



EasySense2 - Suntan lotions



EasySense2 - Magnet through coil multi screen



EasySense2

SCIENTIFIC DATA CAPTURE & ANALYSIS SOFTWARE

EasySense2 is our most advanced educational scientific data capture and analysis software!

Designed with teachers and students in mind EasySense2 provides a broad set of tools to capture, display and analyse data from Data Harvest Smart Wireless Sensors and Data Loggers using Bluetooth or USB connectivity.

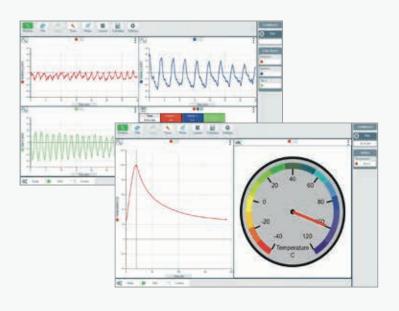


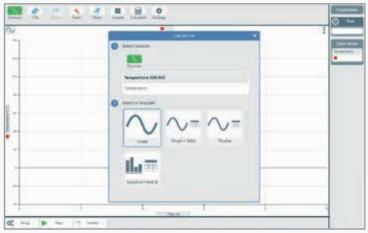
Built on our long standing history of science software

The latest version builds on all the features of our tried and tested science software and adds complete cross platform compatibility on all desktop computers, smart phones and tablets; new workflow, smart analysis tools and a redesigned intuitive user interface.

Delivering the results to ensure your lessons run smoothly

We understand that time is critical in today's modern classroom and that you need the right tools to enable you to teach efficiently and effectively. EasySense2 delivers with experience to ensure today's teachers can work smart.





EasySense2 - Lab setup screen

Multi-device data capture

Recording from more than one device is now available leading to endless possibilities and configurations, providing you with the ultimate flexibility.

EasySense2 is compatible with the following data capture devices: All Smart Wireless sensors, V-Log, V-Hub, VISION, Vu+, Vu

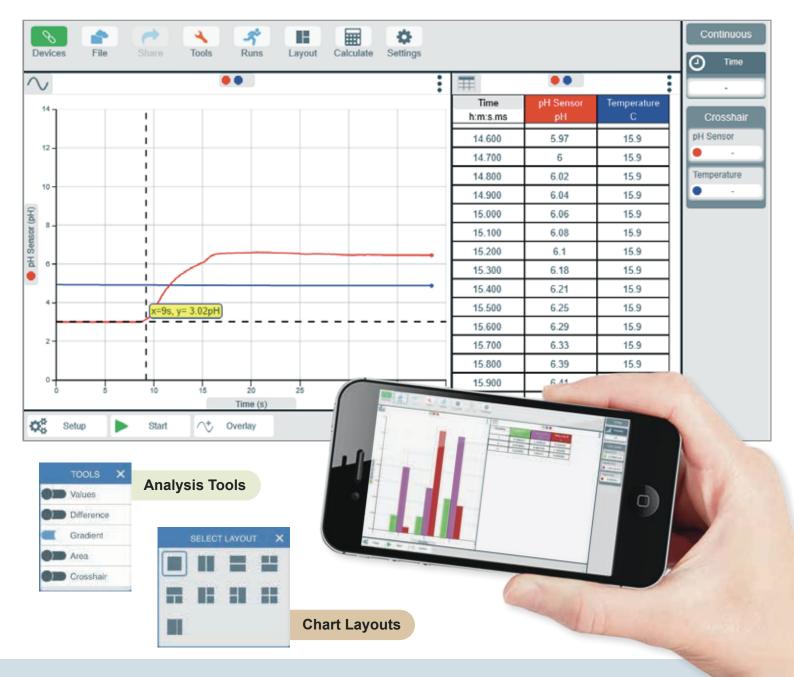












Just some of the key features:

- √ Capture data from multiple devices at the same time
- √ Run manager easily turn on and off experiment runs to compare your data
- ✓ Simple recording modes just press record and stop whenever you want to
- ✓ Multi display combine multiple data views of your captured data series
- ✓ Data views available: line graphs, gauges, numbers and bar charts
- √ Simultaneously display up to 4 customisable chart layouts
- √ Import and merge multiple files and data sets from devices
- √ Calculations enhanced tools, perform mathematical operations on recorded data
- ✓ Import supported experiment files (.ssl) from EasySense1 into EasySense2
- √ Logging modes: Continuous recording, Snapshot and Timing
- √ Simple axis selection allows easy XY plots

Want to make your existing SmartQ sensors wireless?



With the introduction of new bluetooth technology in the classroom, it doesn't mean that your existing sensors have to be left out! Your SmartQ sensors can still be used with our latest version of EasySense2 and all you need is one of our compatible devices; V-Log or V-Hub.

Both devices are very similar with only a few key differences. Both devices provide bluetooth connectivity for your existing SmartQ sensors and configurable with 4 built–in sensors, but which one should you buy?

If you are looking for a low-cost solution then V-Hub is the most cost-effective answer. However, if you want a blend of traditional data logging features with all the benefits of bluetooth technology then V-Log will work best.

KEY DIFFERENCES EXPLAINED



A compact 4 Channel sensor interface/hub with the option of adding 4 built-in sensors.

Creates the link between existing wired sensors and bluetooth technology.

Data capture is taken care of in the latest version of the EasySense2 software.

One button menu system for easy device connectivity setup.

Purchasing Options - Bluetooth & USB

2406PK V-Hub⁴

100437 V-Hub⁴ 5 Pack

2410PK V-Hub⁸

100438 V-Hub⁸ 5 Pack















A traditional 4 Channel remote data logger with the option of adding 4 built–in sensors.

Sensor and information is displayed in real-time.

Data capture is either recorded internally as a standalone device or by using the latest version of the EasySense 2 software.

Advanced internal data capture possibilities such as snapshot & timing without a computer or tablet.

Purchasing Options - Bluetooth & USB

2406PK V-Log⁴

100437 V-Log⁴ 5 Pack 2410PK V-Log⁸

100438 V-Log⁸ 5 Pack

V-Hub Sensor Interface

Single V-Hub Pack Includes:

- 1x V-Hub4 or V-Hub8 Interface (USB & Bluetooth)
- 1x Mini USB cable
- 2x Short SmartQ sensor cables
- 2x Long SmartQ sensor cables
- 1x Mounting rod
- Free download of the full EasySense cross-platform science software

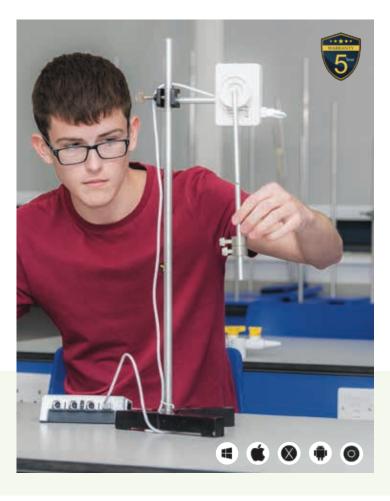
Our most affordable data logging solution for modern classroom science activities

Classroom Pack of 5

Our convenient five pack solution includes 5 V-Hub data loggers, with integral USB charging system and a Gratnells storage tray.







V-Log Data Logger

Single V-Log Pack Includes:

- 1x V-Log⁴ or V-Log⁸ Interface (USB & Bluetooth)
- 1x Mini USB cable
- 2x Short SmartQ sensor cables
- 2x Long SmartQ sensor cables
- Free download of the full EasySense cross–platform science software

Built-In Data Logging Features:

- 14 Days Remote logging
- Built-in 1300mAh rechargeable battery pack
- Fast logging (50,000 samples per second)
- · Memory to store multiple recording sets
- Logging Modes: EasyLog, Fast Logging, Snapshot, Remote Logging & Timing

Classroom Pack of 5

Our convenient five pack solution includes 5 V-Log data loggers, with integral USB charging system and a Gratnells storage tray.





ORDER FORM – Please enter your details below

Name:				
Position:				
School:				
Address:				
Phone:				
Email:				
Order Code	Qty	Description	Price Each	Total

Order Code	Qty	Description	Price Each	Total
			Postage	FREE
			Total	

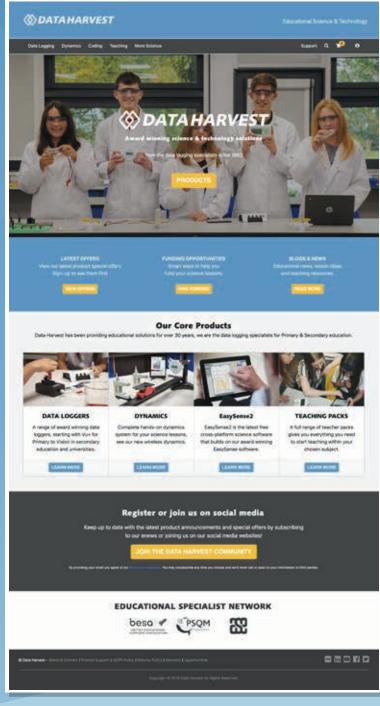
Please copy this order form and return to our sales team either by post, fax, or email (see reverse for details). We also take orders over the telephone. Prices quoted throughout this catalogue are exclusive of VAT. Postage is free for UK, excludes Islands, Highlands & Northern Ireland. We reserve the right to change prices and specifications without prior notice. Visit data—harvest.co.uk for terms & conditions.



data-harvest.co.uk

- Secure Online Ordering
- Free Software
- Teaching Materials
- Manuals & User Guides
- Updates
- Newsletters
- Hints & Tips
- Training Videos
- Support & Advice





EasySense2 - Now Available

DOWNLOAD OUR LATEST FREE SCIENTIFIC DATA CAPTURE & ANALYSIS SOFTWARE

SEE PAGE 12 FOR MORE INFORMATION















DATA HARVEST

1 Eden Court, Leighton Buzzard, Bedfordshire, LU7 4FY UK.

Tel: +44 (0) 1525 373666 - Fax: +44 (0) 1525 851638

Email: sales@data-harvest.co.uk - Website: data-harvest.co.uk

Office Opening Hours:

Monday to Thursday – 08:30 to 16:45 Friday – 08:30 to 13:30 UK Bank Holidays – Closed

Award Winning Products

We are proud of our success, winning many awards for design, development and supply of high quality solutions for the UK and World education markets.



BETT Awards



ERA Awards



World Didac Awards

Connect with us on Social Media





