

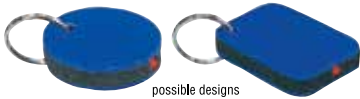
Electronic Kits

Design & Technology

Bare Conductive	211
Brightsparks	212
Clock Movements	244
Component Kits	244
Curriculum Based Projects	202
Piggyaxe	214
Sound, Music & Light Modules	210
Velleman Kits	216
Velleman PA Equipment Sets	242

Curriculum Based Projects

Rapid Mini-light Project Kits



LED key ring light kits designed as an introduction for **Key Stage 2 & 3** students to design and make in electronics. Project notes are available as a free PDF download, at www.rapidonline.com and are designed to be photocopied for class and teacher use.

Notes include suggested lesson plans and mapping to the National Curriculum, an introduction to circuits and symbols, batteries, LEDs and pricing and costing exercises and a series of homework assignments to support work in class.

- Students start by investigating the need for security and the problems of using locks in the dark
- They can then complete the design process of a mini-light, which can be attached to a key ring
- With careful organisation it should be possible to manufacture the design without specialist workshop facilities
- The component kits include batteries and LEDs, plastazote foam core and high impact polystyrene outer layers
- Available in four styles:
- Standard Mini-light is a keyring torch kit using a red LED
- Super-bright Mini-light is an updated version using a modern white LED
- Rainbow Mini-light has a random colour-changing LED
- Ultraviolet Mini-light has a UV LED and can be used for revealing security coding on banknotes, etc.
- Suitable for **Key Stages 1, 2 & 3** (ages 5 to 14)
- Kits are supplied in **packs of 5**

Type	Order code	1+
Red	70-0015	2.28
White	70-0012	3.49
Rainbow	70-0013	3.84
Ultraviolet	70-0014	4.29

Rapid Mini-light Project Classpacks

This simple but interesting project has been designed by Rapid's technical team for **Key Stages 1, 2 & 3** students. It will help them to make a fully working mini-light from the parts supplied in this great kit. All the notes for making this kit are available as a free download from: www.rapidonline.com

The classpack is supplied in a handy storage tray with lid, containing sufficient components for 20 mini-lights.

- Batteries and LEDs
- Plastazote foam core
- High impact polystyrene outer layers
- Available in four styles:
- Standard Mini-light is a keyring torch kit using a red LED
- Super-bright Mini-light is an updated version using a modern white LED
- Rainbow Mini-light has a random colour-changing LED
- Ultraviolet Mini-light has a UV LED and can be used for revealing security coding on banknotes, etc.
- Suitable for **Key Stages 1, 2 & 3** (ages 5 to 14)
- Supplied in **classpacks of 20**
- Also available in an assorted classpack of 20, containing 5 of each type

Type	Order code	1+
Standard classpack	13-0138	11.19
White classpack	13-0155	15.29
Rainbow classpack	13-0156	16.60
Ultraviolet classpack	13-0157	14.27
Assorted classpack	13-0158	15.11

Rapid Moisture Tester Project



Kits of components to build a functional **Moisture Tester** that can be used to tell if pot plants require water.

The kits contain all the electronic components required, except the PCBs, which are available separately. This provides the option to buy ready-made PCBs or for students to make their own.

The moisture tester project has been designed as an introduction for **Key Stage 2 & 3** students to the use of resistors and transistors in circuits.

Teachers notes are available to download from www.rapidonline.com/pdf/70-0030e.pdf.

- Students start by investigating the care of house plants and the problems associated with incorrect moisture content of soil
- Downloadable information and activity sheets then guide the students through a series of exercises to build background knowledge in the use of resistors and transistors in circuits
- For manufacture, the project allows the teacher to select from two alternative methods of circuit construction, either self adhesive copper tape onto card or on a printed circuit board (available separately) see order code **34-0635**
- Upon completion of manufacture students are then guided through an evaluation of their work
- They also have the option of producing a 3D model using high density polystyrene foam illustrating how they might develop a final product if the design were manufactured commercially
- Project notes are available for free download and are designed to be photocopied for class use
- They include both detailed student and teacher notes, which contain suggested lesson plans, mapping to the National Curriculum and a series of structured homework assignments to support the work in class
- The component kits are supplied in multiples of 5 and include:
- All components including LEDs, battery clip, resistors and transistors
- The project can be produced using PCB available or self adhesive copper tape (see PCB products section)
- Suitable for **Key Stages 2 & 3** (ages 7 to 14)

Each kit requires 1x PP3 battery (not included).

Teachers notes for this and other kits are available for free download at our Education Resources site: www.rapidonline.com/resources.

Type	Order code	1+
Class set of 5 kits	70-0030	1.20
PCB packs of 5	70-0040	3.95

Rapid Moisture Tester Project Classpack

A classpack of 20 kits of components to build a functional **Moisture Tester** that can tell if pot plants require water. The classpack contains all the electronic components required, including ready-made PCBs, in a Grannell's Tray with lid. It offers a substantial saving compared to parts bought separately.



Students will love this Moisture Tester Project, which is linked to the National Curriculum, as it is simple to assemble and is ideal as an introduction to electronics.

Teachers notes are available to download by selecting the pdf icon below.

- Dimensions of the box: 43cm x 31cm x 7cm
- Great school resource
- Suitable for **Key Stages 2 & 3** (ages 7 to 14)
- Supplied as a **pack**

Each kit requires 1x PP3 battery (not included).

Classpack contains:		
4 x Moisture tester kit (pack 5)	70-0030	
4 x Moisture tester kit PCBs (pack 5)	70-0040	
1 x Shallow Tray	14-0430	
1 x Tray lid	14-0436	
Type	Order code	1+
Moisture tester classpack	13-0102	17.68

Rapid 555 Timer Project Kit - Pack of 5



The timer project has been designed as an introduction to the use of the NE555 monostable and resistor-capacitor timing circuits.

- Students start by investigating the need for an accurate timer and are then led through the complete design process
- Upon completion of manufacture, students evaluate their work and start to look into commercial product development
- The information and activity sheets guide the students through a series of exercises, including the use of Crocodile Clips software, to build up knowledge in the use of the NE555 monostable within circuits
- Project notes are available for free download at www.rapidonline.com, and are designed to be photocopied for class use
- They include both detailed student and teacher notes, which contain suggested lesson plans, mapping to the National Curriculum and a series of structured homework assignments to support the work in class
- The component kits are supplied in multiples of five and include: NE555 and IC holder, resistors and capacitors, buzzers and LEDs, switches and potentiometer and battery clips
- Pre-drilled PCBs are available separately in **packs of 5**, order code **70-0060**
- Suitable for **Key Stage 3** (ages 11 to 14)

Each kit requires 1x PP3 battery (not included).

Type	Order code	1+
Class set of 5 kits	70-0050	7.77
PCB pack of 5	70-0060	2.88

Rapid 555 Timer Project Classpack of 20

Your chance to buy a classpack of 20 Timer Project kits offering a substantial saving. Linked to the National Curriculum and supplied in a handy storage tray, complete with lid.

- Great school resource
- Suitable for **Key Stage 3** (ages 11 to 14)
- Supplied as a **pack of 20 kits**

Each kit requires 1x PP3 battery (not included).

Technical specification		
Classpack contains:	5)	70-0050
4x Timer project kit PCBs (pack 5)		70-0060
1x Shallow tray		14-0430
1x Tray lid		14-0436
Type	Order code	1+
Timer Classpack	13-0104	31.22

Rapid

10W + 10W Stereo Amplifier Kit



Our most powerful audio amplifier kit has 10W per channel, meaning it can drive much larger speakers to give a loud, clear sound. The kit is available with speakers or without if you would prefer to add your own.

- Kit includes PCB and all components to make one stereo amplifier
- 10W power per channel
- Connecting cable supplied
- Available with or without speakers
- Requires 4x AA batteries (not included)
- Empty printed circuit board also available separately

Type	Order code	1+
10W - No Speakers	70-0188	5.72
10W - With Speakers	70-0189	9.36
PCB Only	70-0195	1.69

519384



Vibration Speaker Kit

Amazing technology turns almost anything into a speaker!

When this kit is powered up and plugged into your favourite music, you will find that you can hardly hear your music, BUT place the Vibration Speaker onto any surface and hear your music come to life. This kit can be used in physics experiments by using different materials and shapes to see which creates the best sound. Why not design your own surround by using a plastic box, or make a case out of wood or even textiles.



Mobile music generally means listening through headphones, the Light Stitches Vibration Speaker Kit is amazing to see in action. This extremely easy to assemble sound vibration speaker kit can be connected to MP3 players, iPods, Mobiles or any other devices that use a 3.5mm jack plug.

Type	Order code	1+
Vibration Speaker Kit	87-6145	3.80

519386



FM Self-Build Retro Radio Kit



You can start tuning in to the full range of local and national FM radio stations with this self-build retro radio from Conrad. The kit is easy to assemble and provides

lots of creative fun. With high-quality components, excellent sensitivity and a telescopic antenna this kit will ensure a clear reception for a wide range of radio stations.

- Complete package with housing, telescopic antenna and all the necessary components
- Reception range 87.5 MHz to 108 MHz
- Dimensions of case 162 x 112 x 32mm
- Not suitable for children under 14

Soldering iron, solder and two 1.5V AA batteries required (not supplied).

Type	Order code	1+
FM radio kit	49-0029	9.34

530173

Rapid

AM Radio Project



This project offers students a cost-effective way to build an AM tuner that is easy to incorporate into a variety of design situations. The Printed Circuit Board (PCB) can be either purchased ready made, or students can manufacture their own from the mask provided in the notes. Project notes are available for free download at www.rapidonline.com and can be photocopied for class use.

- Based on the TA-7642, an updated version of the popular MK484 IC
- Needs only a few external components to build a high quality AM radio
- They contain both detailed teacher and student sections, providing research information, and structured tasks
- The notes explain in detail how radio signals are transmitted and received
- They also look at how the design of radios has been influenced by style and technology of the day, from the first radios of the 1900's, through the introduction of the transistor, right up to today's digital radios
- Students are offered a variety of starting design briefs and guidance on how to develop their ideas
- Detailed diagrams and instructions support the radio circuit construction, and the notes provide suggestions for possible case designs and methods of manufacture
- The teacher section of the notes includes suggested lesson plans and mapping to the National Curriculum and a range of homework assignments
- **The component kits are supplied in multiples of five and include:**
 - TA-7642 and transistors
 - Ferrite rods and wire
 - Tuning capacitors and switches
 - Battery holders and jack sockets
 - Resistors and capacitors
 - Screws, nuts and washers
- **Schools have the choice to either purchase a PCB or manufacture their own from the mask provided in the notes**
- Suitable for **Key Stages 3 & 4** (ages 11 to 16)
- Pre-drilled PCBs are **supplied separately in packs of 5**, order code **70-0120**

Teaching resources available for free download at www.rapidonline.com.

Type	Order code	1+
AM radio project	70-0110	8.38
PCB packs of 5	70-0120	3.04

035911

Rapid

AM Radio Project Classpack



This excellent projects package contains a wide range of components for schools working on radio type projects. Linked to the National Curriculum, this classpack of 20 projects offers a substantial saving on parts bought separately which is ideal for schools working to tight budgets. The kit is supplied in a strong box with lid.

- Dimensions of the box: 43cm x 31cm x 7cm
- Great school resource
- Suitable for **Key Stages 3 & 4** (ages 11 to 16)
- Supplied as a **pack**

Each kit requires 1x AA battery (not included).

Type	Order code	1+
Classpack contains: k 5)	70-0110	
4 x Radio project kit PCBs (pack 5)	70-0120	
1 x Shallow tray	14-0430	
1 x Tray lid	14-0436	

065930

Rapid

Flashing LED Christmas Tree Project Kit

A kit of parts for a simple to build festive project. Supplied with comprehensive instructions. Ideal as a one lesson end of term project.

- Size of finished tree: height 105mm, width (max.) 65mm
- Available **singly** and as a money-saving **classpack of 30** kits packed in a Grathells tray
- Suitable for **Key Stage 3** (ages 11 to 14)



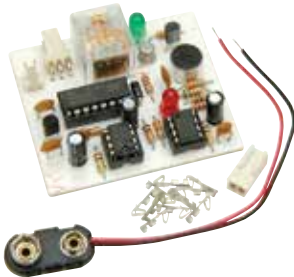
Requires 1x PP3 battery (not included).

Type	Order code	1+
Christmas tree kit	70-1000	3.39
Classpack of 30	70-1005	67.16

067804

Rapid

Clap Switch Project



Build a switch circuit that responds to sharp sounds like clapping your hands, etc.

- Kit contains all components including circuit board
- 3A changeover relay output
- Circuit counts two claps before operating to avoid false triggers
- Operates from 6 to 20V
- Component count 36

- Circuit board dimensions: 55 x 50mm
- Also available as a money-saving **classpack of 20 kits** packed in a Grattells tray
- Empty PCBs also available separately
- Suitable for **Key Stages 2, 3 & 4** (ages 7 to 16)

Type	Order code	1+
Clap switch project	70-2570	3.89
PCB only	70-2571	1.07
Classpack of 20	70-2602	62.44

073214

POV Wand Project

POV Wand Project



Build this PIC based kit which uses the persistence of vision (POV) of the human eye to create the illusion of a message being written in mid-air. Instruction details are available for free download at www.rapidonline.com and are designed to be photocopied for class use.

- Programmable – create your own messages up to 6 characters long
- 57 pre-defined characters
- Complete set of components including printed circuit board
- Ideal demonstration of PIC controlled electronics and construction
- Component count 25
- Also available as a money-saving **classpack of 20 kits** packed in a Grattells tray
- Empty PCBs are also available separately
- Suitable for **Key Stages 2, 3 & 4** (ages 7 to 16)

Requires 2x AAA batteries (not included).

Type	Order code	1+
POV wand project	70-2555	4.89
Classpack of 20	70-2557	76.06
PCB only	70-2556	1.07

073215

555 Astable/Monostable Project Kit

The 555 Astable/Monostable PCB project has been designed specifically to support and integrate with teaching schemes for Key Stages 3 & 4. Instruction details are available for free download at www.rapidonline.com and are designed to be photocopied for class use.

- The kit is a timing circuit, which can be used to switch devices or circuits on and off
- Knowledge, skills and understanding can be developed in: component recognition and purpose; PCB circuit assembly and soldering; system and circuit principles; signal tracing and fault finding; product design
- The kit can be used for both class teaching or for individual project work
- All components, including the PCBs, are provided
- The kit includes: resistors and capacitors, NE555 timer, switches and preset resistors, LEDs, wire PCB and PP3 battery clip
- Empty PCBs are also available in packs of 5
- **Kit contains components for 5 circuits**
- Suitable for **Key Stages 3 & 4** (ages 11 to 16)

Each kit requires 1x PP3 battery (not included).

Type	Order code	1+
555 project kit	70-0225	8.39
Empty PCBs (5)	70-0230	6.44

070866

LDR PCB Project Kit

The LDR PCB project has been designed specifically to support and integrate with teaching schemes for Key Stages 3 & 4. Instruction details are available for free download from www.rapidonline.com and can be photocopied for class use.

- The kit is a light sensing circuit, which can be used to switch output devices or circuits on and off
- Knowledge, skills and understanding can be developed in: component recognition and purpose, PCB circuit assembly and soldering, system and circuit principles, signal tracing, fault finding and product design
- The kit can be used for both class teaching or for individual project work
- All components, including the PCBs, are provided
- The kit includes: resistors and diodes, transistors and preset resistors, LEDs and relays, LDR PCB and PP3 battery clip
- Empty PCBs are also available in packs of 5
- **Kit contains components for 5 circuits**
- Suitable for **Key Stages 3 & 4** (ages 11 to 16)

Each kit requires 1x PP3 battery (not included).

Type	Order code	1+
LDR PCB project kit	70-0245	20.63
Empty PCBs (5)	70-0250	6.70

070867

Thermistor Temperature Sensor Project Kit

The thermistor temperature sensor project has been designed specifically to support and integrate with teaching schemes for Key Stages 3 & 4. Instruction details are available for free download at www.rapidonline.com and can be photocopied for class use.

- The kit is a heat sensing circuit, which can be set to recognise various temperatures through the use of a variable resistance
- Knowledge, skills and understanding can be developed in: component recognition and purpose; PCB circuit assembly and soldering; system and circuit principles; signal tracing and fault finding; product design
- The kit can be used for both class teaching or for individual project work
- All components, including the PCBs, are provided
- The kit includes: resistors, amplifier IC sockets, diodes, thermistors, preset resistors, transistors, LEDs, thermistor PCB and PP3 battery clip
- Empty PCBs are available separately in packs of 5
- **Kit contains components for 5 circuits**
- Suitable for **Key Stages 3 & 4** (ages 11 to 16)

Each kit requires 1x PP3 battery (not included).

Type	Order code	1+
Temperature project kit	70-0315	12.23
Empty PCBs (5)	70-0240	8.55

070901

Keyboard Encoder Project Kit

Keyboard Encoder Project Kit

The keyboard encoder project has been designed specifically to support and integrate with teaching schemes for **Key Stages 3 & 4**. Instruction details are available for free download at www.rapidonline.com and can be photocopied for class use.

- The kit allows students to use a matrix keyboard and encode it to a binary coded decimal number.
- Knowledge, skills and understanding can be developed in: Component recognition and purpose, PCB circuit assembly and soldering, System and circuit principles, Signal tracing and fault finding, Product design
- The kit can be used for both class teaching or for individual project work and all components, including the PCBs are provided
- The kit includes: Resistors and capacitors, Pre-programmed PIC and voltage regulators, DIL sockets and pin headers, Switches and crimp housing, Matrix keyboard and thyristors, Pan head screws and nuts, LEDs, Keyboard PCB

- **Kit contains components for 5 circuits**
- Empty PCBs are also available separately in **packs of 5**
- Suitable for **Key Stages 3 & 4** (ages 11 to 16)

Each kit requires 1x PP3 battery (not included).

Type	Order code	1+
Keyboard project kit	70-0325	25.49
PCB only - pack of 5	70-0270	6.52

070902

RK Education

L293D Stepper Motor Drive PCB Kit

This versatile PCB has been designed for the L293D H-Bridge motor drive chip.

- Includes an L293D stepper motor control/driver, order code 82-0192
- L293D has output current of 600mA continuous per channel
- Ideal for DC motor control and robotic projects
- Designed for use in DC motor control and robotic projects
- Maximum output current 600mA per channel
- Terminal blocks used for easy interfacing
- Mounting holes for PCB mounts
- Full access to the L293D control inputs
- Includes smoothing capacitors
- High quality double-sided PCB
- Empty PCBs are available separately, order code **70-9032**
- Suitable for **Key Stages 4 & A Level** (ages 14 to 18)

Project notes are available to download from www.rapidonline.com

Type	Order code	1+
Motor drive PCB kit	70-6011	5.54

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Page 783

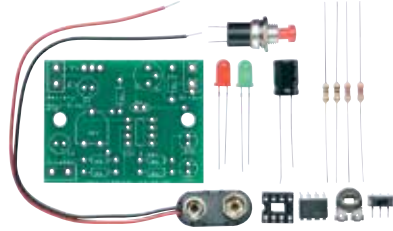
Batteries



No minimum order value
UK mainland only

RK Education

555 Monostable Projects



This project has been designed to introduce the important concept of timing circuits to students using the 555 monostable circuit. The circuit is very important as it features heavily in KS4 curriculums. It has been designed to have more than one possible outcome and therefore more than one application. It allows for good differentiation and includes a transistor drive circuit.

- Time can be varied with the variable resistor
- Can be used with various trigger inputs
- Battery-powered
- PCB has space for a transistor drive circuit to allow higher powered outputs to be added
- Clear silkscreen text has been used to make construction simpler
- Professional double-sided PCB pre-drilled with silkscreen and solder-resist
- 4 versions available for maximum flexibility
- Empty PCBs are available separately, order code **70-9034**
- Suitable for **Key Stages 2, 3 & 4** (ages 7 to 16)

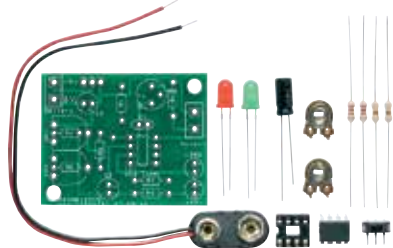
Project notes are available to download from www.rapidonline.com/RK

Type	Order code	1+
Economy	70-6012	2.08
With buzzer	70-6013	2.21
With panel mount	70-6014	2.16
Deluxe with drive circuit	70-6016	2.22
PCB only	70-9034	0.95

082439

RK Education

555 Astable Projects



This project has been designed to introduce the important concept of astable timers and pulse-width modulation using the 555 timer astable circuit. This circuit is very important as it features heavily in KS4 curriculums. It has been designed to have more than one possible outcome and therefore more than one application. It allows for good differentiation and includes a transistor drive circuit.

- Frequency can be varied by the 2 variable resistors
- Battery-powered
- PCB has space for a transistor drive circuit to allow higher powered outputs to be added
- Clear silkscreen text has been used to make construction simpler
- Professional double-sided PCB pre-drilled with silkscreen and solder-resist
- 3 versions available for maximum flexibility: see technical specification
- Empty PCBs are available separately, order code **70-9036**
- Suitable for **Key Stages 2, 3 & 4** (ages 11 to 16)

Project notes are available to download from www.rapidonline.com

Technical specification

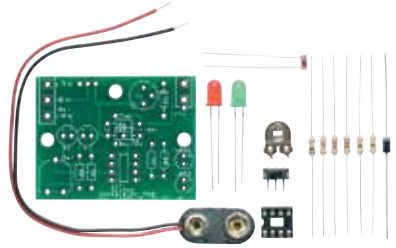
Parts and quantities per kit		Economy	With drive circuit	Deluxe
Order code	Description	70-6017	70-6018	70-6019
08-0275	100nF ceramic capacitor	-	-	1
11-0220	10uF electrolytic capacitor	1	1	1
18-0092	Battery clip PP3	1	1	1
21-0461	2-way 16A 5mm terminal block	-	-	2
22-0119	8-pin DIL socket	1	1	1
47-3142	1N4007 1A diode	-	1	1
55-1790	5mm red LED	1	1	1
55-1792	5mm green LED	1	1	1
62-0314	OR resistor	2	2	2
62-0359	270R resistor	2	2	2
62-0373	1K resistor	-	1	1
67-0408	2K preset	2	2	2
70-9036	PCB	1	1	1
76-0302	SPDT slide switch	1	1	1
81-0122	BFY51 NPN transistor	-	1	1
82-0336	NE555 timer	1	1	1

Type	Order code	1+
Economy	70-6017	2.21
With drive circuit	70-6018	2.08
Deluxe	70-6019	3.12
PCB only	70-9036	0.95

082444

RK Education

Comparator Projects



This project has been designed to introduce the important concept of operational amplifier comparator circuits to students. This circuit is very important as it features heavily in KS4 curriculums. It has been designed to have more than one possible outcome and therefore more than one application. It allows for good differentiation. A training system, **70-6038**, is also available for use alongside this project to assist students with making important design decisions.

- Uses a dual power supply
- The point at which the output changes state can be changed with a variable reference resistor
- Can be used with various sensor inputs such as an LDR or thermistor
- Battery-powered
- PCB has space for a transistor to allow higher powered outputs to be added which can be used to introduce transducer drivers
- Clear silkscreen text has been used to make construction simpler
- Professional double-sided PCB with silkscreen and solder-resist
- 4 versions available for maximum flexibility
- Empty PCBs are available separately, order code **70-9038**
- Suitable for **Key Stages 2, 3 & 4** (ages 7 to 16)

Project notes are available to download from www.rapidonline.com

Type	Order code	1+
Economy	70-6020	2.08
With drive circuit	70-6021	2.21
With temperature sensor	70-6022	2.16
+ Temp. sens & drive cct	70-6023	3.33
PCB only	70-9038	0.95

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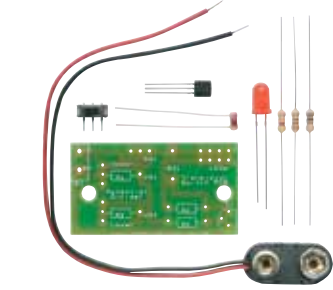
Call & Collect

Ring your order through on
01206 751166

or on the web at
www.rapidonline.com
then collect from our Trade Counter
(open 6 days a week)

RK Education

Transistor Switch Projects



This project introduces the transistor switch and is an excellent first electronics/ systems and control project for students. The project is also excellent for GCSE students as it has been designed with KS4 curriculums in mind. It is a very versatile project and can be used as a moisture sensor, temperature sensor and light sensor. The project has been designed to allow differentiation and has space for up to 5 outputs and a range of inputs including variable resistors.

- A number of different solutions are possible
- Can be used with an LDR, thermistor or moisture sensor
- Battery-powered
- PCB has space for up to five outputs
- Clear silkscreen text has been used to make construction simpler
- Professional double-sided PCB pre-drilled with silkscreen and solder-resist
- A training system, **70-6046**, is available to help aid teaching and learning with this project and to help students to arrive at their final solution
- 2 versions available for maximum flexibility
- Available with or without temperature sensor
- Empty PCBs are available separately, order code **70-9040**
- Suitable for **Key Stages 2, 3 & 4** (ages 7 to 16)

Project notes are available to download from www.rapidonline.com

Technical specification

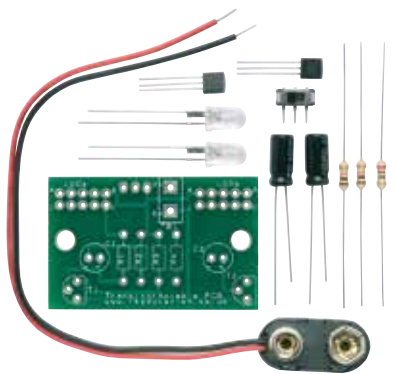
Qty	Description	Rapid code
1	Transistor switch projects (70-6024/5) PCB	70-9040
1	1k 0.25W carbon film resistor	62-0373
1	270R 0.25W carbon film resistor	62-0359
1	MPSA13 Darlington NPN 30V 0.5A TO-92B	81-0142
1	SPDT ultraminiature slide switch	76-0303
1	Battery clip PP3 - end entry	18-0092
1	5mm red LED	55-1790
70-6024 only:		
1	Miniature photoresistor	58-0134
1	47k 0.25W carbon film resistor	62-0410
70-6025 only:		
1	NTC thermistor - 100K 10% 3.5mm plth	61-0420
1	100k miniature carbon preset	67-0418

Type	Order code	1+
Economy	70-6024	1.66
With temperature sensor	70-6025	1.66
PCB only	70-9040	0.69

082451

RK Education

Transistor Astable Projects



This project introduces astable circuits and also other important concepts including how resistance and

capacitance affect timing circuits and the use of a transistor as a switch. There are a number of possible outcomes for the circuit including electronic decorations, a police car/fire engine or advertising. A training system, **70-6037**, is also available for use alongside this project to assist students with making important design decisions.

- Frequency of the astable circuit can be varied
- Different outputs can be used
- Battery-powered
- The PCB has space for up to five outputs on either side
- Professional double-sided PCB with silkscreen and solder-resist
- 3 versions available for maximum flexibility
- Empty PCBs are available separately, order code **70-9042**
- Suitable for **Key Stages 2, 3 & 4** (ages 7 to 16)

Project notes are available to download from www.rapidonline.com

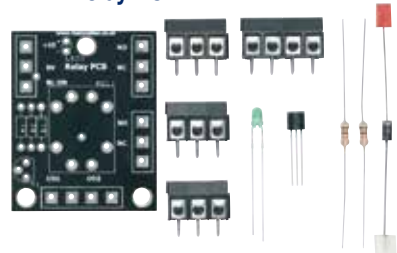
Technical specification		
Qty	Description	Order code
All 3 kits contain:		
1	Transistor astable projects (70-6026/7/8) PCB	70-6026
2	270R 0.25W carbon film resistor	62-0359
2	BC182L TO92 60V NPN GP transistor	81-0034
1	SPDT ultraminiature slide switch	76-0302
1	Battery clip PP3 - end entry	18-0092
1	10k 0.25W carbon film resistor	62-0397
2	10µ 25V radial electrolytic capacitor	11-0220
70-6028 also contains:		
1	5mm red LED	55-1790
70-6026 also contains:		
2	High brightness LED	55-2476
70-6027 also contains:		
1	5mm red LED	55-1790
3	5mm green LED	55-1792
2	5mm yellow LED	55-1794
2	5mm amber LED	55-0127

Type	Order code	1+
Safety light	70-6026	2.21
Electronic decoration	70-6027	2.21
Economy	70-6028	1.66
PCB only	70-9042	0.75

082453

RK Education

DPDT Relay PCB



The PCB has been designed for use with DPDT relays. There are a range of relays available for the PCB and this is an excellent product for use with a wide range of projects.

- Designed for use with DPDT relays
- 3A and 5A, 5VDC, 6VDC, 12VDC and 24VDC relays available
- Green LED used to indicate when the relay is energised
- Drive transistor and back EMF diode included
- Mounting holes for PCB mounts
- Terminal blocks used for easy interfacing
- High quality, black, double-sided PCB
- Empty PCBs are available separately, order code **70-9044**
- Suitable for **Key Stages 4 & A Level** (ages 14 to 18)

Project notes are available to download from www.rapidonline.com

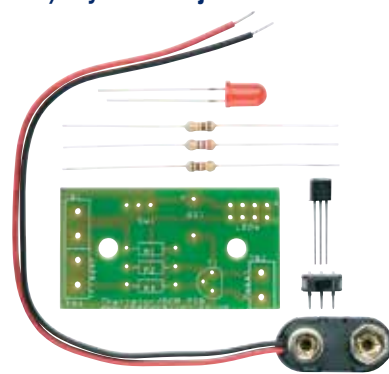
No relays are included with this kit. Please see below for recommended choice of relays.

Technical specification		
3A Relays		
5V	60-0420	
6V	60-0421	
12V	60-0422	
24V	60-0423	
5A Relays		
5V	60-0401	
6V	60-0400	
12V	60-0410	
24V	60-0402	
Type	Order code	1+
DPDT Relay PCB	70-6029	2.16
PCB only	70-9044	0.85

082456

RK Education

SCR/Thyristor Projects



This project introduces latching circuits and also other important concepts including different ways of triggering and resetting circuits. There are a number of possible outcomes for the circuit including electronic alarms, an electronic money box, a target game and a steady-hand game.

- Different trigger inputs can be used
- Different resets can be used
- Space for up to 5 outputs
- Battery-powered
- Clear silkscreen text has been used to make construction simpler
- Professional double-sided PCB pre-drilled with silkscreen and solder-resist
- Available in 2 versions: economy and complete
- Both versions are supplied with empty PCB, 1x PP3 battery clip, 1x 2N5060G SCR or equivalent, 1x 5mm red LED, 1x 270 ohm resistor, 1x 1k resistor, 1x 10k resistor (all 0.25W), 1x SPDT slide switch
- Complete version has additional push-to-make switch and 6V PCB mounting buzzer
- Empty PCBs are available separately, order code **70-9048**
- Suitable for **Key Stages 2, 3 & 4** (ages 7 to 16)

Project notes are available to download from www.rapidonline.com

Type	Order code	1+
Economy	70-6031	1.66
Complete	70-6032	2.08
PCB only	70-9048	0.69

082458

RK Education

SCR/Thyristor Training Kit - Assembled

This system has been specifically designed to be used alongside the SCR/Thyristor Project PCB, **70-6031**. By using this system students can gain an understanding of the operation and application of the SCR latch circuit and this system also helps students make important decisions that will affect the final outcome of their project.

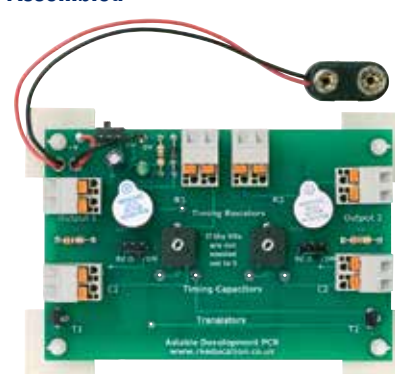
- Curriculum-based
- Allows students to test their designs prior to final construction
- Screwless terminal blocks allow students to easily insert different trigger and reset devices
- Clear silkscreen text has been used to aid learning
- Professional double-sided PCB with silkscreen and solder-resist
- Suitable for **Key Stages 2, 3 & 4** (ages 7 to 16)

Type	Order code	1+
SCR/Thyristor Training kit	70-6036	12.01

082463

RK Education

Transistor Astable Training Kit Assembled



This system has been specifically designed to be used alongside the Transistor Astable Project PCB 70-6028.

Using this system students can gain an understanding of the operation and application of the transistor astable and this system also helps students make important decisions that will affect the final outcome of their project.

- Curriculum-based
- Allows students to test their designs prior to final construction
- Battery-powered to remove the need for power cables and access to power sockets
- Students are able to learn about the effects of resistors and capacitors on timing circuits
- Screwless terminal blocks allow students to easily insert different values of resistor and capacitor for the timing section
- Different outputs can be inserted in the output screwless terminal block
- Clear silkscreen text has been used to aid learning
- The system uses screwless terminal blocks so components can easily be added
- Professional double-sided PCB with silkscreen and solder-resist
- Suitable for **Key Stages 2, 3 & 4** (ages 7 to 16)

Project notes are available to download from www.rapidonline.com

Type	Order code	1+
Trans astable training kit	70-6037	13.10

082464

Page 878

Rainbow LED



RK Education

Transistor Switch Training Kit Assembled

This system has been specifically designed to be used alongside the Transistor Switch Project, **70-6024**. Using this system students can gain an understanding of the operation and application of the transistor switch circuit and this system also helps students make important decisions that will affect the final outcome of their project.

- Curriculum-based
- Allows students to model a light, temperature and moisture sensing circuit
- Allows students to test their designs prior to final construction
- Battery powered to remove the need for power cables and access to power sockets
- Screwless terminal blocks are used to allow students to easily insert different values for the potential divider section
- Clear silkscreen text has been used to aid learning
- Large pads have been included to allow the potential divider, base and collector voltages to be measured using a multimeter
- Professional double-sided PCB with clear white silkscreen and solder-resist
- Suitable for **Key Stages 2, 3 & 4** (ages 7 to 16)

Type	Order code	1+
Trans. switch training kit	70-6046	10.92

082499

Finham Park School
Nightlight Project

The nightlight project is a safe, battery powered, bedside light that automatically switches on when the room lights are switched off. After a time delay of about 5 minutes the light automatically switches off to conserve battery power.

- Light source is a high efficiency, high brightness white LED
- Suitable for illuminating different coloured translucent acrylic, coloured inkjet film or 'fun and fancy' acrylic paints
- An excellent platform for creative product design
- Featured in Electronics Education published by the IEE
- Can be used to explore timing circuits using different component values
- Very popular and engaging project
- This project has been provided by the West Midlands EISS Support Hub
- The key aim of the hubs is to identify the needs of local teachers, and provide ongoing support to encourage teachers and schools offering electronics in the design and technology curriculum. The work undertaken by the hubs includes twilight workshops and half-day training sessions. A variety of material is covered in these sessions, ranging from reviewing developments in software and hardware to allowing teachers the opportunities to discuss Year 10 activities and Year 11 project work. In addition, the hub centres are involved in organising single, two and four-day teacher training programmes in conjunction with an ECT accredited trainer, through funding from both the Department for Skills and Education, and the IEE. For further information see: www.electronicsschools.org
- Suitable for **Key Stages 2, 3 & 4** (ages 7 to 16)



- Component kits are **supplied in packs of 5 kits** including printed circuit boards

Each kit requires 4x AAA alkaline batteries (not included).

Type	Order code	1+
Nightlight project	70-2600	13.25

073656

RVFM

Ultrasonic Proximity Sensor Kit

This module kit senses the presence of an approaching body at a distance of 10 to 80cm (depending on the size of the body), and lights an LED.

- Uses include: parking assistance for cars and alarm sensors
- The device uses the same principle as the ultrasonic echo ranging of bats
- **Kemo type B214**

Requires assembly. This kit may be extended to relay operation with relay board **70-1404** (not included).

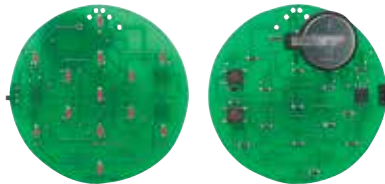
Technical specification	
Operating voltage	9 to 12V DC
Current consumption	<10mA
Operating frequency	Approx. 40kHz
Range	Approx. 10 to 80cm, depending on the size of the body (approx. 0.01 to 0.5m ²)
Display	Light-emitting diode
Board dimensions	Approx. 55 x 45 mm

Type	Order code	1+
Ultrasonic sensor	70-1408	7.49

080630

RVFM

StarBurst Badge Kit



The StarBurst kit is an ideal focused task for students to study surface mount components and construction techniques.

- The kit and detailed notes enable students to develop a clear understanding of industrial practices used in the construction of circuits
- The display of surface mount LEDs is controlled by a pre-programmed PIC through which a variety of display modes can be selected by a push button
- A second push button controls the display speed
- Badge is powered by a CR2032 coin cell
- The kit is supplied with all components
- Includes solder masked double-sided PTH PCB, 26 swg solder and battery
- PCB diameter 69mm
- A photographically illustrated, comprehensive construction guide is available for download from www.rapidonline.com

Type	Order code	1+
StarBurst	70-0205	8.22

060682

RVFM

Badge Module with Flashing LEDs



Add eye-catching flashing LEDs to your badge designs with this ready-built, battery-powered electronic module.

- Two 3mm red LEDs flash alternately
- On/Off button on circuit board
- Size only 7mm thick x 25mm diameter
- Takes 2x L736 alkaline button cell (supplied)
- Holes can be easily made in most badges for the LEDs
- Complete with badge pin, double-sided adhesive foam pad for fixing to badge and plastic back cover
- Supplied in **packs of 30**

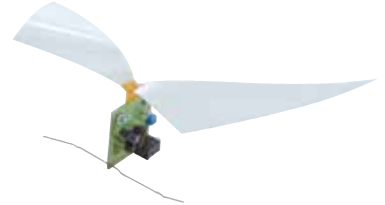
For neat LED holders please see order code **55-0160**.

Type	Order code	1+
Badge flash modules (30)	70-0721	15.36

077133

Milford Instruments

Space Wings Electronic Kit



Space Wings is a fascinating demonstration of the amazing capabilities of Muscle Wire – thin metal filaments that shorten in length when an electric current is passed through them.

- The silver wings silently and gracefully move, their speed controlled by a simple electronic circuit
- Rate of movement can be adjusted from 6 to 36 cycles per minute.
- Kit can easily be assembled in under one hour
- Includes all parts and assembly instructions, plus an informative section on Shape Memory Alloys (SMA) of which Muscle Wire is an example

Requires 2x AA alkaline batteries (not included).

Type	Order code	1+	5+	10+
Space Wings	13-1370	20.54	20.22	17.95

063655

Milford Instruments

Flexinol Wires

Flexinol wires are highly processed strands of a nickel-titanium alloy called Nitinol. At room temperatures, Flexinol wires are easily stretched by a small force. When heated (e.g. by a small electric current), the wire shortens with a useable amount of force.

- Flexinol wires contract by 3 to 5% irrespective of gauge size and require typically 0.3V/cm length
- Available in metre lengths, in 50, 100 and 150µm diameters
- A book entitled 'Muscle Wires' is available, either separately, or in a kit, which also contains a 1m length of each of 50, 100, 150 and 250µm diameter wires
- The book is a definitive guide to Flexinol wires and contains details of 13 projects in its 128 pages

Technical specification				
Order Code	Diameter (µm)	Deform force (gmf)	Recovery force (gmf)	Typical current (mA)
13-0765	50	8	35	50
13-0770	100	28	150	180
13-0775	150	62	330	420

Type	Order code	1+	5+	10+
Project book	97-2900	18.52	17.95	16.83
Wire 50µm x 1m	13-0765	9.01	8.45	7.87
Wire 100µm x 1m	13-0770	9.01	8.45	7.87
Wire 150µm x 1m	13-0775	9.01	8.45	7.87
Wires kit and book	13-0785	53.41		

036230

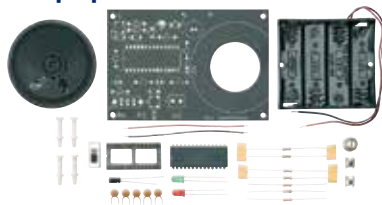
Free Delivery*

on all orders over £30 (excl. VAT)
(UK mainland only)

* See Terms & Conditions for full details

RVFM

Multipurpose Recorder Kit



A kit of components to build a circuit that provides 60 seconds of recording time.

- Based on a flash memory IC
- PCB, microphone, speaker and battery box
- Switches for record, play and reset
- For additional switches for PCB mounting, see **Switches** section

Requires 4x AA batteries (not included).

Type	Order code	1+
Multipurpose recorder kit	13-0924	8.86

081575

CIC

AM Pocket Transistor Radio Kit



An easy to build AM transistor radio kit based on the popular MK484 radio IC.

Building your own radio can be very enjoyable, and nothing compares to the feeling of pride you get when your finished kit is built and you turn it on! Even though you can buy ready-made transistor radios very cheaply these days, and a text book may describe the methodology of building one, with a kit you really do learn for yourself!

- AM Radio
- Covers the frequency range 531kHz to 1602kHz (MW and LW)
- Includes all components including tuning capacitor and coil, headphone socket and headphones
- Small enough to fit into your pocket but sensitive enough to pick up distant radio stations
- Ideal introduction to electronics circuitry and soldering techniques
- Supplied complete with solder, screen printed circuit board and comprehensive instructions

Requires 1x PP3 battery (not included).

Type	Order code	1+	10+	25+
Pocket transistor radio	13-0450	9.84	8.80	7.56

028388

AREXX

Stress Meter Kit

This **stress meter kit** from **Arex** is available as a kit format, and is an excellent product which provides great fun even after it is assembled.

Noise via family members or colleagues can increase stress levels, but this kit allows it to be measured, at home or in the office. The stress meter light, which normally flashes gently, begins to flash more quickly when noise increases, advising you that it is time to relax. Once the stress situation is over, the light returns to flashing gently. If it remains quiet for a prolonged period, the stress meter switches to sleep mode.



- In kit form
- Measure noise levels
- Power supply: 4.5V (3x AA batteries)
- Width: 65mm
- Height: 40mm
- Length: 160mm
- Manufacturer's part **SMR-10K**

Type	Order code	1+
Stress meter kit	55-1571	10.19

539831

RVFM

Classical Piano

This miniature classical piano allows you to create your own melodies. The piano is able to play both elements of a chromatic scale. Alternatively it is pre-programmed with 15 registered melodies for your enjoyment.

- Supplied fully assembled or as self assembly kit
- Suitable for **Key Stage 4** (ages 14 to 16)

Requires 3x AAA batteries (not included).

Type	Order code	1+
Piano complete	13-1442	24.03
Piano kit	13-1440	20.84

079552

Kemo

Infrared Receiver/Transmitter Project

An easy to build infra red transmitter and receiver project which includes a 12V, 3A relay which can be used to externally switch alarms, motors etc.

- Range between transmitter and receiver exceeds 18 metres
- Operating voltages; 9V for transmitter, 12V for receiver
- Includes all components, printed circuit boards and infrared filter for daylight operation
- Ideal for alarm systems, remote controls etc.
- A reflector (51 x 69mm) is available if infrared light needs to be redirected
- Comprehensive instructions included

Batteries not included.

Type	Order code	1+	5+	10+
Infra red transmitter/receiver	13-0475	15.05	14.16	13.27

028389

Kemo

Parabolic Microphone Kit

A kit of components including a printed circuit board to construct a highly sensitive microphone amplifier.

- When the microphone supplied is housed in a semi-spherical reflector, noises and speech can be heard over distances exceeding several hundred metres
- Requires 8Ω headphones and a 9V power source
- Full construction instructions are provided

Requires 1x PP3 battery and battery connector (not included).

Type	Order code	1+	5+	10+
Parabolic microphone kit	13-0480	8.36	7.69	7.14

028390

RVFM

Infrared Detector Kit

A kit of parts to produce a simple, yet effective, infrared detector.



- Kit contains a tin-plated, single-sided PCB and the components required to build the detector
- When infrared radiation is detected by the sensor, the LED lights
- Ideal for testing TV remote controls and other infrared emitting devices
- The circuit operates from a 9V supply (not included)
- PCB dimensions: approx. 55 x 15mm
- Component count: 10
- Complete with assembly instructions

Requires 1x PP3 battery and battery connector (not included).

Type	Order code	1+	5+	10+
Infra-red detector kit	13-0500	3.23	3.06	2.89

034055

Kemo

Light Barrier Kit

This useful project kit operates a relay switch depending on changes in the ambient light level.



- The circuit uses an operational amplifier, used as comparator
- Can be used as a light activated alarm sensor
- Relay switch operates if light from a lamp, door, window, etc., is interrupted by a person's shadow
- May also be used as twilight switch, automatically operating lamps, etc., at dusk

• **Kemo type B045**

Technical specification

Operating voltage	12V DC
Current consumption	<100mA
Relay contact	1 x ON max. 3 A max. 25 V
Sensitivity	Adjustable
Light wavelength	Visible light only
Size of board	55.6 x 26.7mm

Type	Order code	1+
Light Barrier Kit	70-1402	6.91

080627

Kemo

Relay Card

This relay card can be operated by a small signal from approx. 5 mA upwards and can switch a heavy current up to 3A.



- Ideal as switching amplifier for other circuits that only have a small output current
- **Kemo type B197**

Technical specification

Operating voltage	12V DC	
Current consumption	Contact capacity	3A / 30V
Sensitivity	Board dimensions	44 x 18mm

Type	Order code	1+
Relay card	70-1404	2.45

080628

**Same day despatch
GUARANTEED!**

On all orders for in-stock items
placed between 8am and 7pm
Monday to Friday

Kemo

The Little Electro-Technician



A simple educational construction set for beginners from 8 years upward. No soldering is needed, cables are simply screwed on, or twisted together. Experiments are described with helpful instructions.

- Small lamp circuit
- Electromagnetism
- Current detection using a compass needle
- Radio transmitter system
- Generator
- Make a battery
- Conductivity of water
- LED test I
- LED test II
- Kit includes: compass with coil for current indicator, small lamp, LED with integrated resistor, electric motor, terminals, zinc nail, copper board 10 x 50mm, connecting wire and detailed instructions

Requires a 4.5V battery (not included), e.g. order code 18-0247.

Technical specification			
Operating voltage	4.5V		
Wiring	Via screw-type terminals and loose twisting		
Mounting instructions	Each with figure		
Age	For beginners from 8 years on		
Type	Order code	1+	
Little electro-technician	70-1400	5.23	

Free Delivery*

on all orders over £30 (excl. VAT)
(UK mainland only)

* See Terms & Conditions for full details

Sound, Music & Light Modules

RVFM

Musical Modules for Greetings Cards



These greetings card modules offer students the opportunity to enhance their graphic designs with an electronics element.

- When mounted, the modules are activated by opening the card which removes an insulating tongue from between a pair of switch contacts on the module
- The modules are supplied mounted on a self-adhesive pad which is peeled from its backing paper and attached to the card
- Powered by a single L736 button cell, supplied
- For replacement cells, see order code 18-0410
- Overall dimensions 90 x 38 x 5.5mm

Type	Order code	1+	10+	25+	100+
Happy birthday	13-0617	0.845	0.791	0.735	0.682
Match of the day	13-0618	0.845	0.791	0.735	0.682
Star Trek theme	13-0620	0.845	0.791	0.735	0.682

RVFM

Coin Operated Sound and Music Modules

These modules enable students to enhance a simple container based assignment with a music or sound element.

- The modules are easy to incorporate into a container and can be triggered by a wide variety of coins
- Modules employ a 27mm diameter piezo speaker and 2 replaceable L736 button cells (supplied). For replacement cells, see www.rapidonline.com
- Module dimensions: behind flange 39 x 15 x 31mm, flange dimensions 45 x 21 x 2.2mm, coin slot 30 x 3mm



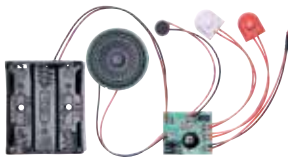
Type	Order code	1+	5+	10+	25+
Match of the day	13-0624	1.38	1.30	1.24	1.16
Bird call sound	13-0626	1.38	1.30	1.24	1.16
It's a small world	13-0627	0.898			

034061

RVFM

20 Second Sound Recorder Module

A sound recording module providing up to 20 seconds of playback time for speech, music or sound effects.



- Allows students to include a record and playback element into projects
- 40mm mylar speaker
- Separate microphone, record and play buttons
- A single press of the play button starts playback
- The record push-button is held down during recording
- Separate battery holder
- Non-volatile memory allows the batteries to be changed without losing the recorded message
- PCB dimensions: 31 x 27mm

Requires 3x AA batteries (not included).

Type	Order code	1+	5+	10+	25+
20s Sound recorder	13-0665	7.83	7.60	7.26	6.70

080582

RVFM

Sound Module for Recording/Playback

A compact sound recording module allowing you to make a 10-second recording of your own sounds or personalised messages for use in soft toys and textile projects.



- 40mm diameter mylar speaker for sound quality
- 10 seconds worth of recording time
- Recording is made by setting the slide switch to the recording position, depressing the top of the module and speaking into the microphone at the back of the unit
- An LED lights during the recording period
- With the slide switch set to play, depressing the top of the module plays your message back
- New recording can be made by sliding the switch back to record
- Battery compartment cover for easy battery changing
- Dimensions: 26 x 45mm diameter

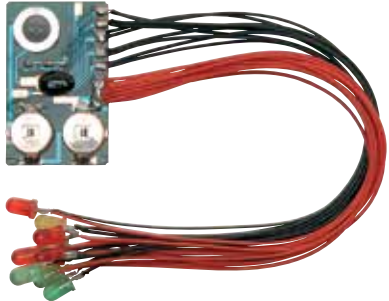
Powered by three L1154 button cells (supplied).

Type	Order code	1+	5+	10+	20+
10s Record/play	13-0678	6.53	5.99	5.44	4.34

060530

RVFM

10 Flashing LED Module



A flashing LED module, with built-in timer, producing a multi-coloured running light effect similar to that seen in disco light shows. By arranging the LEDs around the PCB, a large display can be created with minimal effort. The module is activated by a push button switch mounted on the PCB, and runs for approximately 10 to 15 seconds before automatically switching off.

- Ideal for eye-catching displays, notices, etc.
- Each module consists of an assortment of ten red, green and yellow 5mm LEDs which flash in pairs in sequence
- The module is powered by two, replaceable L1131 button cells For replacement cells, see www.rapidonline.com
- PCB dimensions: 47 x 29mm
- LED lead length: approx. 280mm

Type	Order code	1+	5+	10+	25+
10 LED Flash module	13-0652	2.88	2.76	2.64	2.53

034071

RVFM

Flashing LED Brooch

A triangular module incorporating a 3mm flashing red LED.



- Allows students to incorporate light effects into their designs
- Ideal for badges, light effects and in textile products
- Powered by two L736 button cells (supplied)
- Fitted with a safety pin type catch
- The brooch is activated by squeezing the top, which operates the internal on/off switch
- For replacement cells, see www.rapidonline.com
- Dimensions of case excluding LED and catch: 30 x 22 x 7.5mm

Type	Order code	1+
LED brooch	13-0654	1.14

034067

RVFM

Flashing LED Module (3 Month-Life)

A flashing LED module with operational life up to 3 months.



- Applications include dummy car alarm warning light, light switch locator for dark corridors, warning signs and modelling projects
- Enclosed battery box with built-in on/off switch
- High brightness red 5mm LED
- LED is partly recessed into a circular foam pad which is self-adhesive on the top surface for easy mounting behind a panel hole
- Battery box dimensions: 69 x 34 x 19mm
- Lead length approx. 330mm
- LED PCB approx. 18mm square

Requires 2x AA batteries (not included).

Type	Order code	1+
Flashing LED module	13-0656	0.898

034069

New products

THOUSANDS of new products now available



Draw or paint a circuit board on any non-conductive surface!

Bare paint is a non-toxic, electrically conductive paint which can pass electrical current just like a wire. You can use Bare paint to draw a circuit onto cardboard, paper, textiles or almost any non-conductive material which makes Bare the easiest way of working with electronics. As absolutely no soldering is required, anybody can make a circuit with Bare paints.

Design your own circuits using LEDs or try some of our project kits which contain everything you need to get started.

Impress your friends, bring your cards to life and get creative with electronics!

Flashing Cards

- Set contains:
- 3x card designs (see photo)
 - 1x Electric Paint pen
 - 3x LEDs (Light Emitting Diodes)
 - 3x coin cell batteries

Excl. VAT
£12.74
EACH



Conductive Encounters

Excl. VAT
Order code 70-0876

Celebration Circuit

Excl. VAT
Order code 70-0878

Merry Resistivities

Excl. VAT
Order code 70-0879

Power Animals

Excl. VAT
Order code 70-0877

Electric Paint Pen

Excl. VAT
£5.05
Order code 70-0873



Excl. VAT
£15.25
Order code 70-0874

Electric Paint Jar

Flashing Cards Class Activity Pack



- Set contains:
- 1x Step-by-step instructions
 - 10x Electric Paint pens
 - 30x Robot colouring card templates
 - 30x 3V coin cell batteries
 - 30x flashing LEDs (red, yellow and green)

Excl. VAT
£55.24
Order code 70-0875

Glowing House Set

Set contains:

- 2x Pre-cut Paper Houses
- 1x Electric Paint Pen
- 4x LEDs
- 2x Resistors
- 2x LDRs
- 2x Transistors
- 2x Battery Clips
- 2x 9V Batteries
- Sticky Dots and Stickers (no glue required!)

Excl. VAT
£16.98
Order code 70-0880



RVFM

Mobile Phone Flashing Indicator Module

A flashing LED module that responds to the radio signals from adjacent mobile phones.



- With the current interest in mobile phones, the module provides an excellent basis for a range of product design exercises
- The module responds to either incoming or outgoing phone signals by flashing a 20 second light sequence through 2 LEDs
- Up to 4 additional surface mount LEDs can be added to the circuit. Red **72-8350**, Green **72-8360**, Yellow **72-8365**
- The module can also be used as an input module for other circuits
- Built-in antenna
- Powered by 2x L736 (GP192) button cells (supplied)
- For replacement cells, see www.rapidonline.com
- Effective distance from the phone to the module varies greatly, dependent on the type of phone and the environment, but could be up to 0.5m
- The notes provide students with essential background information to help develop a range of product design ideas and look at current mobile phone technology and how the style of mobile phones has changed
- Suitable for **Key Stages 2, 3 & 4** (ages 7 to 16)
- A detailed series of student and teacher notes is available through the Rapid Electronics website at www.rapidonline.com

Type	Order code	1+	5+	10+	25+
Mobile flasher	13-0668	1.45	1.35	1.24	1.14

060528

New products
www.rapidonline.com

Brightsparks



Beginners Electricity Kit

This **Beginners Electricity Kit** from **BrightSparks4Kids**

will set young minds buzzing with questions even in their earliest Science and Design Technology lessons. This well-stocked kit allows children to build and understand simple electrical circuits. The kit includes socket stackable connection leads and easy-to-use 4mm plugs, with small hands in mind, and with 18 component modules included the fun - and the questions - go on and on. How do I change the brightness of a bulb? How do I change the speed of a motor? How do I alter the noise of a buzzer? This kit will allow young pupils to find the answers for themselves. Ideal for **Key Stages 1 and 2**.

- Resources CD contains in-depth user manual, printable example circuits, circuit symbols and fault-finding worksheets
- All components are strong and securely fixed and made with safety in mind
- Each module clearly displays electrical symbols and the name of each component
- Supplied with CD-ROM, connecting leads, storage tray and lid for easy classroom management

Kit includes: 5 battery modules, 5 bulb modules, 2 buzzer modules, 2 motor modules, 2 switch modules and 2 push switch modules, plus 2 crocodile adaptor clips. Additional units available separately.

Type	Order code	1+
Electricity Kit	70-0061	106.03

531331

CR 2016 Lithium Cell



Toggle Switch Module

This toggle switch module from **BrightSparks4Kids** replicates the working of a domestic light switch and can be used to augment the **BrightSparks4Kids Beginners Electricity Kit**. This unit can be connected to other modules in the range to demonstrate a variety of circuit applications.

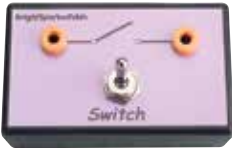
• Sturdy On and Off toggle action

- Works by simply pushing slider up for Off or down for On
- Ideal for use in the classroom in basic Science and Design Technology lessons
- Manufacturer's part **ST003**

Beginners Electricity Kit available as Rapid part **70-0061**.

Type	Order code	1+
Toggle Switch	70-0062	6.94

531332



Push Switch Module

This push switch module from **BrightSparks4Kids** replicates the working of a household doorbell, for example, and can be used as part of the **BrightSparks4Kids Beginners Electricity Kit**. This unit can be connected to other modules in the range to demonstrate a variety of circuit applications.

- So simple to use; just press the large central button to activate
- Ideal for use in the classroom in basic Science and Design Technology lessons
- Manufacturer's part **ST004**

Beginners Electricity Kit available as Rapid part **70-0061**.

Type	Order code	1+
Push switch	70-0063	6.94

531333



Motor Fan Module

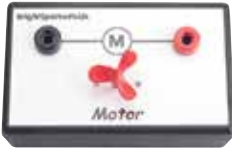
This motor fan module from **BrightSparks4Kids** demonstrates the working of the sort of motor found in an electric fan or domestic washing machine and can be used as part of the **BrightSparks4Kids Beginners Electricity Kit**. This unit can be connected directly to the battery or operated with any switching unit in the **BrightSparks4Kids** series. Alternatively, use the Variable Unit to create a speed control.

- Propellor rotates at safe speed
- Direction of rotation depends upon the polarity of connection to the battery
- Ideal for use in the classroom in basic Science and Design Technology lessons
- Manufacturer's part **ST006**

Beginners Electricity Kit available as Rapid part **70-0061**.

Type	Order code	1+
Motor fan	70-0064	7.74

531334



Buzzer Module

This buzzer module from **BrightSparks4Kids** emits a loud sound when connected up to a battery and switching unit and can be used as part of the

BrightSparks4Kids Beginners Electricity Kit. Buzzers like this are used in cookers and microwave ovens and alarm clocks. This unit can be directly connected to the battery or operated with any switching unit in the **Beginners Electricity Kit**. Alternatively you can use the Variable Unit to create a changing tone.

- Ideal for use in the classroom in basic Science and Design Technology lessons
- Manufacturer's part **ST005**

Beginners Electricity Kit available as Rapid part **70-0061**.

Type	Order code	1+
Buzzer	70-0065	6.94

531335



Flashing LED Module

This Flashing LED module from **BrightSparks4Kids** produces a red flashing light and can be used in association with the **BrightSparks4Kids Beginners Electricity Kit**. Flashing LEDs are found in household alarm systems but have numerous other applications. This module can be combined with other units in the kit and used as a visual alarm to add to your circuit.

- Ideal for use in the classroom in basic Science and Design Technology lessons
- Manufacturer's part **ST010**

Beginners Electricity Kit available as Rapid part **70-0061**.

Type	Order code	1+
Flashing LED	70-0066	6.94

531336



Variable Resistor Module

The Variable Resistor unit can be used with the **BrightSparks4Kids Beginners Electricity Kit** either as a speed control for the motor module, dimmer switch for

the bulbs or volume control for buzzer module. A variable resistor varies electric current and is commonly used in a household lighting dimmer switch but has a number of other applications.

- Ideal for use in the classroom in basic Science and Design Technology lessons
- Manufacturer's part **ST007**

Beginners Electricity Kit available as Rapid part **70-0061**.

Type	Order code	1+
Variable resistor	70-0067	7.74

531337





Bulb Module

Schoolchildren can really make light work of electricity with this **Bulb Module** from **BrightSparks4Kids**.

Connect it to the battery or any switching unit included in the **BrightSparks4Kids Beginners Electricity** kit and the light will work. For safety, the bulb is housed in a shatterproof clear lens cover.

- Ideal for use in the classroom in basic Science and Design Technology lessons
- Bulb housing can be unscrewed to reveal bulb
- Low voltage 6V miniature bulb
- Manufacturer's part **ST002**

Beginners Electricity Kit available as Rapid part 70-0061.

Type	Order code	1+
Bulb	70-0068	7.74

531338



Extra Connection Module

This **Extra Connection** Module can be used with other modules in the **BrightSparks4Kids Beginners Electricity** Kit.

- Ideal for use in the classroom in basic Science and Design Technology lessons
- Manufacturer's part **ST020**

Beginners Electricity Kit available as Rapid part 70-0061.

Type	Order code	1+
Extra connection	70-0074	6.94

531341



LED Modules

These **LED** modules can be linked to the **Beginners Electricity** Kit from **BrightSparks4Kids** to enhance Science and Design Technology lessons.

- Choice of five different colour effects available

Beginners Electricity Kit available as Rapid part 70-0061.

LED colour	Order code	1+
Red	70-0076	6.94
Amber	70-0078	6.94
Green	70-0079	6.94
White	70-0081	6.94
Rainbow	70-0083	6.94

531342



Battery Module

This **Battery** Module can be used to power all the other modules in the **BrightSparks4Kids Beginners Electricity** Kit. This unit safely supplies either 1.5V or 3V to the other modules. Battery units can also be linked together to combine voltages.

- Requires 2 x C Type 1.5V batteries
- Short circuit protected
- Output ranges from 1.5 to 6V
- Ideal for use in the classroom in basic Science and Design Technology lessons
- Manufacturer's part **ST001**

Beginners Electricity Kit available as Rapid part 70-0061.

Type	Order code	1+
Battery	70-0069	6.94

531339



Two Pole Switch Module

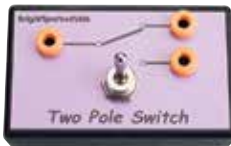
This **Two Pole Switch** Module can be combined with other modules in the **BrightSparks4Kids Beginners Electricity** Kit to demonstrate the effect of switches on electric current.

- Ideal for use in the classroom in basic Science and Design Technology lessons
- Manufacturer's part **ST023**

Beginners Electricity Kit available as Rapid part 70-0061.

Type	Order code	1+
2-pole switch	70-0084	6.94

531343



Resistor Modules

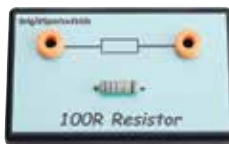
These **Resistor** Modules can be used in association with the **BrightSparks4Kids Beginners Electricity** Kit to teach about the role of resistance. There are four different modules available, ranging in strength from 10Ω to 100Ω.

- Ideal for use in the classroom in basic Science and Design Technology lessons

Beginners Electricity Kit available as Rapid part 70-0061.

Type	Order code	1+
10R	70-0070	6.94
22R	70-0071	6.94
47R	70-0072	6.94
100R	70-0073	6.94

531340



Magnetic Switch Module

This **Magnetic Switch** Module can be combined with other modules in the **BrightSparks4Kids Beginners Electricity** Kit to demonstrate the effect of switches on electric current.

The magnetic switch (reed switch) has a pair of contacts which operate when a magnet is passed over them. The contacts open once the magnet is pulled away.

- Ideal for use in the classroom in basic Science and Design Technology lessons
- Manufacturer's part **ST009**

Beginners Electricity Kit available as Rapid part 70-0061.

Type	Order code	1+
Magnetic switch	70-0086	7.74

531344



Diode Module

This **Diode** Module can be combined with other modules in the **BrightSparks4Kids Beginners Electricity** Kit.

- Ideal for use in the classroom in basic Science and Design Technology lessons
- Manufacturer's part **ST022**

Beginners Electricity Kit available as Rapid part 70-0061.

Type	Order code	1+
Diode module	70-0087	6.94

531345



Light Dependent Resistor Module

This **Light Dependent Resistor** Module can be combined with other modules in the **BrightSparks4Kids Beginners Electricity** Kit.

- Ideal for use in the classroom in basic Science and Design Technology lessons
- Manufacturer's part **ST008**

Beginners Electricity Kit available as Rapid part 70-0061.

Type	Order code	1+
Resistor module	70-0088	7.74

531346



Thermistor Module

This **Thermistor** Module can be combined with other modules in the **BrightSparks4Kids Beginners Electricity** Kit.

- Ideal for use in the classroom in basic Science and Design Technology lessons
- Manufacturer's part **ST008**

Beginners Electricity Kit available as Rapid part 70-0061.

Type	Order code	1+
Thermistor module	70-0089	7.74

531347



Solar Panel Module

This **Solar Panel** Module can be combined with other modules in the **BrightSparks4Kids Beginners Electricity** Kit.

- Ideal for use in the classroom in basic Science and Design Technology lessons
- Manufacturer's part **ST024**

Beginners Electricity Kit available as Rapid part 70-0061.

Type	Order code	1+
Solar panel	70-0090	9.78

531348



Help

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www.rapidonline.com
24 hours a day

**NEW**

PIGGYAXE

555 Alternating Flasher Kit

A kit of parts to make a simple and reliable alternating flasher circuit based around possibly the most famous 'chip' of all, the 555 timer.

In this circuit, it is used as an astable (oscillator) and directly drives two LEDs, flashing them alternately.

The kit is quick to build, even by absolute beginners. It provides a quick way to add some electronic interest to a variety of projects, from aliens with flashing eyes through to edge-lit acrylic display stands.

- Kit contains printed circuit board and standard components
- See Technical Specification table for list of kit contents
- Constructional notes are available for download at www.rapidonline.com

Technical specification

Kit contains:	Description	Qty
82-0336	NE555 bipolar single timer	1
18-0092	TruPower PP3 battery clip (heavy duty) end entry	1
08-0235	100nF 5mm ceramic disc capacitor	1
62-0370	220Ω CR25 0.25W carbon film resistor	2
62-0370	1kΩ CR25 0.25W carbon film resistor	1
62-0462	6.8MΩ CR25 0.25W carbon film resistor	1
62-0446	1.5MΩ CR25 0.25W carbon film resistor	1
62-0438	680kΩ CR25 0.25W carbon film resistor	1
55-0155	Kingbright L-7113ID 5mm 2V red diffused LED 45mcd	2
70-1050	555 flasher PCB	1

Order code
70-1051

£1.48

Touch-On, Auto-Off Kit

A kit of parts for this very useful circuit that offers touch activation and variable time delay with a choice of output options. As no on-off switch is needed it can be quickly incorporated into almost any project. Simply touch between two contacts to start the time delay.

- Kit contains printed circuit board and standard components
- See Technical specification table for list of kit contents
- Constructional notes are available for download at www.rapidonline.com

Technical specification

Kit contains:	Description	Qty
83-0380	4049UB hex inverters/buffers	1
18-0092	TruPower PP3 battery clip (heavy duty) end entry	1
62-0466	10MΩ CR25 0.25W carbon film resistor	2
62-0434	470kΩ CR25 0.25W carbon film resistor	1
47-3416	1N4148 signal diode 75V, 150mA	1
11-0205	Forever 85°C 1µF 63V radial lead aluminium electrolytic capacitor	1
01-0440	1m violet 7/0.2 wire	1
70-1054	Touch-on, auto-off PCB	1
35-0052	HCM1206BX low profile buzzer 6V	1
55-0155	Kingbright L-7113ID 5mm 2V red diffused LED 45mcd	2

Order code
70-1055

£2.02

6 LED Random Flasher Kit

A kit of parts to make a circuit that flashes 6 LEDs at random. The circuit is really 6 separate circuits combined into a single chip: a CMOS 40106 Hex (6) Schmitt trigger.

The overall circuit is made up of 6 relaxation oscillators directly driving 6 LEDs. The free-running oscillator frequencies soon drift apart and become out of sync, thus producing an eye-catching 'random' display. By angling the LEDs and adding ping-pong balls as light diffusers, striking effects can be achieved with relative simplicity. The circuit is compact and economical enough to be used to enhance anything that would benefit from some flashing LEDs.

- Kit contains printed circuit board and standard components
- See Technical specification table for list of kit contents
- Constructional notes are available for download at www.rapidonline.com

Technical specification

Kit contains:	Description	Qty
83-0482	40106B hex Schmitt trigger	1
62-0466	10MΩ CR25 0.25W carbon film resistor	6
62-0370	1kΩ CR25 0.25W carbon film resistor	6
08-0235	100nF 5mm ceramic disc capacitor	6
18-0092	TruPower PP3 battery clip (heavy duty) end entry	1
70-1052	6 LED flasher PCB	1
55-0125	Kingbright L-7113YD 5mm 2.1V yellow LED 20mcd	2
55-0155	Kingbright L-7113ID 5mm 2V red diffused LED 45mcd	2
55-0122	Kingbright L-7113PGD 5mm 2.25V green LED 5mcd	2
18-2909	Battery box 4x AA with switch	1

Order code
70-1053

£2.55

Multi-timer Kit

A set of parts to build a multi-purpose pocket timer.

The timer is fun to build and useful, with great repeatability and long time delays possible. The circuit provides an activity LED, a strident 'beep-beep-beep' warning when the time is up and a visual warning too.

The circuit uses a self-clocking binary counter that controls a number of relaxation oscillators that control each other.

- Kit contains printed circuit board and standard components
- See Technical specification table for list of kit contents
- Constructional notes are available for download at www.rapidonline.com

Technical specification

Kit contains:	Description	Qty
83-0390	4060B 14-stage ripple carry binary counter (DIL)	1
83-0482	40106B hex Schmitt trigger	1
18-0092	TruPower PP3 battery clip (heavy duty) end entry	1
47-3416	1N4148 signal diode 75V 150mA	2
55-0155	Kingbright L-7113ID 5mm 2V red diffused LED 45mcd	1
35-0044	Miniature PCB piezo transducer	1
65-0740	470k 16mm linear potentiometer	1
55-0122	Kingbright L-7113PGD 5mm 2.25V green LED 5mcd	1
10-5828	220nF 5% 63V 5mm polyester box capacitor	1
62-0398	15kΩ CR25 0.25W carbon film resistor	1
62-0458	4.7MΩ CR25 0.25W carbon film resistor	1
62-0442	1MΩ CR25 0.25W carbon film resistor	1
62-0370	1kΩ CR25 0.25W carbon film resistor	2
08-0235	100nF 5mm ceramic disc capacitor	3
70-1056	Multi-timer PCB	1
62-0402	22kΩ CR25 0.25W carbon film resistor	1
62-0450	2.2MΩ CR25 0.25W carbon film resistor	1
65-0745	1MΩ 16mm linear potentiometer	1
32-1200	Tricolour knob with red insert	1

Order code
70-1057

£3.15

Joule Thief Kit

A kit of parts to build the ultimate 'Green' circuit that uses the cells that other people throw away.

The Joule thief is a simple circuit, but it delivers great functionality. Its name is derived from the concept that it's stealing energy (Joules) from the battery that powers it. Nothing special there, except that this circuit will work down to absolute cell exhaustion at around 0.5 volts. Hence the idea that its 'stealing' the last dregs of energy.

- Ideal as a short introduction to soldering
- Great for Cubs, Scouts, Beavers and Guides to build for a skills badge
- Easily incorporated into a packaging project, STEM activity, Young Enterprise etc.
- Kit contains printed circuit board and standard components
- See Technical specification table for list of kit contents
- Constructional notes are available for download at www.rapidonline.com

Order code
70-1059

£2.09

Technical specification

Kit contains:	Description	Qty
70-1058	Joule Thief PCB	1
62-0370	1kΩ CR25 0.25W carbon film resistor	1
50-0297	BC548C transistor NPN T092 0.2A 30V	1
50-1176	470µH ±5% 90mA Epos RF axial SBC inductor	2
08-0200	1nF 2.5mm ceramic capacitor	1
55-2476	OSHR5111P 5mm red LED 20000mcd	1
18-2906	Battery box 2x AA with switch	1

08M2 Motherboard Kit

A kit of parts to make a simple Start out your 'systems and control' as you mean to go on with maximum flexibility and functionality using this **kit of parts** to build the rugged PIGGYAXE 08M2 motherboard.

Build and test the motherboard, then plan your application with these other add-on kits:- Start with the RGB Multi-board which offers at least 13 build options on just one board. If that's not enough, progress to the power-driver equipped Infra-red and analogue to digital daughterboard to control some serious lighting. (Can also be used with the pin-compatible Genie C08 although not all commands are supported by the Genie at this level e.g. servo).

- **Project possibilities using Piggyaxe 08M2 Motherboard and RGB Multi-board, presented in order of increasing complexity**
- RGB LEDs controlled by a push switch, or a movement switch or any closing or opening contact
- A piezo 'tap-tap/coin-drop' detector
- A PIR (Passive Infra Red sensor module)
- RGB LEDs controlled by a thermistor (not linear but possible to calibrate)
- RGB LEDs controlled by a LDR (not linear but possible to calibrate)
- PIR can be jointly used with LDR/thermistor e.g. motion sensing active ONLY if dark/hot
- 0 to 300° potentiometer to select various functions (lights or tune on event)
- With the option of adding any of the digital triggers to initiate
- Dallas DS18B20 -50 to +125° Centigrade accurate and linear with any of the digital triggers
- Option to use 1 LED, 1 servo, 1 audio output controlled by A2D and/or digital/coin-drop
- Option to use up to 3 servos, controlled by 0 to 300° pot or G sensor
- With digital input still available for trigger such as PIR or coin-drop or sequential setting
- Put a 4th LED on the ADC channel - use the middle hole for IC1/VR1, resistor from +V/V-
- Can be used to send Infra Red commands read from potentiometer, up to 15 (up to 3 LEDs)
- Kit contains printed circuit board and standard components
- See Technical specification table for list of kit contents
- Please visit www.rapidonline.com to download constructional notes for this kit

Technical specification

Kit contains:	Description	Qty
20-0137	TruConnect PCB Jack socket (stereo) 3.5mm	1
62-0394	10kΩ CR25 0.25W carbon film resistor	1
62-0402	22kΩ CR25 0.25W carbon film resistor	1
50-0381	1N4001 Diode rectifier diode 1A 50V	1
11-0820	Forever 85°C 100µF 10V radial micro miniature electrolytic capacitor	1
18-0092	TruPower PP3 battery clip (heavy duty) end entry	1
19-0089	25-way single row PCB socket 2.54mm pitch	1
22-0545	TruConnect single row header 36-way (PCB) plug	1
13-5022	Revolution PICAXE chip 08M2	1
70-1060	08M2 motherboard PCB	1
22-1720	8-pin 0.3in turned pin socket	1
22-0795	36-way right angle single row plug	1

14M2 Motherboard Kit

Order code
70-1063

£3.93




- If you run out of I/O with the 08M2 then the **14M2 motherboard kit** provides a logical step up. Based on the 14M2 and offering 11 pins that offer a huge variety of options, the chances are it will do what you want.
- With 4 hardware PWM channels, total dimming control of 4 channels of LEDs becomes a possibility, with of course analogue and digital inputs and Infra-red capability too. It's an ideal starting point if you need to switch on more or simply want more ways of sensing and controlling your project.
- Kit contains printed circuit board and standard components
 - See Technical specification table for list of kit contents
 - Visit www.rapidonline.com to download constructional notes for this kit

Technical specification

Kit contains:	Description	Qty
20-0137	TruConnect PCB Jack socket (stereo) 3.5mm	1
62-0394	10kΩ CR25 0.25W carbon film resistor	1
62-0402	22kΩ CR25 0.25W carbon film resistor	1
50-0381	1N4001 Diode rectifier diode 1A 50V	1
11-0820	Forever 85°C 100µF 10V radial micro miniature electrolytic capacitor	1
19-0089	15-way single row PCB socket 2.54mm pitch	1
18-0092	TruPower PP3 battery clip (heavy duty) end entry	1
13-5024	PICAXE-14M2 chip	1
70-1062	14M2 motherboard PCB	1
22-1721	14-pin 0.3in. turned pin socket	1

IR/ADV 4/3 Channel Power Driver Kit



Order code
70-1074

£2.19

- Kit contains printed circuit board and standard components
- See Technical specification table for list of kit contents
- Constructional notes are available for download at www.rapidonline.com

Technical specification

Kit contains:	Description	Qty
81-0472	BC337-16 NPN transistor T0-92 50V	4
62-0370	1kΩ CR25 0.25W carbon film resistor	4
11-0875	Forever 85°C 100µF 16V radial micro miniature electrolytic capacitor	1
08-0235	100nF 5mm ceramic disc capacitor	1
47-3612	DA78L05 voltage regulator +5V 100mA T0-92	1
62-0358	330Ω CR25 0.25W carbon film resistor	1
62-0386	4.7kΩ CR25 0.25W carbon film resistor	1
55-0902	2.4 to 5.5V IR receiver module 38kHz	1
11-0865	Forever 85°C 4.7µF 50V radial micro miniature electrolytic capacitor	1
22-0545	TruConnect single row header 36-way (PCB) plug	1
70-1073	IR/ADV 4/3 channel power driver PCB	1


Binary Timer Kit

A kit of parts to build a simple but very unusual and eye-catching circuit:- a Binary Timer Display! Just like a binary clock, you have to do some mental maths to work out how long you are setting the timer for!

To make the complete timer, you will also need a 14M2 Motherboard kit, 70-1063.

The binary timer display PCB lends itself to any projects that need 8 (or 9) LEDs and has sound capability which is shared with an analogue input. It makes a great running light too, easily incorporated into the binary timer routine.

- Kit contains printed circuit board and standard components
- You will also need 14M2 Motherboard kit, 70-1063
- See Technical specification table for list of kit contents
- Constructional notes are available for download at www.rapidonline.com



Technical specification

Kit contains:	Description	Qty
70-1077	Binary timer PCB	1
62-0378	2.2kΩ CR25 0.25W carbon film resistor	2
62-0370	1kΩ CR25 0.25W carbon film resistor	8
65-0740	470kΩ 16mm linear potentiometer	1
78-0186	2-pole SPST off-on mini push switch - red	1
35-0044	Miniature PCB piezo transducer	1
55-0155	Kingbright L-71131D 5mm 2V red diffused LED 45mcd	8
32-1200	Tricolour knob - red insert	1

Order code
70-1078

£2.81

MORE



PIGGYAXE

KITS COMING SOON ...

Velleman Kits

velleman® Interval Timer with Relay Output

The Velleman Interval Timer is a miniature timer suitable for all applications requiring a delay of up to 60 seconds. It is available either in kit form for you to make yourself or as a pre-mounted module.

- Project kit will produce an intermittent operation for circuits and equipment
- Blinking light, video/photo single frame shooting, slide projector control, miniature models
- Control range can be adjusted
- Suitable for beginners
- Dimensions 85(L) x 40(W)mm
- **Velleman MK111**

Requires a 12V DC power supply (not included), see **Power supplies** section.



Technical specification

Output relay with dry switch-over contact	3A/24V
Pulse time adjustable	between 0.5 and 5 seconds.
Pause time adjustable	between 2.5 and 60 seconds.

Type	Order code	1+
Kit	70-4016	3.79
Pre-mounted module	70-4508	6.69

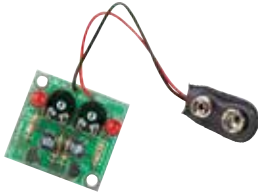
073837

velleman® Flashing LED Module Kit

A simple multivibrator circuit driving two LEDs.

- Suitable for many applications including model construction and education
- Adjustable flashing speed with two potentiometers
- Power consumption approx. 8mA
- Dimensions: 30 x 35 x 15mm
- Kit contains all components required including printed circuit board and construction instructions
- **Velleman MK102**

Requires 1x PP3 battery (not included).



Type	Order code	1+
Flashing LED kit	70-4138	3.46

074555

velleman® Dual Super Bright Flashing LED Lights Kit

A module with two superbright red LEDs giving a powerful warning indication.

- Ideal for emergency and warning signs, eye-catchers, etc.
- High visibility 'alarm-active' - simulation, etc.
- 'Auto turn-on at dark' - mode with adjustable sensitivity
- On/Off switch
- Can be operated from 12V supply
- Dimensions: 55 x 32 x 40mm
- Kit contains all components required including printed circuit board and construction instructions



• **Velleman MK148**

Requires 1x PP3 battery (not included).

Type	Order code	1+
Dual LED flasher	70-4164	5.39

074568

velleman® Digital Echo Chamber Kit



The Velleman Digital Echo Chamber Kit allows you to create delay effects for use with various audio systems such as karaoke and public address, either for a serious purpose or just for fun. The Digital Echo Chamber can be used either with its built-in microphone or connected to a conventional sound system via a line level signal.

- Power consumption 150mA max
- Delay time: 80 to 200ms
- Speaker output 500mW (8Ω, 10% THD)
- Dimensions 85 x 70 x 20mm
- Power supply 1 PP3 (9Vdc) battery
- Manufacturer's part **MK182**

Type	Order code	1+
Echo Chamber	70-4434	11.79

518143

velleman® Running LED Light Kit

This kit will produce a running light effect.

- 8 LEDs
- Different running light effects are selectable (Prog push button)
- Adjustable effect speed with potentiometer
- Includes stand-by push button power switch (Off push button)
- Suitable for beginners
- Dimensions 95(L) x 40(W)mm
- **Velleman MK107**

Requires a 9V battery (not included).



Type	Order code	1+
Running LED light kit	70-4010	5.14

073844

velleman® Mini-6-LED Chaser Kit



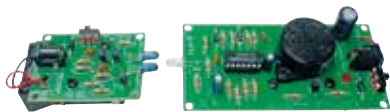
If you've ever wanted to recreate the light sequences from the Star Trek Enterprise or from the 1980s TV show Knight Rider, the Velleman Mini-6-LED Chaser Kit is just what you need. The kit provides LED sequences which scan from side to side or go in one direction and is a great attention-grabber. Suitable for use on cars or in shop windows, at exhibitions... or anywhere where you want to get the point across.

- 6 high-intensity 3mm red LEDs
- Fixed scan speed 0.5 sec
- Dimensions 55 x 25 x 10mm
- Power supply 4-15Vdc (20mA at 12Vdc)
- Manufacturer's part **MK173**

Type	Order code	1+
Chaser Kit	70-4416	9.29

518134

velleman® Infrared Light Beam Kit



This kit will produce an IR light beam that can be used to monitor a doorway, a pathway, an area etc. for the arrival or presence of a person or object.

- When the light beam is interrupted the kit makes an audible noise (85dB)
- Uses an IR transmitter emitter to project a beam of infrared light to an IR receiver detector
- Ideal for home security
- On/Off switch provided
- Basic soldering techniques required for circuit board assembly
- Suitable for beginners with little or no previous knowledge of electronics
- Not recommended for outdoor use
- **Velleman MK120**

Transmitter and receiver both require a 9V PP3 battery (not included).

Technical specification

Audible signal	85db
Visible signal	LED alert
Range	1 to 4m (3.3ft to 13ft)
IR transmitter	5.5 x 4cm
IR receiver	10 x 5 cm
Transmitter emitter	9V DC, 50mA max.
Receiver detector	9V DC, 20mA max.
9V battery holder and power adaptor jack included.	

Type	Order code	1+
IR Light barrier	70-4028	8.29

073843

velleman® Minikits Starter Sets



These starter sets from Velleman give you everything you need to start enjoying electronic projects. Each set contains a number of kits for you to enjoy making. Choose from the Minikits Starter Set, with 6 different projects, or the Seasonal Minikit Pack which gives you 5 different kits, each with a festive theme.

Type	Order code	1+
Starter set	70-4464	33.95
Seasonal pack	70-4466	27.89

518153

velleman® 2-Channel High-Power LED Flasher Kit



The Velleman 2-Channel High Power LED Flasher is a small, compact mini kit which can be used for various

applications as an alarm, advertisement or attention-grabbing display. The circuit board can be cut and the LEDs mounted away from the main PCB.

- 2 channels
- 7 flash effects
- Adjustable speed
- Memory for last selected effect
- Supplied with 20,000mcd white LEDs
- Output 3A/channel max
- Dimensions 65 x 33 x 20mm (main board), 18 x 33 x 12 (LED board)
- Power supply 12Vdc
- Manufacturer's part **MK180**

Type	Order code	1+
LED Flasher Kit	70-4430	9.49

518141

velleman® AC Power Voltage LED Kit

The Velleman AC Power Voltage LED Kit is a compact mini kit which allows a blue LED to be operated directly from a 230Vac supply, offering an alternative to a mains operated neon indicator. This PCB must be housed inside a case or concealed inside the appliance.

- Suitable as a mains indicator or pilot light
- Power supply 100Vac to 240Vac, 50Hz or 60Hz
- Dimensions 28 x 18mm
- Manufacturer's part **MK181**

Type	Order code	1+
AC Voltage LED Kit	70-4432	2.50

518142

velleman® 12V Car Battery Monitor

You won't get caught out by a flat battery with the Velleman 12V Car Battery Monitor. Simple to install and easy to operate, this small circuit enables you to the status of your car battery. The Velleman 12V Car Battery Monitor is available either in kit form or as a pre-assembled module.

- Only 2 wires to connect (connect after ignition)
- Uses multicolour 3mm LED
- Green light indicates battery OK
- Pulsing green light indicates battery charging
- Red light indicates battery voltage low
- Blinking red light indicates battery being overcharged
- Includes board to wire connector
- PCB dimensions 30 x 20mm
- Power supply 12Vdc battery

Type	Order code	1+
Kit	70-4458	3.95
Pre-assembled module	70-4570	6.25

518150

velleman® Car Alarm Simulator Kit

LED with realistic flash sequence simulates active car alarm system.

- Activates automatically when the engine is turned off
- Easy installation with two wires
- Adjustable sensitivity
- Low current consumption: 12mA max. (12V only)

- Comes complete with prewired LED holder and two warning labels
- Dimensions: 57 x 45mm
- Kit contains all components required including printed circuit board and construction instructions
- **Velleman MK126**

Type	Order code	1+
Car alarm simulator	70-4152	4.39

074962

velleman® Alarm Sensor Simulator

If you want to deter burglars but can't afford a fully-integrated alarm system, then this Alarm Sensor Simulator Kit from Velleman is just the thing. With this low-cost alarm simulator you can scare off potential intruders. Suitable for use in protecting homes, shops, cars, sheds, trailers, boats etc.

- Authentic-looking flash sequence
- Runs for months on a single AA battery
- Supplied with enclosure and fixing strip
- Wall mounted or desk-top operation
- Power consumption: 20µA idle, 3mA when flashing
- Dimensions 80 x 55 x 33mm
- Power supply 1 x AA battery
- Manufacturer's part **MK168**

Type	Order code	1+
Alarm Sensor	70-4408	6.49

518131

velleman® Traffic Light Kit

A miniature four way traffic light as seen at many junctions.

- Realistic operation with adjustable delay
- 12 LEDs
- Great for model railroads, exhibitions or as a toy
- Low power consumption 15mA
- Suitable for beginners
- Dimensions 115(H) x 50(W) x 35(D)mm
- **Velleman KK131**

Requires a 9V PP3 battery (not included).

Type	Order code	1+
Traffic light	70-4040	5.91

073849

velleman® LED Chevron Arrow

You can build your own flashing red indicator sign with the LED Chevron Arrow Kit from Velleman. The chevron can be used for serious direction purposes, or as an attention-grabbing advertisement.

- Different animation options include rolling, scrolling and blinking
- Includes 28 bright red 3mm LEDs
- Current consumption 10 to 40mA @ 9V
- Dimensions 64 x 130 x 16mm
- Power supply 9 to 15Vdc or 9V battery (not included)
- Manufacturer's part **MK176**

Type	Order code	1+
Chevron Arrow	70-4422	9.10

518137

velleman® 3D LED Cube Kit

You can create various light sequences for animation and other effects with the Velleman 3D LED Cube Kit. You can programme the 27 LEDs in a 3 x 3 x 3 arrangement via the built-in USB PC interface.

- Powered via USB port or 9V battery (terminal included)
- 30 LEDs supplied
- Alternative LED packs available offering different colours
- Divide animation into multiple scenes
- Up to 234 animation frames
- Animations can be backed up to hard drive
- Dimensions 63 x 63 x 113mm
- Manufacturer's part **MK193**

Type	Order code	1+
3D Cube Kit	70-4462	18.95

518152

velleman® MK191 Classic TV Game with Analog Bats

A modern adaptation of the classic 'tele tennis' TV game: - build the kit then play the game. Each player has his own bat with rotary potentiometer for ultra-fast bat movement. The game has 5 single-player levels, 5 two-player levels, 3 ball angles, smash function and game play sound.

- 5 single-player levels
- 5 two-player levels
- 3 ball angles
- Smash function (press the button the moment the ball hits the bat)
- Only the server can score points
- Audio output
- Composite video out
- PAL or NTSC selection
- Brightness control
- Consumption only 7mA
- Auto power-down
- **Velleman type MK191**

Takes 2x AA batteries, not included.

Type	Order code	1+
TV Tennis Game	70-4147	12.95

526298

velleman® Memory Brain Game Kit

The Velleman Brain Game Kit will provide hours of fun with just 4 LEDs and 4 push buttons. It is available either with or without an enclosure.

- Aim of the game is to repeat a pattern, which is generated at random
- Pattern is played both visually and audible or visually only (selectable)
- Features 4 difficulty levels, which can be selected at start-up
- Replay speed gradually increases during the game, to make it even more challenging
- Low power consumption
- Microprocessor controlled
- Auto power off
- Basic soldering techniques required for circuit board assembly
- Suitable for beginners with little or no previous knowledge of electronics
- Dimensions 65(L) x 50(W)

Requires 3x AAA batteries (not included).

Type	Order code	1+
Without enclosure	70-4018	6.34
With enclosure	70-4402	10.95

073838

velleman®
Expandable Quiz Kit

This quiz table will allow up to four players to compete against one another.

- LED indicates first button pushed
- Quizmaster reset button
- Two units can be daisy chained for eight player fun
- Add your own remote pushbutton and indication
- Suitable for beginners
- On/Off switch
- Dimensions 110(L) x 78(W) x 28(D)mm
- **Velleman MK133**

Requires a 9V PP3 battery (not included).

Type	Order code	1+
Quiz table	70-4042	7.49

073850



velleman®
Wheel of Fortune Kit

This wheel of fortune acts just like the game, just push the button and the 10 LEDs start showing a spinning action. They gradually slow down until the winning one remains lit.

- Push the button to start spinning action
- 10 LEDs red, yellow and green
- Spinning action gradually decreases
- Auto power-off
- Low power consumption
- Suitable for the intermediate, some previous knowledge of electronics required
- Good soldering techniques for medium dense boards recommended
- Dimensions 33(L) x 0.64(D)mm
- **Velleman MK152**

Requires 9V PP3 battery (not included).

Type	Order code	1+
Wheel of fortune kit	70-4058	4.99

073850



velleman®
Roulette Kit

This roulette kit is just like the real thing, and will be a sure winner with you, your friends and relatives.

- With a push of a button, the LEDs lights flash in a spinning sequence and stop randomly
- Enjoy hours of fun with this game of chance
- 37 LEDs are arranged in a circle
- Winner tune played for each colour
- Pushbutton operation
- Microprocessor technology
- Auto power off
- Low power consumption
- Some previous knowledge of electronics required
- Good soldering techniques for medium dense boards
- Suitable for intermediates
- Diameter 90mm
- **Velleman MK119**

Requires 3x AA batteries (not included).

Type	Order code	1+
Roulette kit	70-4026	10.19

073842



velleman®
Electronic Dice Kit

Board games provide an excellent source of pleasant and healthy entertainment, and this dice kit will provide the players with even more fun.

- Fully independent electronic dice
- Result displayed on this electronic dice module
- Cheating is out of the question
- Displays are switched off automatically saving battery power
- Some soldering experience recommended
- Suitable for beginners
- Dimensions 60(L) x 45(W)mm
- **Velleman MK109**

Requires a 9V PP3 battery (not included).

Type	Order code	1+
Electronic dice	70-4014	4.89

073836



velleman®
Electronic Dice Kit

A novel dice that you dont have to throw or press any buttons, just shake it.

- Acts just like regular dice
- Lights roll out slowly and flash the last combination or winning number
- Buy two and simulate a pair of real dice
- Auto power-off
- Suitable for beginners
- Dimensions 36(L) x 36(W) x 32(D)mm
- **Velleman MK150**

Requires 1x 3V Lithium button cell type CR2025 or CR2032 (not included).

Type	Order code	1+
Shaking dice kit	70-4056	8.19

073857



velleman®
SMD Happy Face Kit

Happy face with flashing LED eyes.

- Two LEDs flash alternately
- Can be used as a pendant (cord supplied)
- Great as attention grabber
- Ideal introduction to SMD (Surface-Mounted Device) technology
- Extra parts are supplied, in case of loss or damage
- Power consumption 5mA approx.
- Dimensions 8 x 29mm diameter
- Kit contains all components required including printed circuit board and construction instructions

Requires 1x lithium coin cell, CR2025 or CR2032 (not included).

Type	Order code	1+
Happy face kit	70-4158	5.29

074565



velleman®
SMD Flashing Heart Kit

Love really will be all around you with the Velleman SMD Flashing Heart Kit. This neat little gadget contains 6 flashing LEDs and can be worn either as a pendant or as a badge.

- Badge pin supplied
- Dimensions 49 x 44 x 8mm
- Manufacturer's part MK144

Type	Order code	1+
Flashing Heart	70-4394	5.19

518125



velleman®
SMD Christmas Tree Kit

Be the star of the Christmas party with the Velleman SMD Christmas Tree. This handy decoration includes 6 flashing LEDs and can be worn as a badge or hung from the ceiling or tree as a decoration.

- 6 LEDs flash alternately
- Can be worn as a badge (pin supplied)
- Ideal introduction to SMD (Surface Mounted Device) technology
- Extra parts supplied in case of loss or damage
- Low power consumption
- Dimensions 45 x 41 x 8mm
- Power supply 3Vdc (CR2032 battery)
- Manufacturer's part **MK142**

Type	Order code	1+
Christmas Tree Kit	70-4392	4.85

518124



velleman®
Animated LED Smiley

You can make light of every occasion with the Animated LED Smiley Kit from Velleman. The smiley face goes through a sequence of eight different faces, from sad to happy and a few in between. You can use this kit as a novelty gift or just build it for the fun of it.

- Great attention grabber
- Choose between static or animated expressions
- On/off expression selection button
- Auto power off
- Power consumption 15mA
- Dimensions 75 x 75 x 32mm
- Power supply 3 x AAA batteries
- Manufacturer's part MK175

Type	Order code	1+
LED Smiley	70-4420	8.95

518136



velleman® Love Tester Kit

Find out if there really is electricity in your relationship!

This fun love tester project kit will check the romantic heat between you and your lover. Each partner simply presses the respective gender symbols pad, then hold hands. The heat between you will light up the LEDs - but how many?

- Great fun at parties and among friends
- 10 LED readout
- Audible love-level indication
- Flashing LEDs indicate you're a red-hot lover
- See if you are cool or a steaming Latin lover
- Wide sensitivity range covers the entire spectrum of passion
- Power switch included
- Suitable for beginners, in soldering and love
- Dimensions 100(L) x 85(W) x 25(D)mm
- **Velleman MK149**

Requires 9V PP3 battery (not included).

Type	Order code	1+
Love tester kit	70-4054	10.95

073856

velleman® Flashing LED Sweetheart Kit

How impressed will your sweetheart be when they realise you have soldered something, with love? This flashing LED heart creates a beautifully romantic effect, especially when the lights go down!

- Forget inferior gifts like chocolates and flowers
- Create a lovely romantic flashing LED sweetheart
- Some basic soldering skills required
- Takes about an hour to assemble
- Consists of 28 LEDs arranged in the shape of two hearts and is ideal decoration
- Power consumption 8mA
- Kit contains a circuit board, 28 LEDs and various diodes and resistors
- Some soldering experience recommended
- Suitable for beginners
- Dimensions 60(H) x 60(W) x 30(D)mm
- **Velleman MK101**

Requires an 8 to 15V DC power supply or a 9V PP3 battery (not included).

Type	Order code	1+
LED Sweetheart kit	70-4002	5.19

073830

velleman® Running Microbug Kit

This attractive bright coloured bug-shaped miniature robot is always hungry for light, and will constantly run towards it in a bug-like behaviour.

- A really great gift for the budding robotics enthusiast
- Features two open chassis sub-miniature motors
- Adjustable light sensitivity to work in almost any light condition
- LED eyes to indicate driving direction
- Bug stops in total darkness
- Suitable for beginners
- Dimensions 100(L) x 60(W)mm
- **Velleman MK127**

Requires 2x 1.5V AAA batteries (not included).

Type	Order code	1+
Running microbug kit	70-4034	8.95

073846

velleman® Crawling Microbug Kit

An attractive, bright coloured bug-shaped mini robot that is always hungry and crawls towards sources of light.

- Two open chassis sub-mini motors
- Adjustable light-sensitivity suits almost any light condition to control its bug-like behaviour
- Stops in total darkness
- Adjustable speed
- Choose between two different walks
- LED eyes indicate driving direction
- A really great gift for the budding robotics hobby enthusiast
- Suitable for beginners
- Dimensions 110(L) x 90(W)mm
- **Velleman MK129**

Requires 2x AAA batteries (not included).

Type	Order code	1+
Crawling microbug kit	70-4038	12.99

073848

velleman® Crawling Microbug with Enclosure

An attractive, bright coloured bug-shaped mini robot that is always hungry and crawls towards sources of light.

- Two open chassis sub-mini motors
- Adjustable light-sensitivity suits almost any light condition to control its bug-like behaviour
- Stops in total darkness
- Adjustable speed
- Choose between two different walks
- LED eyes indicate driving direction
- A really great gift for the budding robotics hobby enthusiast
- Includes enclosure
- Suitable for beginners
- Dimensions 110(L) x 90(W)mm
- **Velleman MK165**

Requires 2x AAA batteries (not included).

Type	Order code	1+
Crawling bug/enclosure	70-4039	14.59

073862

velleman® Solar Bug Kit

This little chap will be happy so long as the sun is shining. The Velleman Solar Bug Kit enables you to recreate the sound of Mediterranean holidays. It gives off a realistic cricket chirp, while a slow fading green LED simulates a glow-worm.

- Dimensions 140 x 150 x 50mm
- Power supply solar cell: 4.5V/ 35mA
- Optional rechargeable batteries: 2x AAA NiCd or NiMH
- Manufacturer's part **MK185**

Type	Order code	1+
Solar Bug	70-4450	7.89

518146

velleman® Electronic Cricket Kit

Create and simulate a hot summers night with this fun little cricket project.

- Makes a sound like a cricket
- Cricket tone automatically starts when it gets dark
- Repetition, effect and sensitivity are all adjustable
- Can be used for fun and is small enough to hide almost anywhere
- Some soldering experience recommended
- Suitable for beginners
- Dimensions 60(L) x 25(W) x 10(D)mm
- **Velleman MK104**

Requires an 8 to 15V DC power supply or a 9V PP3 battery (not included).

Technical specification	
Operating voltage	8-15 V DC
Cricket repetition (time between two chirps)	Adjustable via RV1 (REP)
Adjustable chirp effect	via RV2 (MOD)
Adjustable tone	via RV3 (TONE)
Adjustable light sensitivity	via RV4 (LIGHT)
Minimum consumption	5mA/9V

Type	Order code	1+
Electronic cricket kit	70-4006	6.33

073822

velleman® Electronic Decision Maker Kit

This kit will be ideal if you have difficulty in making a YES or NO decision.

- Ideal for the indecisive
- Simply push the button to start flashing the Yes/No LEDs
- Flashing speed gradually decreases and finally one LED remains lit
- Auto power Off
- Low power consumption 1µA idle, 8mA in use
- Suitable for beginners
- Dimensions 55(L) x 30(W) x 35(D)mm
- **Velleman MK135**

Requires a 9V PP3 battery (not included).

Type	Order code	1+
Electronic decision maker	70-4046	4.21

073852

velleman® Electronic Christmas Tree

Have yourself a cosy little Christmas with this Electronic Christmas Tree from Velleman.

- 16 blinking LEDs
- Very low power consumption: max. 4mA
- Dimensions 60 x 100 x 25mm
- Power supply 9V battery PP3 (not supplied)
- Manufacturer's part **MK100**

Type	Order code	1+
Electronic Xmas Tree	70-4382	3.95

518121

Volume pricing
Need to buy larger quantities?
Contact us now for a
volume pricing quotation
01206 751166

velleman®
3D Christmas Tree Electronics Kit



Make sure everyone knows that you're in the Christmas spirit with the Velleman 3D Christmas Tree Kit. Customise your tree with a choice of red, green and yellow LEDs.

- 16 flashing red LEDs
- Extra green and yellow LEDs provided
- Can be hung on and fed through wires
- Low power consumption
- Dimensions 80 x 88 x 102mm
- Power supply 9-12Vdc or 9V battery/8mA (not supplied)
- Manufacturer's part **MK130**

Type	Order code	1+
3D Christmas Tree	70-4386	6.95

519180

velleman®
DeLuxe Christmas Tree Electronics Kit

Jingle all the way to the festive season with the Velleman De Luxe Christmas Tree Kit. This stunning model tree includes 134 LEDs and has 18 randomly blinking candles and can really get you into the Christmas spirit whether you are in the home, the workplace or on the road. No need to remove battery when using external supply.



- 12V operation possible for use in cars, vans, trucks
- On/off switch included
- PCB size 143 x 81mm
- Power supply 9-12Vdc or 9V battery (not supplied)
- Manufacturer's part **MK117**

Type	Order code	1+
De Luxe Xmas Tree Kit	70-4384	12.69

519179

velleman®
USB SMD Christmas Tree

Light up your desk with the Velleman USB SMD Christmas Tree minikit, which offers an ideal introduction to SMD technology.



- Battery or USB powered
- Great attention grabber
- Some extra parts supplied in case of loss or damage
- Tree can also be operated as a pendant
- On/Off slide switch
- Dimensions 63 x 57mm
- Power supply CR2032 battery or 5V via USB/7mA
- Manufacturer's part **MK183**

Type	Order code	1+
USB Christmas Tree	70-4436	6.22

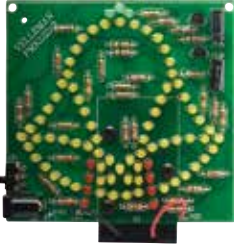
518144

velleman®
LED Animated Bell Kit

An animated illuminated bell display with 83 LEDs.

- Power supply 9 to 12VDC adapter or 9V PP3 battery
- No need to remove battery when using external supply
- 12V operation possible for use in cars, lorries, trucks, etc.
- On/Off switch included
- Kit contains all components required including printed circuit board and construction instructions
- Velleman **MK122**

Requires 1x PP3 battery (not included).



Type	Order code	1+
Animated bell kit	70-4148	7.99

074560

velleman®
Riding Santa Kit

This animated Riding Santa will make a delightful addition to any seasonal decoration or Christmas display.



- 126 multi-coloured LED lights
- Suitable for use in cars, lorries etc.
- No need to remove battery when using external supply
- On/Off switch included
- Some soldering experience recommended
- Suitable for beginners
- Dimensions: 145(L) x 80(W)mm
- Velleman **MK116**

Powered by either a 9 to 12V DC supply or 9V alkaline battery (not included).

Type	Order code	1+
Riding Santa	70-4000	11.93

073829

velleman®
Flashing LED Stars



You can be the star of the local Christmas scene with these Flashing LED Star kits from Velleman. Ideal for lighting up the festive season, these stars are available in 2 colours - red and yellow.

- 35 LEDs included
- Safe battery operation
- Flashing or static operation
- Can be used on desktop or hanging from the ceiling
- Multiple kits enhance the effect
- In-car (12V) operation possible
- Current consumption 40mA (static mode)
- Flash duty cycle 1:2
- Dimensions 90 x 90mm
- Power supply 9Vdc battery

Colour	Order code	1+
Red	70-4410	5.53
Yellow	70-4412	5.53

518132

Volume pricing

Need to buy larger quantities?
Contact us now for a volume pricing quotation
01206 751166

velleman®
60 LED Multi-effect Star Kit

A processor controlled 60 LED star which generates different unbelievable effects and different colour combinations.



- Additional LEDs are provided
- Create multiple dazzling effects
- Make your own mix of red and yellow LEDs or make the star fully red or yellow
- On-board effects selection push button
- 24 effects
- 3 static
- 15 blinking
- 6 animations with fading
- All effects sequencing is possible (standard setting)
- Suitable for the intermediate with previous knowledge of electronics and good soldering techniques
- Dimensions 105(L) x 110(W) x 35(D)mm
- Velleman **MK170**

Type	Order code	1+
60 LED multi-effect kit	70-4068	9.19

073866

velleman®
LED Halloween Pumpkin Kit

A brightly coloured halloween pumpkin kit with 25 LEDs.



- Random flash effect simulates flickering candle
- One extra high intensity yellow LED illuminates the pumpkin
- On/Off switch
- Dimensions: 100 x 80 x 33mm
- Kit contains all components required including printed circuit board and construction instructions
- Suitable for **Key Stages 2 & 3** (ages 7 to 14)

Requires 1x PP3 battery (not included).

Type	Order code	1+
LED pumpkin kit	70-4162	6.95

074567

velleman®
Animated Ghost Kit

When Halloween is looming, it's time to get your Velleman Animated Ghost Kit ready. Suitable for shop displays, parties, events or just for fun, the Animated Ghost responds to sudden noises and greets visitors and other passers-by with spooky light and sound effects.



- Adjustable sensitivity
- Dimensions 137 x 68 x 50mm
- Requires 2 x AAA batteries (not supplied)
- Manufacturer's part **MK166**

Type	Order code	1+
Ghost Kit	70-4404	9.62

518129

velleman® **MK194 FM Radio Kit**

This FM Radio Kit from Velleman will give you double the fun of learning to build and then listening to the FM radio. Suitable for beginners little or no previous knowledge of electronics.



- HQ FM receiver module with excellent sensitivity
- Single button station search function
- 4 station presets with confirmation beep
- Restore of last selected station at switch-on
- Soft fade-in of last audio level at switch-on
- FM range: 88 to 107.9MHz (0.1MHz step)
- Power supply: 9V DC (battery not incl.)
- Power consumption: 40mA max.
- Dimensions: 130 x 85 x 45mm / 5.1 x 3.34 x 1.8in.
- Suitable for beginners with little or no previous knowledge of electronics
- **Velleman type MK194**

Requires a 9V DC, 40mA power supply (not included).

Type	Order code	1+
FM radio kit	70-4037	14.99

528291

velleman® **Super Stereo Ear Kit**

Stereo audio amplifier boosts sound 50 times and picks up sound from long distances.



- Great for the-hearing impaired (e.g. when watching TV)
- Interesting gadget, science project, etc.
- With volume control and On/Off switch
- Dimensions: 62 x 54 x 44mm
- Kit contains all components required including printed circuit board and construction instructions
- **Velleman MK136**

Requires 3x AA batteries (not included).

Type	Order code	1+
Hearing booster kit	70-4156	7.67

074564

velleman® **Amplifier Kit for MP3 Player**



Get a big sound from your MP3 player with the 2 x 5W Amplifier for MP3 Player MiniKit from Velleman. The kit enables you to produce a stereo 5 Watt amplifier which connects to your MP3 player.

- Low distortion
- Volume control with knob
- Slide On/Off switch
- Blue LED power indicator
- Sensitivity 400mVrms for full output
- Frequency response 30Hz - 100kHz (-3dB/8Ω)
- Speaker impedance 4-32Ω
- Input 3.5mm stereo socket
- Dimensions 66 x 53 x 25mm
- Power supply 6-14Vdc/1A
- Manufacturer's part **MK190**

Type	Order code	1+
AMP Kit For MP3	70-4460	8.49

518151

velleman® **Voice Changer Kit**

This high quality kit will help to disguise yourself; Your voice can be changed to add a vibration, like those used to disguise secret witnesses.



- Change your voice tone upward or downward
- Women sound like men and vice versa
- Includes a very robotic voice
- A very novel and entertaining circuit kit
- Create different voices to make voice-over and voice dubbing for audio/video clips
- Ideal for parties, plays, recordings, games, presentations, narrations, voice messages and voice mails etc
- Add vibrato effect
- Built-in microphone and power amplifier with volume control, just add a speaker
- Hours of fun
- Speaker / line output
- On/Off switch
- Output power 1.5 W (4Ω) max.
- Power supply 9V DC / 300mA (not included)
- Dimensions 77(L) x 46(W) mm
- Kit assembly suitable for the hobbyist
- **Velleman MK171**

Type	Order code	1+
Voice changer kit	70-4031	9.29

018178

velleman® **Single Message Record/Playback Kit**



With the Velleman Single Message Record/Playback Kit, you can prepare your own message to greet visitors, play pranks on friends and warn off burglars. In fact the only limit on what you can record and how you can use it is your own imagination.

- High-quality, natural voice/audio reproduction
- Microphone and 57mm loudspeaker included
- Recording time between 10 and 35 seconds per module
- Line output to drive separate amplifier
- Eternal trigger to play message
- Seed control to create funny messages
- Manufacturer's part **MK174**

Requires 3 x AA batteries (not supplied)

Technical specification

Power consumption (playback)	Max. 150mA
Power consumption (standby)	less than 1µA
Adjustable sampling rate	5 to 12 KHz.
Speaker output	500mW max, 8Ω
Signal/noise ratio	34dB
Dimensions	65 x 50 x 20mm

Type	Order code	1+
Record/Playback Kit	70-4418	12.99

518135

velleman® **Metronome Kit**

This is a very useful metronome for musicians or for any person who needs a simple means to keep a rhythm.



- Tempo is adjustable
- Uses very few components and produces an LED beat indication
- Adjustable volume and beats/minute with potentiometers
- Includes speaker and On/Off power switch
- Some soldering experience recommended
- Suitable for beginners
- Dimensions 60(L) x 43(W)mm
- **Velleman MK106**

Requires a 9V battery (not supplied).

Type	Order code	1+
Metronome kit	70-4008	5.99

018333

velleman® **Signal Generator Kit**

A fixed frequency signal generator kit.



- Sine wave, triangle, square wave and integrator (selectable through jumper)
- Signal frequency about 1kHz (fixed)
- Output level adjustable from 0 to 100mVrms
- Dimensions: 56 x 40mm
- Kit contains all components required including printed circuit board and construction instructions
- **Velleman MK105**

Requires 1 x PP3 battery (not included).

Type	Order code	1+
Signal generator kit	70-4140	4.95

074556

velleman® **Siren Sound Generator Kit**

A novel kit that will generate 4 different sounds.



- Sounds include police siren, fire brigade, emergency vehicle and machine gun
- RV1 adjusts sound pitch
- On/Off switch and PCB speaker included
- Suitable for beginners
- Dimensions 60(L) x 40(W)mm
- **Velleman MK113**

Requires a 9V PP3 battery (not included).

Type	Order code	1+
Siren sound generator	70-4020	5.99

0173539

Page 842

Capacitors



velleman®
Steam Engine Sound Generator Kit

This kit will generate the sound and whistle of a vintage steam engine.

- Adjustable speed and volume
- Great for model railroads, radio plays, stage and as a gadget
- With steam whistle push button
- Comes with 8 Ω 5W miniature speaker
- Suitable for beginners
- Dimensions 100(H) x 83(W)mm
- **Velleman MK134**

Requires a 9V PP3 battery (not included).

Type	Order code	1+
Steam engine /whistle	70-4044	5.39

073851



velleman®
Cable Polarity Checker Kit

Check cables for continuity and identify individual wires.

- Perfect tool to check speaker cable polarity
- LED indication for open circuit, shorts and correct or wrong polarity
- Push-button operation with auto power Off
- Low power consumption: 10mA max.
- Dimensions: main board: 56 x 40 x 33mm, remote board: 40 x 7mm
- Kit contains all components required including printed circuit board and construction instructions
- **Velleman MK132**

Requires 1x PP3 battery (not included).

Type	Order code	1+
Polarity checker kit	70-4154	5.89

074563



velleman®
Dual White LED Stroboscope Kit

Build your own high intensity white LED stroboscope, complete with adjustable speed.

- Features two super bright white LEDs
- Powerful flash effect
- Great for a party, use in scale models or just as an attention grabber
- Slow/fast selector
- Speed selector, adjustable between approx. 1 and 60 flashes/second
- On/Off switch
- Low power consumption 40mA max.
- Suitable for beginners
- Dimensions 545(L) x 32(W) x 40(D)mm
- **Velleman MK147**

Requires 9V PP3 battery (not included).

Type	Order code	1+
White LED Stroboscope kit	70-4052	5.79

073855



velleman®
MK115 Pocket VU Meter Kit

This is really a great kit. It is a hand-held audiometer that fits into your pocket.

- Unit allows you to instantly visualise signal levels from a whole range of different audio sources
- Built-in high sensitivity microphone picks up the music playing and the LEDs move to the rhythm of the music
- Surprise your friends in the disco
- LED barograph meter
- 5 red LEDs
- Incorporated microphone
- Features an adjustable sensitivity control
- On/ Off switch
- Some soldering experience recommended
- Suitable for beginners
- **Velleman MK115**

Requires a CR2032 lithium battery (not included).

Type	Order code	1+
Pocket VU meter kit	70-4022	5.29

073840



velleman®
Sound to Light Unit Kit

This kit has four high-intensity LEDs that light up and react simultaneously on every sound.

- For different funny and practical applications
- Sound indicator
- Simple sound-to-light unit for music
- Can be used to indicate the telephone, door bell for the hearing impaired
- Adjustable sensitivity with potentiometer
- Built-in microphone
- Some soldering experience recommended
- Suitable for beginners
- Dimensions 55(L) x 55(W) x 35(D)mm
- **Velleman MK103**

Requires 1x 9V battery (not included).

Technical specification

Adjustable sensitivity	RV1
LEDs	4 high bright
Operating voltage	9V DC
Power consumption	0.5mA min./12mA max.
Built-in microphone	

Type	Order code	1+
Sound-to-light unit	70-4004	4.95

073831



velleman®
Pocket VU Meter in Enclosure

You can be the talk of the party with the Velleman Pocket VU Meter. Surprise your friends as the LEDs on the VU Meter move to the rhythm of the music.

- Incorporated microphone
- Adjustable sensitivity
- On/off switch
- 5 LEDs
- Sleek designer enclosure
- Dimensions 87 x 50 x 25mm
- Power supply 1 x CR2032 3Vdc battery
- Manufacturer's part **MK146**

Type	Order code	1+
VU Meter	70-4396	7.29

518126



velleman®
Low Voltage LED Light Organ Kit

The Velleman Low Voltage LED Light Organ has been designed to control any 12 or 24V LED strips or low voltage incandescent lamps for display advertising and light effects. The output drives high power Mosfet which can each sink about 5A. The Velleman LED Light Organ is available either as a kit or as a ready-built module.

- Built in microphone with sensitivity control
- Blue indicator LED
- Suitable for in-car use
- Dimensions 100 x 40 x 35mm
- Power supply 12 to 24Vdc

Type	Order code	1+
Kit	70-4452	9.39
Pre-mounted module	70-4564	14.98

518147



velleman®
Low Voltage LED Dimmer Kit

The Velleman Low Voltage LED Dimmer has been designed to control any 12 or 24V LED strips or low voltage incandescent lamps for display advertising and light effects. The output drives high power Mosfet which can each sink about 5A. It is available either as a kit or as a pre-assembled module.

- Blue indicator LED
- Suitable for in-car use
- Output 5A max
- Dimensions 100 x 40 x 35mm
- Power supply 12 to 24Vdc

Type	Order code	1+
Kit	70-4454	9.27
Pre-mounted module	70-4566	15.29

518146



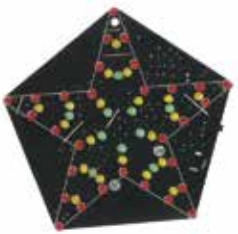
velleman®
Sound Star VU Meter

Brighten up any party with the Velleman Sound LED Star. Including 60 LEDs, the Sound LED Star responds to sound and music in a "VU-meter" fashion. Can be used for any event, show or display as an eye-catching device.

- Built-in microphone
- Adjustable sensitivity
- Multiple units enhance the effect
- Dimensions 105 x 110 x 35mm
- Power supply 9-12Vdc/200mA
- Manufacturer's part **MK172**

Type	Order code	1+
Star VU Meter	70-4414	9.92

518133



velleman®
MK184 Electronic RGB Candle Kit

The Velleman Electronic RGB Candle Kit produces a realistic flickering flame effect with high-powered RGB LEDs, ideal for use as a Christmas decoration or at any party. Safe for pets, children and furniture.

- Yellow, red, blue, green, cyan and magenta
- Selectable fixed colour or automatic colour change mode
- Dimensions 36mm high x 38mm diameter
- Power consumption 3 to 10mA (depending on colour selected)
- Manufacturer's part **MK 184**
- **Sold singly**

Type	Order code	1+
Star VU Meter	70-4414	9.92

518133



Takes 1x 4LR44 / 476A, 6V battery, not included

Type	Order code	1+
RGB candle kit	70-4438	5.49

518145

velleman® Electronic Candle Kit

Candle in the Wind may be good news for Sir Elton John, but it's not much use to anyone else if the flame goes out. With the Velleman Electronic Candle Kit you can have a candle that will never be blown out. Great for use in the home or garden for Christmas, Halloween or other parties, this kit gives you a choice of 3 different modes: flickering flame, steady flame and fade in/out.

- Autonomy +/- 15 days (5hr/day, flickering candle mode)
- Power-off timer +/- 5h
- Fits standard 38mm cup
- Safe for children and pets - no flame or heat
- 5hr turn-off timer saves batteries
- Yellow high-intensity LED
- PCB dimensions 38 x 25mm
- Power supply 3V battery CR2032/4mA
- Manufacturer's part **MK167**

Type	Order code	1+
Candle Kit	70-4406	3.39

518130

velleman® White LED Flashlight Kit

Handy keyring flashlight.

- Two high-power LEDs (4500mcd)
- LED life greater than 100,000 hours
- Low power consumption
- Runs up to 10 hours on a single battery
- Automatic battery management for efficient use of battery power
- Built-in strobo effect for emergencies
- Can also be used as an attention grabber
- Dimensions: 60 x 40 x 14mm
- Weight: 31g including battery
- Kit contains all components required including printed circuit board and construction instructions
- **Velleman MK143**

Requires 1x 12V battery, e.g. V23GA or GP23GA (not included).

Type	Order code	1+
LED flashlight	70-4160	6.69

074566

velleman® Rolling Clock Kit

A nicely animated rolling time and date display.

- Select hours, minutes, month or day
- Enter the values with SET
- Time display in 12 hour mode (24 hour mode when starting clock)
- Graphic display with a 35 LED display
- Fine tune clock with CV1
- Suitable for beginners
- Dimensions 70(L) x 45(W)mm
- **Velleman MK123**

Requires a 9 to 12V DC power supply and a 9V PP3 back-up battery (not included).

Type	Order code	1+
Rolling clock kit	70-4030	11.95

073844

velleman® Pulse/Pause Timer Module

The Velleman Pulse/Pause Timer is suitable for a wide range of applications where timing is an issue from controlling the operation equipment to regulating the automatic flushing of toilets and turning lawn sprinklers on and off. The Velleman Pulse/Pause Timer is available either in kit form or as a pre-assembled module.

- Wide timing range
- Easy time setting
- Dimensions 80 x 45 x 22mm
- Power supply 12 to 24Vdc

Type	Order code	1+
Kit	70-4456	11.49
Pre-assembled module	70-4568	14.49

518205

velleman® Jumbo Single Digit Clock

The time is displayed one digit at a time on the Velleman Jumbo Single Digit Clock. Complete with attractive enclosure, the Jumbo Single Digit Clock also has a blank display function.

- Bright 57mm red 7-segment display gadget clock
- Single button operation
- 12h system
- 30ppm accuracy
- Dimensions 74 x 59 x 32mm
- Power supply 9-12Vdc/150mA
- Manufacturer's part **MK153**

Type	Order code	1+
Jumbo Single Digit	70-4398	11.19

518127

velleman® Electronic Clock Kit

Digital clock with red seven-segment displays in an attractive case.

- Automatic time base selection (internal or net-frequency controlled 50/60Hz)
- Internal time base with fine-tuning adjustment
- Selectable 12 or 24 hour display
- Equipped with optional backup battery facility in case of power failure
- Dimensions: 92 x 45 x 101mm
- Kit contains all components required including printed circuit board and construction instructions
- **Velleman MK151**

Requires a 9V, 500mA AC/DC mains adaptor or 3x AA batteries (not included).

Type	Order code	1+
LED clock kit	70-4166	14.99

074566

velleman® Countdown Timer Kit

A very useful kitchen timer that will alert you with timings from 1 minute to 1 hour.

- Single button and straight forward operation
- Clear 16 LED readout
- Audible and visible alarm
- Discrete pre-alarm
- Auto power-off

- Attractive designer enclosure
- Suitable for beginners
- Dimensions 76.5(L) x 75(W) x 32(D)mm
- **Velleman MK128**

Requires 3x AAA 1.5V DC batteries (not included).

Technical specification	
Timer settings	1-10 minutes in one minute steps 10-30 minutes in five minute steps 30-60 minutes in 15 minute steps Better than 5%
Basic accuracy	3x AAA 1.5V batteries (not included)
Power supply	10mA typical
Power consumption	

Type	Order code	1+
Kitchen timer kit	70-4036	9.49

073847

velleman® Ding Dong Kit

Get that classic doorbell ringing sound with the Velleman Ding Dong Kit. The ding dong sound is played twice when the push button is pressed. The kit comes with an attractive compact fascia. The mini kit has an on board push button and connections for external use.

- 8Ω speaker supplied
- Current consumption <1μA idle, 55mA active
- Dimensions 70 x 97 x 30mm
- Power supply 1 x PP3 (9V) battery (not included)
- Manufacturer's part **MK177**

Type	Order code	1+
Ding Dong Kit	70-4424	4.89

518138

velleman® Water Alarm Kit

When this simple kit is made up it will give an audible indication if water is detected

- Sensor can be placed at a distance by cutting the PCB and using two wires
- Can be remotely located
- Includes buzzer alarm
- Suitable for beginners
- Dimensions 70(L) x 45(W)mm
- **Velleman MK108**

Requires an 8 to 15V DC power supply or a 9V PP3 battery (not included).

Type	Order code	1+
Water alarm	70-4012	4.95

073835

velleman® LCD Mini Message Board Kit

A miniature scrolling message board with a single-line 16-character LCD display.

- Message scrolls from right to left
- Adjustable speed
- Applications include exhibitions, advertising, greeting visitors, name tag, etc.
- Messages up to 46 characters long
- Can add pauses during scrolling
- Dimensions: 100 x 38 x 32mm
- Kit contains all components required including printed circuit board and construction instructions
- **Velleman MK157**

Requires 2x AAA batteries (not included).

Type	Order code	1+
Mini message board	70-4168	16.89

074570

Rapid
...where price meets quality

velleman®

Rolling Message Kit

Create your own moving message with up to 16 self definable characters, the options are many and varied.



- Adjustable scrolling speed
- Press 'SET' to change a particular character
- Press the up or down-key to select a character and end with the '>' sign
- Display standby function press 'Stby' (press RUN to restart)
- 35 LED graphic display
- Requires an 9-12V DC power supply or car battery
- 20mA maximum
- Suitable for beginners
- Dimensions 46/89(L) x 67(W)mm
- **Velleman MK124**

Back-up battery 9V PP3 (not included).

Type	Order code	1+
Rolling message	70-4032	8.99

07385

velleman®

Magic Message Kit

Impress your friends with the Velleman Magic Message Kit. Just key in your own 7-character message and wave the wand and your message will appear to float in the air. Can be used in daylight and in the dark to get your message across at parties, meetings and concerts... and if necessary in an emergency.



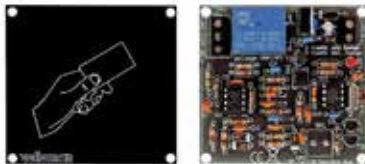
- High-intensity red LEDs give excellent visibility
- Low power consumption
- Auto power-off
- Dimensions 160 x 26 x 24mm
- Power supply 2 x AAA batteries (not supplied)
- Manufacturer's part **MK155**

Type	Order code	1+
Magic Message Kit	70-4400	12.29

518128

velleman®

Proximity Card Reader



The Velleman Proximity Card Reader can be used for numerous applications in homes and offices where security is needed or to control entry. Using RFID technology a relay can be activated when a card or fob is in close proximity (100mm) to the detection coil. The coil can be mounted up to 5m away from the main PCB. The Proximity Card Reader is available in kit form or as a pre-mounted module.

- Supplied with two cards
- Additional cards and key fob style actuator also available
- Stores up to 25 tags
- 64-bit code gives excellent security
- Unlimited number of tags in low-security mode
- Easy addition and removal of tags
- Coil can be mounted away from the board for higher security
- EM4100 compatible
- Relay output max. 3A/24V
- Dimensions 66 x 62 x 20mm
- Power supply 12Vdc/100mA

Type	Order code	1+
Self-assembly kit	70-4428	15.79
Ready-built module	70-4562	27.49
Additional card	70-4429	1.84
Additional key fob	70-4431	2.39

518140

velleman®

2-Channel IR Receiver Kit



An IR receiver which provides two separate channel functions that work in either toggle or pulse mode. Non-volatile memory for settings make this kit a compact and versatile unit for remote control applications. An ideal project for those with some soldering experience.

- Two channels with relay output
- Ultra compact
- Channel and reception indication via LEDs
- Toggle/pulse mode selection for each channel
- Learn mode for channel ID
- All settings permanently stored in EEPROM
- **Velleman MK161**

Type	Order code	1+
2-Channel IR receiver kit	73-4404	10.29

074259

velleman®

2-Channel IR Remote Transmitter Kit



A kit of parts for a two-channel IR remote transmitter compatible with most Velleman IR receivers.

- Compact two-button keyfob format
- Two powerful infrared LEDs give a range of up to 15m (indoors)
- 16 channels allow use of multiple transmitters in a room
- Easy channel setting – no jumpers required
- LED transmit indicator
- Dimensions 60 x 40 x 14mm
- Complete with assembly instructions
- **Velleman type MK162**

Supplied in kit form. Requires a 12V battery type 23A (not included).

Type	Order code	1+
2-chan IR Transmitter	73-4468	6.59

080508

velleman®

Mobile Phone Operated Switch

A kit of parts to build a circuit which is activated by the backlight of a ringing mobile phone.

- Turn equipment on and off from a remote location
- Turn on lights, heating, alarms, etc.
- No phone charges as circuit simply detects ringing



- No need to modify your mobile
- Can turn on or off, or on for a selected time
- **Velleman type MK160**

Mobile phone not included.

Type	Order code	1+
Mobile phone switch	73-4406	7.49

074248

velleman®

IR Remote Testers

How do you find out if the remote control for the TV or DVD player is working properly? With the Velleman IR Remote Tester you have the answer at your fingertips. Just point the remote at the sensor and push an arbitrary button. Four flashing LEDs indicate remote operation. The Velleman IR Remote Tester is available either in kit form or as a pre-mounted module.



- Low power consumption
- Dimensions 55 x 30 x 33mm
- Power supply 9V battery (not supplied)

Type	Order code	1+
Kit	70-4388	4.39
Mounted module	70-4514	8.18

518122

velleman®

Clap-Operated On/Off Switch

When you need to turn the room lights on or off, but don't want to move to reach the control, then the Velleman Clap-Operated On/Off Switch is the ideal solution. With this kit you can operate your lighting simply by clapping your hands.



- Ideal for disabled or elderly people
- Good immunity against surrounding noises
- 1-clap or 2-clap mode selection
- 2-clap mode features built-in safety turn-off timer
- Output relay pulse or toggle selection
- Microprocessor-controlled
- Output relay with LED indicator
- Relay power rating 24VDC/AC 3A
- Dimensions 79 x 83 x 22mm
- Power supply 12Vdc/150mA
- Manufacturer's part **MK139**

Type	Order code	1+
Clap On/Off Switch	70-4390	9.59

518123

velleman®

General Purpose Thermostats

General purpose thermostat with NTC temperature sensor from Velleman. It is available either as a kit to make yourself or as a pre-mounted module.



- Temperature range +5°C to +30°C approx. (+41°F to +86°F approx.)
- Output relay with LED indicator
- Relay power rating 24V AC/DC 3A
- Suitable for beginners
- Dimensions 54(L) x 62(W)mm x 28(D)mm
- **Velleman MK138**

Requires 12V DC power supply 100mA (not included).

Type	Order code	1+
Thermostat kit	70-4048	5.09
Pre-mounted module	70-4510	8.49

073853

velleman® Light Sensitive Switch Kit

Automatically switches on at dusk and turns off at dawn.

- Use to switch lights or draw curtains, switch on alarms, etc
- Adjustable sensitivity with wide range
- Delay circuit avoids cycling
- Relay output: NO/NC 24V/5A max.
- Power supply: 12V DC
- Power adapter connector
- Dimensions: 65 x 50mm
- Kit contains all components required including printed circuit board and construction instructions

• Velleman MK125

Type	Order code	1+
Light switch kit	70-4150	4.39

074561

velleman® MP3 Player Kit

Build your own MP3 player with the Velleman MP3 Player Kit. This kit enables you to create your own home audio system or jukebox, but can also be used to play jingles, messages or other sound effects.

- Suitable for SD and SDHC cards, tested up to 32GB
- Supports ID3 TAG information
- High-quality VLSI decoder
- 5 Preset folder access buttons
- Supports up to 1024 folders, each containing up to 16384 songs
- Decodes MP3 (MPEG 1.0 & 2.0 audio layer III (CBR, VBR, ABR), Tll 320kbit/s. Fraunhofer IIS and Thomson licensed
- Play-pause, next, previous, search, random and shuffle
- Volume control
- Equaliser settings: Flat, Loudness, Heavy, Clear, Soft, Disco, Live and Hall
- 6 play modes:
- On-board power amplifier
- RCA pre out
- Headphone and speaker outputs
- Mono operation possible
- Vertical or horizontal SD position possible
- PCB size 130 x 99mm
- Power supply 12Vdc/100mA
- Manufacturer's part **K8095**

Type	Order code	1+
MP3 Player Kit	70-4348	38.69

518118

velleman® Dual Electronic Dice Kit

This electronic dice kit displays two fully independent electronic dice.

- Choose to play using one or both dice
- Easy to read LED display
- results are automatically turned off after 30 seconds
- Fun to use, simple to operate
- Result displayed on this electronic dice module
- Cheating is out of the question

- Some soldering experience recommended
 - Suitable for beginners
 - Dimensions 76(L) x 70(W)mm
 - **Velleman K3400**
- Requires a 9V PP3 battery or 6V transformer (not included).

Type	Order code	1+
Dual electronic dice kit	70-4062	8.99

073860

velleman® Electronic Watchdog Kit



The trouble with the sort of watchdogs that have 4 legs and a tail is that they require feeding and being taken for walks. The Velleman Electronic Watchdog is just as effective as the real thing and is a lot cheaper to run - although it won't fetch sticks for you! The Electronic Watchdog Kit produces a natural sounding barking dog with a sensitive "ear" to everything that comes near it. It is a faithful watchdog, and unlike the canine variety, will never go to sleep on the job.

- Choice of two different barking sounds
- Reacts to surrounding noise with adjustable sensitivity
- Speaker output 2W at 4Ω
- PCB size 142 x 75mm
- Power supply 9-12Vdc or 2 x 8Vac/500mA
- Manufacturer's part **K2655**

Type	Order code	1+
Watchdog Kit	70-4248	20.19

518069

velleman® Audio Analyser Kit

You can give your homemade sound system a high-tech appearance with the Velleman Audio Analyser Kit. This small compact spectrum analyser is ideal for panel mounting or for fitting in to existing equipment.

- Auto or manual range selection
- Peak-hold function
- Speaker impedance selection
- Language selection
- White backlit LCD
- Easy panel mounting
- Dimensions 128 x 64 x 35mm
- Manufacturer's part **K8098**

Technical specification

Range	300mW to 1200W
Sensitivity	-34dBu (15.5mV rms)
Max. input level	50Vrms @ 220Ω
Frequency range	20Hz to 20kHz
Power supply	12Vdc / 75mA

Type	Order code	1+
Audio Analyser Kit	70-4350	31.49

518119

velleman® Pocket Audio Generator

The Velleman Pocket Audio Generator is a great little gadget ideal for use with repairs, testing, education and other applications. It is available either in kit



form for you to compile yourself or as a pre-assembled module.

- Microprocessor technology
- Digital waveform generation

Technical specification

Sine wave	50Hz, 100Hz, 1kHz, 10kHz, 20kHz
Burst	50Hz, 100Hz, 1kHz
Burst mode	20ms ON, 500ms OFF
Noise	32-bit digital noise
Output level (10KΩ)	0 to 775mV (0dB)
Outputs	2 x RCA (cinch)

Type	Order code	1+
Kit	70-4320	12.95
Pre-assembled module	70-4542	19.29

518104

velleman® Video Signal Cleaner

The Velleman Video Signal Cleaner can be used to remove unwanted distortion in video signals, stabilise picture quality and luminance fluctuations, and improve picture quality on LCD monitors or projectors. It is available either as a kit or as a pre-assembled module.



- Impossible to use S-video and composite video signals simultaneously
- LED indication when distorted video signal detected
- For PAL/NTSC video
- Should only be used to back up original video material of which you are the rightful owner
- PCB size 100 x 84mm
- Power supply 9Vdc/100mA

Type	Order code	1+
Kit	70-4302	22.05
Video Signal Module	70-4474	29.99

518095

velleman® Discrete 200W Power Amplifier



The Velleman Discrete 200W Power Amplifier is a high power audio amplifier, ideal for active speaker systems or subwoofers, guitar amps and other instrument amps. etc. Popular in kit form, this power amplifier is also available as a ready built module.

- Fully discrete design using Epitaxial Darlington transistors
- DC supply circuit on board with LED indication
- Comes complete with transistor isolators, spacers and bolts
- Overload and short-circuit protection
- 200W music power @ 4 Ω load
- 100Wrms power @ 4 Ω load
- 70Wrms power @ 8 Ω load
- Distortion 0.02% @ 1kHz/10W
- Damping factor >800
- Frequency response 3Hz to 200kHz (-3dB)
- Sensitivity 0.6Vrms
- Signal to noise ratio 115dB
- Power supply: 2 x 25-30Vac/120VA
- PCB size 107 x 62mm

Type	Order code	1+
Kit	70-4316	12.93
Pre-assembled module	70-4472	42.99

518102

velleman® Ultrasonic Distance Detector Kit



The Velleman Parking Radar Kit can help you manoeuvre your car into the tightest space. Using ultrasonic sound waves, whose frequency is beyond the range of human hearing, this kit means you can measure the distance between your car and nearby obstacles. For example, a sensor mounted on the back of the car can give an indication of the distance between your car and the one parked behind you (at the same height as the sensor). When the preset minimum distance is crossed, an audible signal is generated.

- Detection range: 5cm - 1.5m (adjustable)
- Detection angle: 5°
- Dimensions: 28x 95mm (sensor), 48 x 125mm (PCB)
- Power supply: 12-15Vdc/15mA
- Can also be used as "eyes" for robot projects
- Manufacturer's part **K3502**

Type	Order code	1+
Distance Detector	70-4252	19.99

velleman® Car Alarm Kit



Keep car thieves at bay with the Velleman Car Alarm Kit. The alarm detects sudden voltage drops of the battery when the interior, boot or bonnet lights are switched on. To ensure correct operation, a number of control indications have been included. A flashing LED indicates the alarm is in standby mode after a set time (after you have left the car). A pre-alarm (built-in buzzer) indicates the alarm is activated, so you won't forget to switch it off. The alarm is easy to switch on and off, either automatically or by means of the ignition switch or a remote control unit.

- Detects voltage drops of the battery
- Entry delay time: 2 to 30 seconds with buzzer indication
- Exit delay time: 2 to 180 seconds with LED indication
- Alarm period: 60 seconds with automatic reset
- Relay output 5A
- PCB size 62 x 100mm
- Power supply 12Vdc / 25mA
- Manufacturer's part **K3504**

Type	Order code	1+
Car Alarm	70-4254	13.89

velleman® 1MHz Pocket Function Generator

The easily-portable 1MHz Pocket Function Generator from Velleman means you can test signals on the move. Simply set the output voltage or frequency and select the signal waveform using the on-screen menu.

- 3 waveforms can be selected - sine, square, triangle
- Powerful sweep function included



- Frequency range 1Hz to 1,000,000Hz ($\pm 0.01\%$)
- Manufacturer's part **HPG1**

Type	Order code	1+
Function Generator	70-4212	84.69

velleman® Handheld Pocket Scope



The HPS140I Handheld Pocket Oscilloscope from Velleman may look tiny, but it packs plenty of power, making this an indispensable piece of equipment for anyone from the hobbyist to the professional user.

- Probe included
- Hold and store function
- White LED backlight
- Operates on NiMH rechargeable battery pack (included)
- Operates up to 6 hours on one charge
- Charging power supply: 9Vdc/200mA
- Dimensions: 74 x 114 x 29mm
- Manufacturer's part **HPS140I**

Type	Order code	1+
Pocket Scope	70-4214	112.49

velleman® Handheld Personal Scope with USB

Powerful, compact and with USB capability, the Velleman HPS50 Handheld Personal Scope has been designed by electronics enthusiasts for electronics enthusiasts. Simple to use and with a bright, clear display, the HPS50 boasts a number of must-have features.

- 40 MHz sampling rate
- 12 MHz analogue bandwidth
- 0.1 mV sensitivity
- 5 mV to 20 V/division in 12 steps
- Ultra fast full auto set-up option
- X and Y position signal shift
- LCD backlight
- 4 different screen modes
- USB PC connectivity
- Powered by 7.4V li-ion battery
- Dimensions 110 x 175 x 40mm
- Manufacturer's part **HPS50**

Type	Order code	1+
Personal Scope with USB	70-4216	184.99

velleman® 120-Piece Diode Set

The Velleman K/ DIODE1 pack is a set of 120 general purpose signal and bridge rectifier diodes, including bridge rectifiers, ideal for use by hobbyists, schools and colleges for electronic projects.

- Pack contains 50 x 1N4148 75V/200mA; 50 x 1N4007 1000V/1A; 14 x 1N5408 1000V/1A; 4 x 6A6 600V/6A; 2 x W01 100V/1.5A

Type	Order code	1+
Diode Set	70-4218	5.45

velleman® 100 Transistor Set

The Velleman Transistor Set is a pack of 100 of the most popular general purpose signal transistors, and is ideal for use as a starter kit for the electronic enthusiast or by schools or colleges. The set includes 8 types of small signal transistors.

- Pack includes:
- 28 x BC547B
- 28 x BC557B
- 12 x BC327
- 12 x BC337
- 6 x BC516
- 6 x BC517
- 4 x BD139
- 4 x BD140
- Manufacturer's part **K/TRANS1**

Type	Order code	1+
100 Transistors Set	70-4228	6.59

velleman® Electronic Transistor Car Ignition Kit

You can give your old banger the feel of an expensive luxury car with the Velleman Electronic Transistor Ignition Kit. After installing the Electronic Transistor Ignition Kit, you can expect better starting

and smoother running, particularly at very high and very low RPM. What's more, you can look forward to lower fuel consumption, less pollution and even lower servicing costs.

- Only suitable for petrol engines
- Only suitable for cars with negative ground
- Maximum current: 4A
- Connection speed: up to 500 kHz
- PCB dimensions 70 mm x 35 mm
- Power supply - 12V DC
- Manufacturer's part **K2543**

Type	Order code	1+
Car Ignition Kit	70-4230	11.71

velleman® Windshield Wiper Robot Kit



With the Velleman Windshield Wiper Robot Kit you can select up to 3 different time intervals for the windscreen wipers of your car, so you no longer have to put up with a choice of wipers on and wipers off in wet weather. The kit can also be used for automatic slide projection.

- 3 intervals available - 2 secs, 10 secs and 15 secs
- PCB dimensions 82mm x 56mm
- Powered supply 12V DC
- Manufacturer's part **K2599**

Type	Order code	1+
Wiper Robot Kit	70-4236	10.99

**No minimum order value
UK mainland only**

velleman®
Digital Tachometer Kit



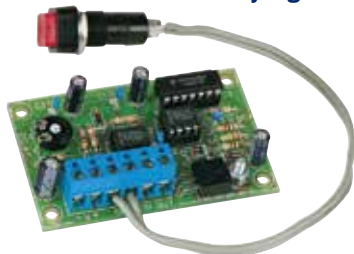
The Velleman Digital Tachometer Kit has been designed particularly for use with cars or motorcycles with a petrol engine, but the tachometer may also be used as a general purpose rev counter.

- Range 100 to 9900 revolutions per minute
- 2 digit display
- Easy calibration
- PCB size 80 x 45mm and 80 x 60mm
- Front panel size 70 x 90mm
- Power supply 10-15Vdc/200mA
- Manufacturer's part **K2625**

Type	Order code	1+
Tachometer	70-4240	24.49

518065

velleman®
Multifunction Car Courtesy Light Kit



Have you ever struggled to find the ignition switch or the seat belt when you're in the car in the dark? The Velleman Multifunction Car Courtesy Light Kit enables you to put together a device to shed a little light on the matter. The kit includes an extra push button and battery protection.

- Switch-off delay adjustable for 0 to 60 seconds
- PCB dimensions 45 x 70mm
- Power supply 12Vdc/13mA
- Manufacturer's part **K3500**

Type	Order code	1+
Car Light Kit	70-4250	9.95

518070

velleman®
Stereo Valve Amplifiers



You can reproduce the much-loved sound of the 1950s with the Velleman Stereo Valve Amplifier Kit. A high-power valve amplifier has long been beyond the price range of all but the rich, but with the Velleman Stereo Valve Amplifier Kit everybody can enjoy that sublime "valve sound". In the development process, special attention was given to the housing so the expensive valves are displayed in a visually attractive manner. The most vulnerable point of a valve amplifier are the output transformers, so Velleman use ultra-linear and toroidal output transformers to guarantee a rich bass response. To extend the life of the precious valves, the amplifier has a switch-on delay, so the high voltage is switched on when the valves are warmed up.

- Available in 2 colours: chrome and black
- Output power: 2 x 90Wrms music power for loads of 4 or 8Ω
- Power bandwidth: 15Hz - 40kHz (-3dB ref. 50W)
- Frequency range: 8Hz - 80kHz (-3dB ref. 1W)
- Harmonic distortion: 0.08% (1kHz/1W), 0.7% (1kHz/90W)
- Signal-to-noise ratio: > 105dB
- Channel separation: > 75dB
- Input impedance: 34KΩ
- Input sensitivity: 1Vrms at 95W
- Damping factor: > 10 (100Hz)
- Dimensions: 425 x 130 x 350mm
- Power supply: 230Vac

Colour	Order code	1+
Chrome	70-4256	949.99
Black	70-4258	849.99

518073

velleman®
4-Channel Multifunction Running Light Kit



The Velleman 4-Channel Multifunction Running Light Kit enables you to put together a circuit which does much more than an ordinary running light. Not only does it run in both directions, but it also flashes with two groups of lamps (flip-flop) and with all the lamps at the same time. The four light effects follow each other automatically.

- 4 triac outputs: max. 2A each (400W at 220V or 200W at 110V)
- Can be synchronised to mains or can work asynchronously
- Adjustable running speed
- Suppression of radio interference in synchronous mode
- PCB size 110 x 85mm
- Power supply 220Vac
- Manufacturer's part **K5200**

Type	Order code	1+
Running Light Kit	70-4260	18.89

518074

velleman®
Advertisement LED Display Kit



NOT PROGRAMMABLE !

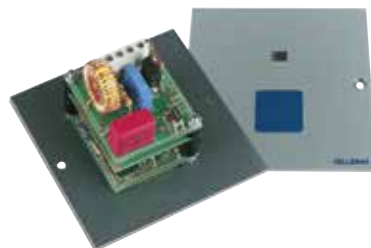
If you want your customers or clients to get the message then get the Velleman Advertisement LED Display Kit. The kit enables you to create your own message and put it up in lights. It can be used in the shop or in the home or on the move in a car or bus. Different displays can be synchronised, to create longer messages, or to create giant advertisements. Kit includes 150 red LEDs.

- 12 self definable characters
- Available light effects include scrolling, blinking, rolling and panning
- Adjustable effect speed
- Vertical or horizontal position
- Fixed display possible
- 5 x 7 LED matrix for each character
- Bright LEDs: 60 to 80mcd (max.)
- Microprocessor technology
- Oscillator output for synchronisation with other displays
- Reverse polarity protected
- PCB size 80 x 473mm
- Power supply 12-28Vdc/760mA
- Manufacturer's part **K5600R**

Type	Order code	1+
LED Display	70-4264	28.95

518076

velleman®
IR Remote Controlled Dimmer Kit



This one channel IR Remote Controlled Light Dimmer Kit from Velleman produces a device that can be set to 1 of 15 transmitter codes. Thanks to its compact design, this kit fits into a standard light switch housing.

- Maximum load 2A (4A with heat sink)
- Supply voltage 220VAC 50/60Hz (110VAC possible)
- Transmitter/receiver distance: max. 7m (23ft)
- Not suitable for halogen lights
- Manufacturer's part **K6712**

Type	Order code	1+
IR Dimmer Kit	70-4270	27.52

518079

velleman®
8-Channel Universal Relay Card



If you want to switch large electric currents using an electronic control and require control isolation at the same time, then this 8-Channel Universal Relay Card from Velleman could be just what you need.

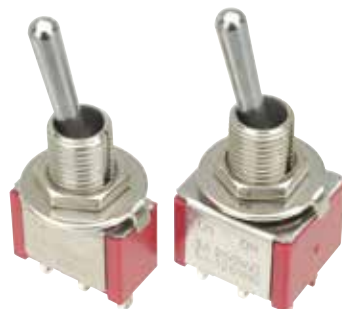
- 8 relays included (extendable to 16)
- The relays can be piloted directly or through open-collector outputs
- Contact: 1 x inverter: 10A/28VDC or 125VAC, max. 5A at 230VAC
- Relay switch-over contact: max. 5A at 220V
- Output voltage: 12V/250mA for power supply
- PCB size 150 x 212mm
- Power supply 115 or 240VAC/12VA
- Manufacturer's part **K6714**

Type	Order code	1+
Relay Card	70-4272	34.99

518080

Page 952

Toggle Switches



velleman®
Signal Tracer/Injector



The Velleman Signal Tracer/Injector has been designed to detect or inject a specific signal into an audio circuit in need of repair so as to detect the fault. In this way problems with amplifiers and radios etc can be traced more easily. The signal tracer may also be used as a simple monitor or amplifier.

- Signal injector:
- 0-2.5Vrms output (adjustable)
- Output impedance: 1.5KΩ
- Frequency: ± 1kHz
- Signal tracer:
- 3.5mV to 10Vrms sensitivity (adjustable)
- Gain: 40dB
- Input impedance: 50KΩ
- Output power: 0.5W/8Ω
- PCB size 60 x 53mm
- Power supply 7-9Vac or 9-12Vdc/150mA
- Manufacturer's part **K7000**

Type	Order code	1+
Signal Tracer/Injector	70-4274	10.29

518081

velleman®
Valve Control Amplifier



The Velleman Valve Control Amplifier Kit just oozes quality with its high-end design, typified by the stylish solid aluminium enclosure and a whole load of specifications will satisfy the most demanding customer.

- 4 inputs
- High quality ALPS volume potentiometer
- Full valve design
- Auto muting (warm up) at power on
- Highly reliable reed relay input selection
- Separate left and right input section
- Programmable level adjustment: +6dB for each input
- Regulated DC filament supply
- Output mute function
- Switchable monitor output
- Dimensions 290 x 165 x 68mm
- Manufacturer's part **K8020**

Technical specification

Input sensitivity for 0dB	200mV/50KΩ approx
Input crosstalk	< -100dB @ 0dB in
Max output level	35Vpp
Output load impedance	10k or higher
Signal to noise ratio	100dB
Total harmonic distortion	<0.04% @ 1kHz/47k load
Gain	x2 or x4 (+ 6dB on)
Channel separation	95dB @ 0dB in
Frequency response	7Hz to 150kHz (-3dB) @ x2 gain
	18Hz to 55kHz within 0.3dB
Power supply	115 or 230V AC 16W

Type	Order code	1+
Valve Control Amplifier	70-4292	247.46

518090

velleman®
Suppressed 3.5A Dimmer Kit



The Velleman Suppressed 3.5A Dimmer Kit makes an easy replacement for an existing switch due to its small size. The kit enables you to vary the brightness of a light or group of lights, but may also be used to adjust the speed of a motor, vacuum cleaner, or any other motor with carbon brushes.

A mains suppressor is provided to eliminate undesirable RFI.

- Not suitable for halogen lamps
- Protected against induction voltage peaks
- Load: 3.5A (750W at 230V and 380W at 110V)
- Suppressed according to EN55015
- PCB size 60 x 60mm
- Power supply 110-230Vac
- Manufacturer's part **K8026**

Type	Order code	1+
Dimmer Kit	70-4296	11.49

518092

velleman®
Slow On-Off Dimmer Kit



The Velleman Slow On-Off Dimmer Kit produces a slow dimming device with two programmable methods of working. In on/off mode, the dimming direction changes with each key press. This mode also simulates a "regular" dimmer. In the second mode, the light is turned on at full power for a programmable time, after which it slowly fades to zero.

- Microprocessor controlled
- 2 programmable delays ranging from 1 second to 1 hour
- No memory loss in case of power failure
- "Soft-start" function prolongs life of the bulbs
- AC power: 110-125 or 220-240VAC 50/60Hz
- Max. load: 1.3A (150W/120V to 300W/230V)
- Dimensions: 67 x 57 x 25mm
- Not suitable for use with low voltage halogen lighting or electronic transformers
- Manufacturer's part **K8029**

Type	Order code	1+
Slow Dimmer Kit	70-4298	12.77

518093

velleman®
4-Channel Running Light



The Velleman 4-Channel Running Light Kit lets you create the sort of lighting effects used at top discos and supercool parties - at a fraction of the price. This module is the perfect addition to your existing system if you really want to make the party go with a swing. The speed of the module can be adjusted manually.

- All outputs are equipped with a LED indication
- Suppressed according to EN55015
- Adjustable speed for charge switching
- Maximum load per channel: 450W (240VAC)/230W (115VAC)
- Speed adjustable between 0.2 and 3Hz
- Size 100 x 83 x 36mm
- Power supply 110-240Vac
- Manufacturer's part **K8032**

Type	Order code	1+
Running Light	70-4300	21.95

518094

New products

www.rapidonline.com

velleman®
Dimmer for Electronic Transformers



The Velleman Dimmer for Electronic Transformers is suitable for incandescent lamps, mains voltage halogen lighting and low voltage halogen lighting in combination with an electronic transformer. A brief push toggles on/off, while continued pushing engages dimming action. There is also a "soft-start" feature to make the lamps last as long as possible. This dimmer unit is available either in kit form or as a pre-assembled module.

- Non volatile memory for last set light intensity
- Interference suppressor for reduced EMI, according to EN55015
- LED status and error indication
- Inductor and filter free
- Phase control technology with coolMOS™ FET-transistor
- Maximum load 300W/230V or 150W/115V, 0-98% adjustable
- Dimming cycle speed +/- 5 sec
- Dimensions 65 x 57 x 25mm
- Power supply 110 to 125 or 220 to 240Vac 50/60Hz

Type	Order code	1+
Kit	70-4322	13.95
Pre-assembled	70-4500	26.64

518105

velleman®
Subwoofer Kit



The Velleman Subwoofer Kit contains all the bits of equipment needed to construct a compact yet powerful high quality subwoofer for your sound system.

- Wood panels not included
- Bass-reflex system with adjustable tube
- Compact size due to dual-speaker principle
- Adjustable level and filter response
- Auto power-on/off system
- Phase switch (0°-180°)
- Line level and speaker level inputs for maximum compatibility
- "Full-range"-option for use in active speaker system
- Separate chamber for electronics avoids air leaks
- Dimensions 460 x 310 x 210mm
- Power supply 115 or 230Vac
- Manufacturer's part **K8077**

Technical specification

Power output:	100Wrms/ 4ohm (10% THD)
Filter freq. response	wide 25 - 110Hz (-6dB), narrow 18 - 65Hz (-6dB)
Speakers	2 x 6.5in 8 Ω drivers
Line level input sensitivity	500mV
Auto turn-on level	5mV
Volume	Approx. 20 litre

Type	Order code	1+
Subwoofer Kit	70-4330	79.95

518109

Page 955

Toroidal Transformer



velleman® 3rd Brake Light Flasher Kit

The Velleman 3rd Brake Light Flasher Kit will work on any car or van which has a third brake light (incandescent or LED). It makes the third light flash 5 or 10 times.

The re-triggering setting can be in one of two modes.

- Easy two-step installation
- Selectable flash repeat interval
- Includes shrink tube to cover complete unit
- Fflash frequency 7 times per second
- Maximum load 4A
- Dimensions 60 x 30 x 20mm
- Power supply 12Vdc
- Manufacturer's part **MK178**

Check with local authorities that device is legal in your country.

Type	Order code	1+
Brake Light	70-4426	6.95

518139

velleman® USB PC Scope and 2-channel Generator



The feature-packed Velleman USB PC Scope and 2-Channel Generator is a complete USB-powered lab in a box. The software offers a 2-channel oscilloscope, spectrum analyser, transient recorder, function generator and bode plotter. With the generator, you can create your own waveforms using the integrated signal wave editor. For automated measurements, it is possible to generate wave sequences, using file or computer input.

- Manufacturer's part **PCSGU250**

Type	Order code	1+
USB PC Scope	70-4468	149.95

518154

velleman® USB PC Scope and Signal Generator

The pocket-sized Velleman USB PC Oscilloscope and Signal Generator contains a whole world of measuring tools in one small box. It includes a powerful 2 channel oscilloscope and a handy bode plot function. There is no need for a power supply as the unit is powered over USB.

- Includes function generator, oscilloscope, transient recorder, bode plotter, spectrum analyser, manual, USB PC scope+generator unit and USB cable
- Dimensions: 100 x 100 x 35mm
- Minimum system requirements - IBM compatible PC, Windows™ XP, Vista, 7 * , SVGA display card (min.1024 x 768), mouse, USB port 1.1 or 2.0
- Manufacturer's part **PCSU 200**

Type	Order code	1+
PC Scope & Generator	70-4470	149.95

518155

velleman® Digital Panel Thermometer

The Velleman Digital Panel Thermometer has an easy-to-read bright red LED display and has a versatile range from -30°C (-22°F) up to +120°C (248°F). Digital communication between the sensor and the display unit eliminates measurement errors.

- Power supply 9 to 24Vdc/7 to 17Vac
- Dimensions 67 x 40.5mm
- Manufacturer's part **VM145**

Type	Order code	1+
Thermometer	70-4528	24.99

518186

velleman® Panel Counter Module

It doesn't matter what you need to count, the Velleman Panel Counter will make the task easier. The bright red LED display means the number is always easy to read.

- 2 Inputs
- Counts up and down
- Memory function constantly compares current value with preset
- Power consumption <50mA
- Manufacturer's part **VM147**

Type	Order code	1+
Counter	70-4532	24.99

518187

velleman® Panel Thermostat Module

The Velleman Panel Thermostat is a compact panel-mounted thermostat with LED indication, which uses a 3-wire sensor for accurate indication and control of temperature. It is ideal for controlling room or incubator temperatures.

- Temperature range -18°C to +60°C
- Readout update interval 1 second
- Power supply 9 to 12Vdc
- Dimensions 67 x 40.5mm (module), 54 x 37mm (cut-out)
- Mounting depth 40mm
- Manufacturer's part **VM148**

Type	Order code	1+
Thermostat	70-4534	28.49

518188

velleman® RGB LED Dimmer for DIN Rail

The Velleman RGB LED Dimmer for DIN Rail module is designed to control LED flexible strips. The three outputs drive high power Mosfets which can each sink about 5A. A variety of colours and dimming combinations can be selected.

- Easy DIN Rail mounting
- Dual push button operation
- Short circuit protection
- Suitable for use with 12 to 24Vdc common anode RGB or single colour LED strips
- Maximum output 5A/channel
- Power supply 12 to 24Vdc
- Manufacturer's part **VM150**

Type	Order code	1+
Dimmer	70-4536	34.99

518189

velleman® Fan Timer

The mains-operated Velleman Fan Timer has been designed to control an extractor fan, but it is equally suitable for operating outside lights or for a variety of security applications. The Velleman Fan Timer allows equipment to run for 3 minutes or to be switched off between 7 and 15 minutes after the mains power has been removed.

- Dipswitch setting for all functions
- Selectable On and Off timer
- Max load 3A
- Dimensions 80 x 70 x 23mm
- Power supply 230Vac
- Manufacturer's part **VM154**

Type	Order code	1+
Fan Timer	70-4540	19.44

518191

velleman® Panel Clock Module

The Velleman Panel Clock Module is an LED display timer suitable for a variety of uses in the home, in the workplace and in the car. The clock features an alarm output which could be used to switch a light or other appliance on or off. There is also an option to turn off the display for in car use or to save battery life.

- Dimensions 67 x 40.5mm
- Manufacturer's part **VM163**

Type	Order code	1+
Clock Module	70-4552	26.49

518192

velleman® Mini Dimmer Kit

The Velleman Mini Dimmer Kit is a simple module offering a dimmer for a variety of applications. Small and compact, this mini dimmer fits easily into an existing electrical lighting switch.

- Power supply 220 to 240Vac/50Hz
- Maximum load 200W
- Dimensions 40 x 40 x 20mm
- Manufacturer's part **VM164**

Type	Order code	1+
Mini Dimmer	70-4554	19.49

518193

Page 884

LED High Brightness



velleman® PC1602WRS-KWA-E LCD 16x2 STN Display with White Backlight

A dot-matrix LCD display capable of displaying 2 rows of 16 characters. For use in poorly lit environments, the display has a white backlight facility.

- Display type: 16 x 2 characters
- LCD type: STN, grey, positive, transfective, normal temp
- Duty-bias: 1/16 - 1/5
- Character font: 5 x 7 dots
- Viewing direction: 12 o'clock
- Velleman type PCWRS-KWA-E

Technical specification

Supply for LCD driver (V_{dd}-V_o)

At 0°C	4.8V typ.
At 25°C	4.6V typ.
At 50°C	4.4V typ.

Supply for logic (V_{dd}-V_{ss})

At 25°C	5.0V typ.
Operating temperature	0°C to +50°C
Storage temperature	-20 to +70°C
Viewing area	36 x 10mm
Dot size	0.33 x 0.35mm
Character size	3.15 x 1.85mm
Weight	13g

Type	Order code	1+
16 x 2 LCD display	57-4141	14.27

544784

velleman® TS1 Pentolobe Screwdriver for iPhone 4, 4S, 5 & 5S

A pentalobe - 5 lobed - screwdriver for opening the cases of iPhone 4, 4S, 5 and 5S. The screwdriver comes with a suction cup that can be used to grip and easily lift open the iPhone case.

- Blade length: 40mm
- Overall length: 138mm
- Suction cup diameter: 35mm
- Velleman type TS1

iPhone is a trademark of Apple Inc., registered in the U.S. and other countries.

Type	Order code	1+
Pentalobe screwdriver	57-4142	3.52

544785

velleman® K8096, 1 Channel USB Stepper Motor Card Kit

With the Velleman K8096, 1 Channel USB Stepper Motor Card Kit you can simultaneously check the status of the dry-inputs like emergency stop signal, limit detection, etc., while the motor turns. You can use the switch inputs to test the motor. The motor card can be used in every application where positioning is needed (e.g., plotters, printers, valves, automation, etc.).

- Capable of driving 1 stepper motor
- Suited for bipolar motors
- Current of the motor can be adjusted (trimmer)
- Over current protection sensing
- Onboard switch mode supply
- USB connection: control the motor using your computer
- DLL file supplied to write your own software
- Includes board-to-wire connections
- Power output: 750mA continuous, (1A peak)
- Wide range AC - power input: 5 to 30V
- 5 dry-contact inputs
- 1 logic open collector output
- Power supply: 10 to 30V AC
- Dimensions: 117 x 65.5 x 25mm
- Velleman type K8096

Type	Order code	1+
USB motor card kit	57-4143	30.55

544786

velleman® RGB LED Dimmer Module

A ready-built 3-channel 5A-12V/24V LED dimmer for dimming LED strips.

Create an atmosphere which suits you best or let your lights dim slowly to avoid unexpected surprises. It is also possible to simulate a sunrise which makes waking up a lot more pleasant!

- 3 channel 0 to 10V DC PWM DC dimmer
- Selectable fast / slow response
- PWM frequency: 90Hz
- Power supply: 12 to 24V DC
- Max. output current: 5A per channel
- DIN-rail enclosure: 2 modules wide
- Velleman type VMBRGBDC

Requires 0 to 10V (1 to 10V) controller: VMB4DC.

Type	Order code	1+
LED dimmer	57-4463	35.65

545106

velleman® DC to DC Pulse Width Modulator Kit

A kit of parts to build a control circuit suitable for the precise control of DC motors, brightness regulators, small heaters and much more.

The circuit converts a DC voltage into a row of pulses, the duration of which is proportional to a control voltage. The big advantage is that almost no performance is lost in the control circuit. The design incorporates protection against overload and short-circuits.

- Operating voltage: 8 to 35V DC
- Output power: 6.5A
- Height: 45mm
- Length: 85mm
- Width: 48mm
- Velleman type K8004

Type	Order code	1+
PWM kit	57-4464	13.21

545107

velleman® VM202N, USB/SD Card MP3 Player Jukebox Module

This ready-assembled module from Velleman plays your .mp3 files stored on a USB memory stick or SD card.

- Ready-assembled
- Pushbuttons for 'NEXT', 'PREVIOUS' and 'PLAY/PAUSE'
- LED play/pause indicator
- Playback starts at power on
- Continuous looping of all tracks
- Stereo line level output
- Applications: make your own MP3 jukebox, MP3 playback to any domestic or car audio system, message playback system
- Supported file format: mp3 (128kb/s, 192kb/s, 256kb/s, 320kb/s variable bit rate)
- Audio output: 500mV/47kOhm stereo line out
- Power supply: 5V DC or 9 to 12V DC / 50mA max.
- Dimensions: 45 x 40 x 8mm
- Velleman type VM202N

Type	Order code	1+
MP3 jukebox module	57-4516	12.19

545109

velleman® B8006 DIN Rail Mounting Enclosure



A DIN rail mounting enclosure suitable for many Velleman modules and kits as well as for general purpose use.

- Dimensions 163 x 74mm / 130 x 90mm
- Suitable for general purpose use plus:
- K8006 Base unit for home modular light system
- K8056 8-channel remote relay card
- VM129 8-channel relay card
- VM118 8-channel remote control
- K8090 8-channel USB relay card
- VM8090 8-channel USB relay card
- VM201 Ethernet relay card
- Velleman type B8006

Type	Order code	1+
DIN rail mount box	57-4517	24.23

545100

velleman® MK140 Karaoke Mixer



Build the kit, then sing along to your favourite music with the Velleman MK140 Karaoke Unit. Simply hook-up the unit between your amplifier and CD player, etc.

- Self assembly kit
- Phono (RCA / Cinch) input and output sockets
- 6.35mm (1/4in.) microphone jack, fits most microphones
- Adjustable microphone level
- 'Vocal reduction' reduces original vocals on most stereo recordings
- On/off switch and LED power indicator
- Power supply: 9V battery (not incl.)
- Low power consumption: 16mA typ.
- Dimensions: 100 x 84 x 25mm
- Velleman type MK140

Takes 1x PP3, 9V battery, not included.

Type	Order code	1+
Karaoke mixer kit	57-4518	9.03

545101

velleman® EDU09 Educational PC Oscilloscope Kit

Oscilloscopes needn't be expensive and complicated!

Build your own oscilloscope and use your PC to display your measurements. This small and easy to build kit has all the features of a full blown oscilloscope and comes complete with detailed instructions and test leads.

- Self-assembly kit
- Dimensions 94 x 94mm
- Velleman type EDU09



Technical specification

Oscilloscope:
 Bandwidth: DC to 200kHz \pm 3dB
 Input impedance: 100k Ω / 20pF
 Maximum input voltage: 30V (AC + DC)
 Time base: 10 μ s to 500ms per division
 Input range: 100mV to 5V/division
 Input sensitivity: 3mV display resolution
 Readouts: True RMS, dBV, dBm, p to p, Duty cycle, Frequency ...
 Record length: 1k samples
 Sampling frequency: 62.5Hz to 1.5MHz
 Sample history function
 Auto set-up function
 Pre-trigger function: on 0.1ms/div. to 500ms/div ranges
 Persistence options: Colour graded, Variable and Infinite
 Spectrum analyser:
 Frequency range: 0 to 150Hz to 75kHz
 Operating principle: FFT (Fast Fourier Transform)
 FFT resolution: 512 lines
 Transient recorder:
 Timescale: 20ms/div to 2000s/div
 Max. recording time: 9.4h/screen
 Automatic storage of data
 Record and display of screens
 Automatic recording for more than 1 year
 Max. number of samples: 100/s
 Min. number of samples: 1 sample/20s
 General information:
 Markers for: amplitude/voltage and frequency/time
 Expert or basic mode selection in software
 Input coupling: DC and AC
 8 Bit resolution
 Storage of display and data
 Power supply through USB: +/- 200mA
 Uses Microsoft® human interface device (HID) driver, no external driver required
 Dimensions: 94 x 94mm
 Minimum system requirements:
 IBM compatible PC
 Windows® XP, Vista, 7, 8
 SVGA display card (min. 1024 x 768)
 Mouse
 Free USB port 1.1 or 2.0

Type	Order code	1+
PC based scope	57-4590	30.55

velleman®
K8101 USB Message Board Display Kit

Build another screen and connect it to your computer to show the information you want! Even if your main screen is off.

- 4 downloadable example programs with source code supplied:
- Twitter Display: displays the incoming feeds
- Mail Display: shows incoming mail subjects
- Drive Display: shows info of your HDD
- Eyes Display: mouse movement and click animation
- DLL supplied to easily code your own applications (VB.net - C#)
- 1 Button with 2 programmable functions (short & long press)
- Equipped with a buzzer that can be configured through software
- A test program (with source code) can also be downloaded to test all functions of the kit (button, backlight, buzzer, LCD draw routines)
- 13 other commands
- Height: 60.5mm
- Width: 77.5mm
- **Velleman type K8101**

Technical specification

Backlight: White LED
 LCD resolution: 128 x 64 pixels
 Power: Via USB
 Power consumption: 35mA max.
 Dimensions: 77.5 x 60.5 x 38mm

Type	Order code	1+
USB display	57-4591	40.75

velleman®
K8097, 4-Channel USB Stepper Motor Card

With the Velleman K8097, 4 Channel USB Stepper Motor Card Kit you can simultaneously check the status of the dry-inputs like emergency stop signal, limit



detection, etc., while the motor turns. You can use the switch inputs to test the motor. The motor card can be used in every application where positioning is needed (e.g., plotters, printers, valves, automation, etc.).

- Capable of driving 4 independent stepper motors
- Suited for bipolar motors
- Current of each motor can be adjusted independently (trimmer)
- Over current protection sensing
- Onboard switch mode supply
- USB connection: control the motors using your computer
- DLL file supplied to write your own software
- Includes board-to-wire connections
- Power output per motor: 750mA continuous, (1A peak)
- Wide range AC - power input: 5 to 30V
- 6 dry-contact inputs
- 1 logic open collector output
- Power supply: 10 to 30V AC
- Dimensions: 140 x 100 x 30mm
- **Velleman type K8097**

Type	Order code	1+
4-ch motor driver	57-4592	48.44

velleman®
Electronic Xenon Flashing Strobe Lights

These electronic xenon flashing strobe lights are ideal for alarm systems, discos, warning lights, etc.

- Available in a range of colours
- Long-life xenon tube
- Protected against polarity reversal
- Weatherproof
- Power output: 1W
- Power supply: 12V DC
- Current consumption: 150mA 180mA 80 to 100/min
- Life expectancy: \pm 3 x 1,000,000 flashes
- Operation temperature: -40 °C to +80 °C
- Black ABS / acrylic cover
- Dimensions: 70 (ø) x 64mm
- IP rating: IP44
- Cable length: 450mm \pm 10mm
- Screw: M5

Type	Order code	1+
Blue	57-4670	5.32
Green	57-4671	5.32
Red	57-4672	5.32
Amber	57-4673	5.32
Clear	57-4674	5.32

velleman®
3D LED Cubes 5 x 5 x 5

Build your own 3D LED cube and create stunning 3D lighting effects. The units come with standard pre-loaded effects to get you going, then you can connect to your computer via USB and create your own!

- 5 x 5 x 5 grid = 125 LEDs
- User programmable via USB (creation of animation/scenes)
- Free software download
- Large amount of user programmable frames
- Frames are separately dimmable
- 4 transition speeds
- Available frames: 3200
- 5 levels of LED dimming available
- No coding skills required

Expert soldering skills required!

Type	Order code	1+
Blue	57-5062	56.61
White	57-5063	61.10

velleman®

Arduino Input/Output Shield Kit

A general-purpose Input/Output shield for Arduino available either as a self-assembly kit of parts, or as a pre-assembled module.

- 6 relay outputs
- 6 analog inputs
- 6 digital inputs
- Downloadable sample sketch
- Stackable design: can be stacked with other shields
- Large user community
- 1A (max.) load per output
- 120V max. per output
- Uses pin 8 to 13 as outputs, pin A0 to A5 as analog inputs, and pin 2 to 7 as digital inputs
- Dimensions: 70 x 55 x 30mm

Requires 1x Arduino UNO™ (not included).

Type	Order code	1+
Kit	57-5850	16.27
Pre-assembled	57-5851	26.47

velleman®

Arduino RGB Shield Kit

This Velleman Arduino RGB shield allows you to control 3 dimmer channels (1x RGB or 3 single channels) with your Arduino UNO™. The shield is available either as a self-assembly kit of parts, or as a pre-assembled module.

- Downloadable example sketch
- Stackable design: can be stacked with other shields
- Large user community
- 2A load via Vin or 6A load via external power
- 12 or 24V external power supply
- Uses pins 3, 5 & 6 PWM on an Arduino UNO™ board
- Dimensions: 75 x 55 x 25mm

Requires 1x Arduino UNO™ (not included).

Type	Order code	1+
Kit	57-5852	9.13
Pre-assembled	57-5853	14.23

velleman®

Arduino Motor and Power Shield Kit

The Velleman Arduino Motor and Power Shield can drive relays, solenoids, DC motors and stepper motors. It is available either as a self-assembly kit of parts, or as a pre-assembled module.

- 2 channels
- Choose between an external or internal (Vin) power supply
- Based on the dual full bridge driver L298P
- Downloadable sample sketch
- Stackable design: can be stacked with other shields
- Large user community
- 2.5A (max.) output current (each channel)
- 50V (max.) external power supply input
- Used pins on an Arduino UNO board can be selected to accommodate other stacked shields
- Dimensions: 68 x 53mm

Requires 1x Arduino UNO™ (not included).

Type	Order code	1+
Kit	57-5854	13.21
Pre-assembled	57-5855	18.31

velleman®**Arduino Ethernet Shield Kit**

With the Velleman Arduino Ethernet Shield Kit you can configure your Arduino as a simple web server or let it get data from the worldwide web. The shield is available either as a self-assembly kit of parts, or as a pre-assembled module.

- Based on the Microchip ENC28J60 chip
- Downloadable sample sketches and library
- Stackable design: can be stacked with other shields
- Large user community
- Data rates up to 10Mbps
- Integrated MAC controller
- 8kB Transmit / Receive Packet Dual Port Buffer
- MAC controller supports both Unicast, Multicast and Broadcast packets, has a programmable (up to 64-byte) pattern matching feature within a packet at user defined offset and programmable wake-up on multiple packet formats (Magic Packet, Unicast, Multicast, Broadcast, specific packet match or any packet)
- Uses pin 10 and 2 on an Arduino UNO™ board. It also uses the ICSP connector as a serial connection to the shield to free up I/O pins
- Dimensions: 80 x 55 x 30mm

Requires 1x Arduino UNO™ (not included).

Type	Order code	1+
Kit	57-5856	17.29
Pre-assembled	57-5857	28.51

NEW

- Only 3 wires are required for hook-up
- Supply voltage: 12V battery
- PCB dimensions: 48 x 57mm / 1.9 x 2.2in.
- **Velleman K3505**

Type	Order code	1+
Car light alarm kit	70-4187	9.27

078391

velleman®**Frost Indicator Kit**

The Velleman Frost Indicator will enable you to drive more safely when the weather is turning nasty. This kit uses a flashing LED to let you know when the road temperature close to freezing point - and when extra caution is required. A reliable temperature sensor with mounting stud is included as part of the kit.

- PCB size 56mm x 42mm
- Power supply 10-15Vdc/25mA
- Manufacturer's part **K2644**

Type	Order code	1+
Frost Indicator	70-4246	8.29

518068

**velleman®****Digital Clock Kit**

When the time matters the Velleman K8089 Digital Clock kit offers a timely solution. The easy-to-read digital display can be used to display the time in the workplace or in commercial premises. The words Open/Closed can also be displayed if desired.

- 12/24 hour clock
- Temperature readout
- Auto toggle function
- Easy time setting
- Wall mounting
- Back-up battery CR2032
- Enclosure included
- Automatic frequency detection
- Dimensions 230 x 74 x 32mm
- Power supply 12Vac/250mA
- Manufacturer's part **K8089**

Type	Order code	1+
Digital Clock Kit	70-4340	44.95

518114

**velleman®****LED Clock with Slow On Dimmer Kit**

If you prefer to be woken gently to being jolted from your slumbers then the Velleman LED Clock with Slow On Dimmer Kit could be just what you need. The clock has an output connection for a light which starts to get brighter 15 minutes before the set time. The light intensity of the connected appliance will increase up to full power and at the set alarm time beeps will be heard. The beep length is gradually built up so you will not be startled by a sudden alarm signal.

- Clock with red 7-segment display
- Possibility to connect any lamp armature fitted with a light bulb
- Sleep function (15 min) for slow light power-off
- Snooze function with alarm repeat function after 8 minutes
- Manually settable light intensity
- Beep and/or light option
- Lamp power: 100W max
- Power consumption: < 1W (without lamp)
- Dimensions 92 x 45 x 101mm
- Power supply 220-240Vac
- Manufacturer's part **K8091EU**

**velleman®****Arduino Audio Shield Kit**

With this Velleman Arduino Audio Shield Kit you can record your voice via a built-in microphone or a line input. The shield is available either as a self-assembly kit of parts, or as a pre-assembled module.

- 60 second recording time
- Start playback, record, via on-board buttons or via Arduino® UNO
- Playback via a speaker or a line output
- Downloadable sample sketch and library
- Stackable design: can be stacked with other shields
- Large user community
- Audio sample frequency: 8kHz
- Uses pin 10 on an Arduino® UNO board as a Chip Select
- Uses the ICSP pins on an Arduino as a serial connection to the shield to free up I/O pins
- Memory write up to 100,000 times
- Dimensions: 80 x 55 x 30mm

Requires 1x Arduino UNO™ (not included).

Type	Order code	1+
Kit	57-5858	13.21
Pre-assembled	57-5859	19.33

548532

**velleman®****Car Light Warning Alarm Kit**

This head light indicator may be set for one or two functions. To indicate that the headlights (or the sidelights) should be switched off after switching off the ignition contact (battery protection). Or to indicate that the head lights should be on once ignition contact is switched on (obligatory in some countries).

- Continuously repeated alarm tone for lights ON (may be disabled)
- Repeated alarm tone for lights OUT



Type	Order code	1+
Clock with Dimmer	70-4344	22.99

518116

velleman®**Universal Temperature Sensor**

With the Velleman Universal Temperature Sensor you can measure indoor and outdoor temperatures.

The Universal Temperature Sensor is available in kit form for you to make yourself or a pre-mounted module.

- Control heating and/or cooling of rooms, equipment, etc.
- Monitor temperatures in processes
- Put a temperature readout on your website
- Suitable for beginners
- Dimensions 55(L) x 35(W) x 15(D)mm



Technical specification	
Temperature range	-20 to +70°C
Output voltage compliance	10V
Accuracy	2° full range
3-wire system	GND, +V and Out
Power supply	12V DC for 0 to 5V out/15V DC for 0 to 10V out
Current consumption	30mA max.
Dimensions	55 x 35 x 15mm

Type	Order code	1+
Kit	70-4080	9.89
Mounted module	70-4502	12.99

073986

velleman®**Telephone Ring Detector Kit**

The Velleman Telephone Ring Detector means you can see, as well as hear, when someone is trying to call you. Ideal for use in noisy environments like factories and workshops, the ring detector is also an obvious solution for the hard of hearing. Connected in parallel with a phone line, the unit's powerful LED flashes whenever phone rings. The Telephone Ring Detector is available either in kit form for you to make yourself or as a pre-assembled module.

- Will feature a relay output if connected to a 12VDC power supply
- Can be set to continuous or on/off to the rhythm of ringing of the telephone
- Complete with enclosure
- Accepts standard adaptor and telephone plug
- Includes attractive enclosure and adhesive strips for easy fixing
- 10.000 mcd LED
- Connects to PSTN line
- RJ11 connector
- Output contact (NO) 1A max
- Dimensions 80 x 55 x 35mm
- Power supply 12Vdc/100mA

Type	Order code	1+
Kit	70-4334	11.19
Pre-assembled module	70-4526	15.69

518111

**velleman®****Telephone Ringer Kit**

If you have difficulty hearing the phone ring, then fit the Velleman Telephone Ringer Kit. The Telephone Ringer has a buzzer which sounds and a powerful LED which flashes every time the phone rings. Great for use in noisy environments like factories and workshops, or by the hearing impaired, to replace the existing ringer.

- Includes attractive enclosure and adhesive strips for easy fixing
- Accepts standard telephone plug, no power supply necessary
- 10.000 mcd LED
- Connects to PSTN line
- RJ11 connector
- Consumption 10mA max



- Dimensions 80 x 55 x 35mm
- Manufacturer's part K8087

Type	Order code	1+
Phone Ringer	70-4336	10.95

518112

velleman® Multifunction Relay Module Kit

The Velleman Multifunction Relay Module Kit delivers 14 different functions including timers, flashing, intervals and random switching. Suitable for control of incandescent lighting, halogen lighting, fluorescent lighting, fans, valves and buzzers.

- Two pre-programmed delays
- Learning mode for delays of 2 seconds up to 12 days
- Pushbutton control
- On-board transient filter for relay contacts or load (selectable)
- Operational voltages: 110-125 or 220-240Vac 50/60Hz
- Max. load: 2.5A (550W/220V; 275W/110V)
- Dimensions: 65 x 57 x 25mm/2.6 x 2.2 x 1in
- Manufacturer's part **K8008**

Type	Order code	1+
Multi Relay Module	70-4286	14.99

518087

velleman® Code Lock Electronics Kit



If you need to keep something secure without the hassle of having to use a key then try the Velleman Code Lock Kit. The 9-digit code lock may be used to switch an alarm on and off, or to close or open a door lock. An LED on the operating panel indicates the position of the 'lock'. Because the operation panel is completely enclosed, it may be used both inside and outside the house.

- More than 3000 codes available
- Easy-to-set 4-digit code
- Relay output: 5A/220V
- Time limit for code entry \pm 5 seconds
- Front panel 80 x 80mm, depth 40mm
- Power supply 9-15Vdc or 8-12Vac /40mA(on), 0.3 μ A(off)
- Manufacturer's part **K6400**

Type	Order code	1+
Code Lock Kit	70-4266	19.49

518077

Page 128

Arduino Uno



velleman® "Safe" Style Code Lock Kit

If you want to make sure that only the right people gain access to certain areas, then the Velleman "Safe" Style Code Lock Kit provides the ideal solution. This innovative code lock can be used to operate doors, gates and barriers, prevent unauthorised use of telephones or other devices and as an alarm system. The use of a digital rotary encoder makes it impossible to determine the keys pressed keys.



- 4-digit code
- Several operating modes
- Adjustable pulse duration
- Relay output NO/NC: 3A/24VDC max
- Dimensions 85 x 85 x 45mm
- Power supply 12Vdc/100mA
- Manufacturer's part **K8082**

Type	Order code	1+
Safe Code Kit	70-4332	16.95

518110

velleman® Metal Detector Electronics Kit

With this handy Velleman Metal Detector Kit you can find out before drilling whether there are metal objects to be found in a wall, ceiling or floor, so avoiding the potentially catastrophic consequences of drilling into gas or water pipes or through an electric cable. An LED indicates if there is a metal object in the vicinity, giving you peace of mind when you start repair or decoration work. If an audio signal is also desired, space has been provided on the PCB for a buzzer.



- Metal detection distance adjustable up to 8cm (3.15in)
- LED indication
- PCB size 56 x 64mm
- Manufacturer's part **K7102**

Requires 9V battery (not included)

Type	Order code	1+
Metal Detector	70-4278	7.95

518083

velleman® Mains Voltage Detector Kit

The Velleman Mains Voltage Detector Kit makes it easy to check wires for mains voltage - even if they are installed in or behind walls. The device can also be used to trace interruptions in wiring. A flashing LED indicates whether or not voltage is present and the flash speed indicates how close the wire is. If an audible signal is also needed, space has been provided on the PCB for a buzzer to be connected



- Detects mains cables
- LED indication (buzzer optional)
- Adjustable detection distance up to 10cm (3.9in)
- Distance indication
- PCB size 56 x 64mm
- Manufacturer's part **K7101**

Requires 9V battery (not included)

Type	Order code	1+
Voltage Detector Kit	70-4276	6.89

518082

velleman® Multitone Chime Kit



Ding dong! Get away from the traditional doorbell sound with the Velleman Multitone Chime Kit, a simple and economic way of generating electronic tones. Primarily intended for use as a doorbell, it can be used for many other types of applications. Up to three tones may be selected, each of which is output one after the other. Volume and tone can also be set. The existing bell transformer can be used as a power supply.

- Adjustable tone and volume control
- 1, 2 or 3 tones selectable
- Loudspeaker output: 0.3W/8 Ω
- PCB size 53 x 59mm
- Power supply 6-9Vac/200mA
- Manufacturer's part **K6600**

Type	Order code	1+
Chime Kit	70-4268	12.99

518078

velleman® DC Controlled Dimmer

A DC controlled light dimmer switch kit that uses a low DC voltage (0 to 10V DC) to adjust the light brightness of incandescent, fluorescent, or halogen light bulbs.



- Use your computer to control your light dimmer application
- Suitable for advanced users only
- Light dimmer has simple brightness control by means of a DC circuit voltage
- Light dimmer has optically isolated adjustment input
- Pre-set adjustment for full brightness
- Halogen lighting in combination with a conventional transformer
- Soft start feature to ensure lamp longevity
- Transformer protection in case of defective light sources
- Light dimmer LED status indication
- Dimensions 89(L) x 76(W) x 40(D)mm
- Velleman **K8064**

Technical specification
Light dimmer voltage 0 to 12V DC max.
Adjustment current 2.25mA at adjustment voltage of 12V max.
Suppression of radio and TV interference EN55015
Operating voltage 110 - 125V or 230 - 240V AC (50/60Hz)

Type	Order code	1+
DC Controlled dimmer	70-4074	13.29

073983


Page 853

Buzzers



velleman® Multifunctional Dimmer Kit

This multifunctional dimmer kit has been specifically designed for lighting control through a microprocessor and can be operated from various places. The soft start function will prolong the life of your light bulbs.



- 13 different functions: impulse switch, staircase light control, slow On/Off dimmer, interval timer, speed adjustment for fans, etc.
- Suitable for both resistive and inductive loads (light bulbs, high-voltage halogen lighting and low-voltage halogen lighting with ferromagnetic transformer)
- An advanced security system with fault indication
- Automatically deactivates the module if a load error is detected
- Can be operated from several locations simply by the parallel connection of push buttons
- 2 delay times (anywhere between 5 sec. to 2 hours each) can be programmed through the learning mode
- Memory is protected against power failures
- Equipped with fuse and key for function selection
- Equipped with a mains suppressor according to EN55015
- Some previous knowledge of electronics required
- Good soldering techniques for medium density boards recommended
- Dimensions 350(L) x 85(W) x 62(D)mm
- Velleman K8028

Type	Order code	1+
Dimmer kit	70-4174	21.95

074872

velleman® 10-Channel Light Effect Generator



Whether you're looking to enhance advertising signs with lighting, step up the effects at the disco or simply make the party go with a swing, the Velleman 10-Channel Light Effect Generator can do the job for you. This kit has ten outputs to control cold-cathode fluorescent lamps, light bulbs, LEDs or "solid state" relays. It is also available as a pre-assembled module.


- 10 pre-programmed selectable light patterns with push button
- Adjustable number of used channels
- Adjustable speed
- LED indication for every output
- 12V operation possible for use in cars
- Last used lighting effect is saved in non-volatile memory
- Consumption max 4A
- Outputs 12V DC/400mA per channel (total max 4A)
- Dimensions 140 x 100 x 27mm
- Power supply 12Vdc

Type	Order code	1+
Kit	70-4308	19.57
Pre-assembled module	70-4486	34.99

518097

No minimum order value
UK mainland only

velleman® Light Computer Kit




If you really want to get the party started then you need the Velleman Light Computer Kit. With 16 different programmes and 7 outputs this light computer can be used for party lighting, discos, advertisement lighting and signalling among other applications. Each output is provided with a LED and the complete circuit can be installed so that all operations and LEDs are available from the front panel. To enhance the spectacle further, an unlimited number of circuits can be connected together to work in sequence. Two programmes are provided which are specially adapted to operate two light computers in cascade.

- 7 triac outputs: 1.5A max
- 16 programmes
- Speed controllable
- Input for external clock
- PCB size 134 x 79mm
- Power supply: 7.5-9Vac/250mA (circuit), 24-240Vac (lights)
- Manufacturer's part K5201

Type	Order code	1+
Light Computer Kit	70-4262	27.49

518075

velleman® Stroboscope Electronics Kit



The Velleman Stroboscope Kit means you really can get the party started. With the Stroboscope Kit you can produce a variety of flashing light effects at discos and parties as well as creating "lightning" light effects for theatrical productions and setting up photographic special effects.

- Flash frequency adjustable from 2 to 20Hz
- PCB size 87mm x 65mm
- Power supply 220-240Vac
- Manufacturer's part K2601

Type	Order code	1+
Stroboscope	70-4238	13.29

518064

velleman® 3-Channel Sound, Light and Microphone Kit



Let there be light! If you're planning your own show and need some light and sound effects, then the Velleman Sound, Light and Microphone Kit could be just what you need. The completed device is housed in an attractive translucent enclosure and can be used to control the lights and sound effects for any disco, party, dramatic performance or any other indoor or outdoor event.


- Low, mid and high channels
- Sensitivity adjustment per channel
- LED indication per channel
- Microphone included
- Noise suppressed according to EN55015
- Maximum load 200W per channel (100W @ 110-125Vac)
- Suitable only for incandescent light bulbs
- Size 155 x 45 x 160mm
- Power supply 110-125 or 220-240Vac

• Manufacturer's part K8017

Type	Order code	1+
Sound, Light & Microphone	70-4290	32.49

518089

velleman® USB Controlled DMX Interface Kit



The Velleman USB-Controlled DMX Interface Kit enables you to control DMX lighting fixtures using a PC and USB interface. Test software and DMX Light Player software is included, and a Dynamic Link Library (DLL) is provided to write your own software. The device includes a stand-alone test function that outputs all 512 channels at a time, with adjustable levels.

- Kit includes enclosure and USB cable
- Connected and powered through USB
- 512 DMX channels with 256 levels each
- 3 pin XLR-DMX output connector
- Windows 98SE or higher compatible
- 9V battery (not supplied) needed for stand alone test mode
- Solid state - fuse protection on DMX output
- Dimensions 106 x 101 x 45mm
- Power supply 5Vdc via USB
- Manufacturer's part K8062

Type	Order code	1+
USB DMX Interface	70-4318	51.79

518103

velleman® DMX Controlled Relay Switch



The Velleman DMX-Controlled Relay uses the DMX512 protocol to control dimmers, scanners, moving-head spots and other lighting devices with simple wiring. Available either as a kit for you to produce your own or as a pre-assembled module.

- 512 unique addresses, DIP switch settable
- LED indication for power supply, relay output status and error situation
- Safe DMX data stream mode reducing interference to a minimum
- Relay hold function in case of DMX signal loss
- Switching capacity 8A
- Dimensions 105 x 60 x 30mm
- Power supply 12Vdc/100mA

Type	Order code	1+
Kit	70-4324	17.59
Pre-assembled module	70-4512	23.49

518106

velleman® RGB Controllers



With the Velleman RGB Controller you can control the sequence and speed of LEDs for advertising displays and lighting effects. The three outputs drive high power Mosfet's which

can each sink about 3A. Numerous sequences can be selected with varying speeds and fade times. The RGB Controller is available in kit form for you to make yourself or as a pre-assembled module.

- Also suitable for incandescent bulbs
- Up-down level adjust for each output
- Transition effects: running light, strobo, colour loops, etc
- Fade effects: colour change, flame effect, random colours, slow off etc
- Memory for last selected effect and speed
- Suitable for common anode RGB strips
- Dimensions 80 x 70 x 23mm
- Power supply 10-15Vdc/9A or 24Vdc/3A

Type	Order code	1+
Kit	70-4338	13.89
Pre-assembled module	70-4530	23.99

518113

velleman® 2-Channel RF Code Lock Transmitter

This transmitter will allow its code to be easily changed at any time for security purposes. Supports both continuous and burst transmission.



- Suitable for use with the K8057 (order code **70-4021**) 2-channel RF receiver
- Generates unique 32-bit code
- More than 1,000,000,000 unique codes
- LED indicator
- Power supply 12V battery V23GA, GP23GA (not incl.)
- 433MHz operation
- Open field range of up to 30m possible
- Dimensions 63(L) x 40(W) x 16(H)mm
- Kit assembly suitable for the master
- **Velleman K8059**

Type	Order code	1+
Code lock transmitter	70-4019	11.93

078614

velleman® 2-Channel RF Code Lock Receiver

This RF receiver kit has two relays on board, allowing you to control them in both momentary or latch mode. Perfect for controlling the lights and garage door opener etc. remotely.



- 2-channel RF remote receiver with random code
- Two relay contact outputs
- Suitable for use with K8059 (order code **70-4019**) two channel RF code lock transmitter
- Toggle or pulse function selectable per output
- Pulse function with turn off timer
- Store up to 31 transmitters
- No hardware settings required, full software control
- Code memory can be erased for safety purposes
- LED indicators for outputs and functions
- Special function in pulse mode, both outputs can be set simultaneously when the two transmitter buttons are pressed at the same time
- Power supply 9 to 12V AC or DC / 100mA max.
- Relay contacts NO / NC 3A each
- 433MHz operation
- Selectable timers per output 0.5s, 5s, 30s, 1min, 5min, 15min, 30min and 60min
- Open field range of up to 30m at room temperature
- Range can decrease in colder ambient conditions
- Onboard antenna or external antenna
- Dimensions: 100(L) x 82(W)mm
- Some kit assembly experience required
- **Velleman K8057**

Type	Order code	1+
Code lock receiver	70-4021	11.93

078615

velleman® 8-Channel RF Remote control

This 8-channel RF remote control transmitter works with the 8-channel relay board K8056 (order code **70-4182**), the single channel RF receiver K8070 (order code **70-4183**), and the RX433 RF (order code **70-4185**), receiver module to remotely control real world applications with a range of up to 50m.



- 8 addresses allow the use of multiple receivers
- All clear function
- Toggle or momentary mode for each key
- Rubber keypad
- 433MHz operation
- LED function/mode indication
- Power supply 3 AAA batteries
- Dimensions 150(L) x 58(W) x 20(D)mm
- Skill level suitable for the advanced
- **Velleman K8058**

Type	Order code	1+
RF Remote control	70-4181	23.92

078032

velleman® 8-Channel Relay Card

This eight channel relay card can be used in several ways, as a stand alone card, addressed by switches or open collector outputs. This unit is compatible with the 8-channel relay board K8056 (order code **70-4182**), the 8-channel remote control K8058 (order code **70-4181**), and the RX433 RF (order code **70-4185**), receiver module. The Velleman 8-channel Relay Card is available either in kit form or as a pre-assembled module.



- Separate relay On/Off test with moment or toggle function
- Clear all / set all relays function
- Address selection up to 255 relay cards can be selected
- Emergency stop for all relay cards
- 8 high quality relay contacts: 5A/230V AC max.
- Relay outputs are transient suppressed using VDRs
- LED confirmation on each relay contact
- 8 drive inputs to use with open collectors or regular switches
- RS232 input to drive the relay card with computer or terminal
- Optional RF remote control using RF Receiver Module RX433
- Power output unregulated 12V DC / 200mA
- Skill level suitable for the master
- **Velleman K8056**

Type	Order code	1+
8-channel card kit	70-4182	30.95
8-channel module	70-4484	76.99

078035

velleman® USB to RF Remote Control Transmitter

This unit will turn your computer into a powerful remote control - simply connect to the USB port, install the driver and you are set.



- Works with a Velleman K8056 card, equipped with an RX433N receiver module

- Can also be used with K8070 / VM119 one channel receiver and RGB controller with RF remote, VM151
- Total of 255 cards can be addressed, resulting in a maximum of 2040 channels
- Drivers and example software can be downloaded from the Velleman web site
- A DLL is provided to create your own application
- USB1.1 or 2.0 port compliant
- Up to 30m (depends on environment)
- RF transmit indicator LED
- Power LED
- USB port function LEDs
- 255 selectable addresses
- Transmit test button
- 433MHz transmitter
- R&TTE compliant design
- Power supply : USB
- Dimensions: 80 x 55 x 35mm (3.14 x 2.16 x 1.37in.)
- Includes enclosure
- **Velleman type K8074**

Type	Order code	1+
USB to RF R/C transmitter	70-4202	19.99

124718

velleman® 15-Channel IR Remote Stick

This Velleman 15-Channel IR Remote Stick gives you access to up to 45 TV channels by using just 2 buttons - all in a sleek designer enclosure. The built-in "all clear" function allows the user to turn off all channels of the current address at the same time. Channel and address selection is straightforward and easy, so you can select the correct channel and operate the remote even in total darkness.



- Range: up to 20m
- Low power consumption
- Enclosure included
- Dimensions 160 x 27 x 23mm
- Power supply
- 2 x 1.5V batteries (AAA)
- Manufacturer's part **K8051**

Type	Order code	1+
IR Remote Stick	70-4312	12.68

518100

velleman® 10-Channel, 2-Wire Remote Control Kit

The Velleman 10-Channel, 2-Wire Remote Control Kit allows you to control up to 10 devices using only 2 wires from up to 50 metres away. Inputs can be push-buttons, switches or open collector outputs from another device and the receiver section provides 10 open collector outputs that allow you to control relays directly. Terminal block connectors for all input and output connections are included.



- All outputs provided with LED indication
- Microprocessor controlled
- 10 open collector outputs: 50V/100mA
- Tested to a distance of up to 50m (55 yards) between control and receiver section
- Controller size 70 x 50 x 16mm
- Receiver size 103 x 50 x 24mm
- Power supply 12-15VAc or DC/300mA
- Manufacturer's part **K8023**

Type	Order code	1+
2-Wire Remote Kit	70-4294	22.39

518091

velleman®**Remote Control by Telephone**

This kit makes it possible to turn up to three devices On or Off over the telephone. It is also possible to check the condition of a switch (open or closed).



- Switch the lights
- On and Off or check the alarm from anywhere in the World
- Turn on the heating before returning home
- Operation is protected by a user defined code, which is simply keyed in from the telephone keypad
- A relay is included for one output 10A/250V AC
- Automatic pick-up can be selected for ± 8 or ± 3 rings
- Automatic hang-up if no code is entered within 20 seconds
- Supply voltage 12V AC/300mA
- Dimensions: 130(L) x 105(W)mm
- **Velleman K6501**

Technical specification

Suggested accessories: Case 30-3895
Transformer 88-5026
Power adaptor 85-2923

Type	Order code	1+
Telephone Rem Con	70-4149	39.95

078057

velleman®**Optical Proximity Switch Kit**

The Velleman Optical Proximity Switch senses when a hand or other object comes into range and activates the relevant device. Suitable for use in home automation systems or in applications where physical contact is not permitted. The Optical Proximity Switch is available only in kit form.



- Small and compact unit
- No touching required
- Adjustable sensitivity
- Status LED indicators
- Momentary (pulse) or toggle (ON/OFF) mode
- Not suitable for very dark object detection
- Comes complete with snap-in enclosure
- Output relay rating 3A/24VDC
- Dimensions 21 x 47 x 41mm
- Power supply 12Vdc/100mA
- Manufacturer's part **K8092**

Type	Order code	1+
Proximity Switch	70-4346	16.19

518117

velleman®**Receiver Module**

This compact radio frequency (RF) receiver module is suitable for remote control or telemetry applications. Ideal for use with K8058 (order code **70-4181**), compatible with the 8-channel relay card K8056 (order code **70-4182**), and dual output RF receiver K8070 (order code **70-4183**).



- Double sided circuit board is pre-populated with Surface Mount Devices (SMD)
- RF receiver frequency 433MHz
- No module assembly or adjustments are required
- Stable output
- Suitable for RF remote controls
- Receiver range 200m in open air
- Modulation AM
- Modulate mode ASK
- Circuit shape LC
- Sensitivity 3 μ Vrms
- Power supply 4.5 - 5.5V DC
- Data rate 4800bps
- Receiver selectivity -106dB
- Channel spacing 1MHz

- Digital and linear output
- **Velleman RX433**

Technical specification

RF receiver module pin numbers

1	GND
2	Digital output
3	Linear output
4	Vcc
5	Vcc
6	GND
7	GND
8	antenna (30cm - 35cm)

Type	Order code	1+
Receiver module	70-4185	6.69

078056

velleman®**Multifunction Up/Down Counter Kit**

This project kit from **Velleman** contains everything required to build a multifunction up/down counter. When assembled the counter is a very practical unit that is ideal for a range of applications such as piece part counting, scorekeeping, crowd tallying. Counting input is either by on-board push button or via external pulse input and the unit will count either up or down. Readout of count is via four 7-segment LED displays and the unit will display either units or time.



- Time display in hh:mm and mm:ss
- Internal oscillator for time measurement
- Pre-settable value for countdown in decade or clock mode
- Comes with easy board-to-wire connector with 200m of wire
- Self-diagnostic test at power up
- Comes with full assembly and operating instructions
- **Velleman type K8035**

Technical specification

Counter input voltage 3V to 12V DC
EQUAL output max. 5V DC 50mA
Counting speed max. 200/s (2/s with long debounce delay)
Maximum count 9999/23h:59m/59s
Power supply 9V to 12V DC or transformer 2x 9V AC 300mA
Power consumption 150mA
Dimensions 125 x 75mm

Type	Order code	1+
Counter kit	48-0756	16.99

078036

velleman®**Universal Start/Stop Timer**

The Velleman Universal Stop/Start Timer Kit enables you to make a miniature timer suitable for any application which requires a delay of up to 60 minutes. The control range is fully adjustable.

- Relay 3A/220V switchable
- Time interval (without modifications) adjustable from 0 to 15 minutes
- Dimensions 38mm x 69mm
- Power supply 12V DC/55mA
- Manufacturer's part **K2579**

Type	Order code	1+
Start/Stop Timer	70-4234	6.53

518062

Free Delivery*

on all orders over £30 (excl. VAT)
(UK mainland only)

* See Terms & Conditions for full details

velleman®**Fan Timer Kit**

The Velleman Fan Timer Kit enables you to operate both fan and lighting with a single button. It features an automatic fan turn-off with adjustable delay for use in kitchens, bathrooms, WCs etc.

- Suitable for most types of fan
- Solid state switching with noise suppression
- Can be connected to existing installation
- LED function indication
- Can be used as stand-alone fan delay timer
- Maximum load 200W
- Delay range from 10seconds to 5minutes
- PCB size 80 x 60mm
- Power supply 110-230Vac
- Manufacturer's part **K8041**

Type	Order code	1+
Fan Timer Kit	70-4304	9.95

518096

velleman®**Power Saver/Timer Kit**

The power saver kit turns off your equipment after a preset time, helping you to save money and increase safety.



- Self-assembly timer kit
- Single button operation with LED mode indicator: Continuous: 24h turn-off timer, Slow flashing: long timers, Fast flashing: short timers, Dim: off
- Choose short or long-running timers (one-time jumper setting)
- 10A suppressed relay output
- Easy to add to existing equipment
- Applications: automatically turn off heating, cooling, lighting, entertainment systems, fans, pumps, sprinklers, etc.
- Available timers: 1h / 2h / 4h / 8h / 24h
- Relay output: 10A / 240VAC max.
- Power supply: 100 to 240V AC
- Dimensions: 65 x 50 x 26mm
- **Velleman type K8075**

Type	Order code	1+
Power saver/timer kit	70-4326	11.49

518107

velleman®**Liquid Level Controller Kit**

There are times when too much water can be a problem, just as there are occasions when too little can leave you in trouble. The Velleman Liquid Level Controller is the solution. With this kit you can build a device which monitors levels to warn you if your water tank is close to overflowing or running dry. It can indicate Low, Middle and High levels; automatically switch a pump to keep the right fluid level; and if the sensor detects a level which is

too high or too low (selectable), the relay will operate a bell or other alarm.

- Relay output: 240V/3A max
- PCB size 104 x 60mm (controller), 104 x 25mm (sensor)
- Power supply 12-14Vdc or 16-18Vdc/100mA
- Manufacturer's part **K2639**

Type	Order code	1+
Liquid Level Controller	70-4244	12.79

518067

velleman® DC to Pulse Width Modulator

This pulse width modulator is ideal for the accurate control of DC motors, lighting levels, small heaters as well as other applications.



- Converts a DC voltage into a series of pulses
- Directly proportional to the value of the DC voltage at the input
- Almost no power is lost in the control circuit
- DC to pulse width modulator circuit is protected against overload and short circuit faults
- Easy to assemble
- Supplied complete step by step assembly instructions
- Rated skill level 3 (on a scale from 1 to 5) by Velleman
- Intermediate assembly and soldering skills required
- Dimensions 85(L) x 48(W) x 45(D)mm
- **Velleman K8004**

Technical specification

Power supply	8 to 35V DC
Output current	6.5A
Input voltage	between 2.5 and 35V DC
Dimensions	85(L) x 48(W) x 45(D)mm

Type	Order code	1+
DC/pulse width modulator	70-4076	9.99

073864

Rapid

...where price meets quality

velleman® Speed Controller Kit

This kit has been designed to control AC motors with carbon brushes.



- Ideal for drilling machines, vacuum cleaners, saws etc.
- High torque, even at low r.p.m.
- Suitable also for use with low voltage loads (24V)
- Supply and load circuit electrically isolated from one another
- Adjustable minimum r.p.m.
- Low interference level

Technical specification

Voltage supply	110-240V
Load voltage	24-240VAC / 5.5A max.
Range	5-95%
PCB dimensions	130(L) x 75(W)mm

Type	Order code	1+
Speed controller	70-4176	17.39

073887

velleman® 8-Channel USB Relay Card Kit



With the Velleman 8-Channel USB Relay Card you can use your computer USB port to connect to the outside world. The card has eight relay channels which are controlled by your computer. It will allow you to connect a load of up to 16A on each of the high power relays. The board has space for extra VDR noise suppressors and has push buttons for test operating all the relays. Each channel also has an LED to indicate condition of relay. The 8-Channel USB Relay Card is available either in kit form or as a pre-mounted module.

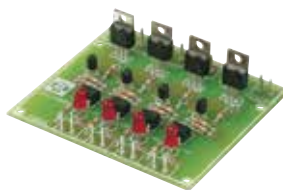
- Manual operation for toggle, momentary or timer operation
- Timer settings up to 18 hours (DLL function)
- Optional open collector connectivity
- Event-driven and open protocol
- Two way PC communication
- Optional VDR transient suppression for use with inductive loads
- LED indication for power and relay action
- Minimum system requirements: PC running USB compatible Windows version, USB1.1 and USB2.0 full speed compatible, internet connection for software download
- 8 high-power relays
- Dimensions 160 x 107 x 30mm
- Power supply 9-10Vdc or 12-14Vdc/500mA

Type	Order code	1+
Kit	70-4342	43.95
Pre-mounted	70-4574	59.49

518155

velleman® Quad Triac Switch Card Electronics Kit

Extend the life span of the contact points in your relays with the Velleman Quad Triac Switch Card Kit. Relays are usually used to switch AC voltages by means of an electronic control, but when switching occurs too frequently or too quickly the life of the contact points is shortened considerably. This can be solved by replacing the relays with a triac. Using opto-couplers, the entire interface network remains electrically isolated from the voltage that has to be switched.



are usually used to switch AC voltages by means of an electronic control, but when switching occurs too frequently or too quickly the life of the contact points is shortened considerably. This can be solved by replacing the relays with a triac. Using opto-couplers, the entire interface network remains electrically isolated from the voltage that has to be switched.

- 4 triac outputs: 1.5A (uncooled, 4A cooled)
- PCB dimensions 78 x 90mm
- Power supply 9Vdc/200mA
- Manufacturer's part **K2634**

Type	Order code	1+
Quad Triac Switch	70-4242	13.49

518068

velleman® Relay Card

This kit provides an attractive and compact alternative to connecting a number of relays to the outputs of an electronic network.



- Easy to assemble
- Fully isolated change-over contacts
- LED On indicators

- Suitable for model train control, flashing signs and motor and solenoid control etc.
- Dimensions 76(L) x 69(W)mm
- **Velleman K2633**

Requires 9V DC 300mA power supply (not included).

Technical specification

Single-pole change-over relays	6V
Number of relays per card	4
Relay current consumption	1mA
Relay card power supply	9 to 15V DC
Relay contacts ratings	5A at 28V DC, 2A at 60V DC

Type	Order code	1+
Relay card	70-4082	11.95

073887

velleman® Multifunction Relay Switch

This kit has a total of 14 different functions including timers, switching, flashing, interval and random switching.



- Two pre-programmed delays
- Learning mode for delays of 2 seconds up to 12 days
- Pushbutton control
- EEPROM for delay time storage in case of power failure
- On-board transient filter for the relay contacts
- Suitable for control of incandescent lighting, halogen lighting, fluorescent lighting, fans, valves, buzzers
- Maximum load 2.5A (550W/220V; 275W/110V)
- Suitable for intermediate with knowledge with previous electronics knowledge and good soldering techniques
- Dimensions 87(L) x 39(W) x 26(D)mm
- **Velleman K8015**

Requires a 12V DC battery or 9 to 12V AC power supply (not included).

Type	Order code	1+
Multi-function relay	70-4066	11.79

073865

velleman® 4-Channel Recorder/Logger

The Velleman 4-Channel Recorder helps you record DC signals or slow-moving signals over very long periods. The measurements are automatically stored on your hard disk for further processing, no power supply is necessary thanks to the USB connection and installation is easy and straightforward. Signals are instantly displayed on the PC screen using an analogue or DVM display.



- USB cable, PC-LAB2000 software and enclosure included
- USB connected and powered
- 4 DC coupled input channels
- Input resistance: 1MΩ
- Maximum 100 samples per second
- Four input ranges: 3V, 6V, 15V and 30V
- Sensitivity 10mV
- Accuracy ± 3% of full scale
- Maximum input 30Vdc
- Power and recording/diagnostic LED
- Manufacturer's part **K8047**

Type	Order code	1+
Recorder/Logger	70-4310	29.99

518099

Page 1032

Rapid Solder Wire



Page 906

Relay



velleman®**USB Tutor Project Electronics Kit**

The Velleman EDU05 USB Tutor Project will help you take your first steps into the USB world. This tutor module will show you how to master USB communication with the outside world.



- Module will teach you how to:
- Read up to 8 push buttons and activate a PC event
- Light up to 8 LEDs using a PC
- Read the value of 2 different potentiometers
- Read and display the temperature on the PC
- Read the value of a temperature dependent resistor
- Read the value of a light dependant resistor (LDR)
- Dim a white LED using a PC
- Learn how to display text on an LCD using a PC
- USB 1.1 - 2.0 compatible
- USB powered + LED indicator
- PC with windows XP or higher (internet needed for software download)
- 8 definable push buttons
- 8 definable LEDs
- 1 white LED
- Temperature sensor
- NTC resistor
- LDR resistor
- 2 potentiometers
- 16 character 1 line LCD display
- USB cable included
- Size 75mm x 75mm

Type	Order code	1+
USB Tutor Project	70-4208	45.69

518071

velleman®**PIC Programmer Boards**

The Velleman PIC Programmer Board can be used to programme a wide range of Microchip PIC microcontrollers and is suitable both for serious industrial applications and by hobbyists in schools and colleges. It is available either in kit form or as a pre-assembled module.

- Will not work through a USB to serial converter
- Onboard configurable 40 pin ZIF socket
- Microcontroller selection using patch jumper
- SUBD connector set included
- Minimum system requirements: IBM Compatible PC, Pentium or better, Windows NT/2000/XP
- Free serial RS232 port required
- Dimensions 132 x 65 x 20mm
- Power supply 15Vdc min/300mA

Type	Order code	1+
Kit	70-4328	27.20
Pre-assembled Module	70-4506	41.99

518108

velleman®**USB Experiment Interface Board**

The Velleman USB Experiment Interface board has 5 digital input channels and 8 digital output channels, plus two analogue inputs and two analogue outputs with 8 bit resolution. The number of inputs/outputs can be further expanded by connecting up to 4 more cards to the PC's USB connectors. All communication routines are contained in a Dynamic Link Library (DLL). You may write custom Windows (XP, Vista, Windows 7) applications in Delphi, Visual Basic, C++ Builder or any other 32-bit Windows application development tool that supports calls to a DLL. Available either as a kit for you to make yourself or as a pre-assembled module.

- Source code examples for Visual Basic, Visual C++, Visual C#, Excel, Delphi and Borland C++ builder available
- 5 digital inputs (on board test buttons provided)
- 2 analogue inputs with attenuation and amplification option
- 8 digital open collector output switches
- 2 analogue outputs
- Up to 4 cards can be connected to PC
- General conversion time: 2ms per command
- Uses Microsoft human interface device (HID) driver, no external driver required.
- Power supply through USB: approx. 70mA
- Dimensions 145 x 89 x 20mm
- Manufacturer's part **K8055N**

Type	Order code	1+
Kit	70-4314	22.49
Pre-assembled module	70-4476	39.95

518101

velleman®**Programmable LCD Message Board Kit**

Add an LCD display to any low-tech application and make it look high-tech – replace up to 9 indicators or lamps with this single backlit LCD.



- Recall messages simply by pressing a button
- Inputs accept dry contacts, open collectors and logic levels
- No programming skills required
- Store up to 9 sixteen-character messages in non-volatile EEPROM memory
- 4 operating modes
- Display the status of all inputs simultaneously
- Display all active inputs
- Display active input with highest priority
- Display text messages in a 'tickertape'-fashion
- A default message can be displayed to signal that no inputs are active
- Messages can be transferred to the K8045 from any PC or terminal
- Message transfer software is available from **www.velleman.be**
- **Velleman K8045**

Technical specification

Inputs	8 (24V max.)
Display	Super-twist backlit LCD with 16 characters and 1 line
Communication	RS232 serial 2400/N/8/1 no handshaking
Power supply	9 to 12V DC, 150mA adaptor or 2x 9V AC, 150mA transformer
Dimensions	124 x 73 x 30mm

Type	Order code	1+
LCD message board kit	70-4184	26.95

078038

velleman®**Extended USB Interface Board**

The Velleman Extended USB Interface Board has a total of 33 input/outputs - including analogue/digital and + 1PWM output. It is available either in kit form or as a pre-mounted module.



- Connection to the computer is galvanically-optically isolated, so that damage to the computer is not possible
- Provides a high level of secure implementation
- All communication routines are contained in a Dynamic Link Library (DLL)
- Write custom Windows applications in Delphi, Visual Basic, C++ Builder
- Writes to most other 32-bit Windows application development tool that supports calls to a DLL
- 8 analogue 10-bit resolution inputs: 0-5V or 10V DC/20kΩ
- 8 analogue 8-bit resolution outputs: 0-5V or 10V DC/47Ω
- 8 digital inputs, open collector compatible (connection to GND=0) with on board LED indication
- 8 digital open collector outputs (max. 50V/100mA) with on board LED indication
- One 10-bit PWM output, 0 to 100% open collector output (max 100mA/40V) with on board LED indication.
- General response time 4ms per command
- USB Port: 2.0 and 1.1 compatible (USB cable included)
- Suitable for use with Windows 98SE or higher (Windows NT excluded)
- Windows XP recommended for optimum compatibility

Technical specification

Power consumption through USB port	approx. 60mA
Power supply through adaptor	12V DC / 300mA (PS1205)
PWM Frequency	15.6 KHz
standard execution time	48ms (use Microchip and K8061D, DLL drivers)
enhanced execution time	21ms (use K8061_C.DLL V1.0 by RE Applications)
PCB Dimensions	195(L) x 142(W) x 20(D)mm
Connectivity to PC	Up to 8 cards

Type	Order code	1+
Kit	19-8669	52.95
Pre-mounted version	70-4516	92.49

077689

velleman®**1A Power Supply Module**

The Velleman 1A Power Supply Module provides a regulated voltage, adjustable between 1.5 and 35V at 1A. It is available either as a pre-assembled module or in kit form for you to make yourself.



- Better ripple and regulation characteristics are given with the LM317 regulator
- Current limiter and thermal overload protection are included in the IC
- Supplied without heatsink
- Output current 1.5A max.
- Dissipation 15W max. (cooled)
- Input voltage 40V DC max.
- PCB dimensions 52 x 30mm

Type	Order code	1+
Kit	70-4025	7.39
Pre-assembled module	70-4492	6.79

078618

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New products

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www.rapidonline.com

velleman® **Universal Power Supply**

The easy-to-use Velleman Universal Power Supply Kit is designed for use with all Velleman kits which require a regulated power supply between 5 and 12VDC, and no more than 1A.

- Output voltage 5-14V DC, regulated
- Output current 1A maximum
- Power limitation and thermal overload protection
- Maximum dissipation 7W
- PCB dimensions 77mm x 61mm
- Power supply 7-16V DC/1A
- Manufacturer's part **K2570**

Type	Order code	1+
Uni Power Supply	70-4232	8.99

velleman® **3A Power Supply Kit**



This Velleman Power Supply Kit is meant as an auxiliary or as a permanent power supply for all common Velleman kits based on a stabilised DC voltage between 3 and 30V, provided that the consumption does not exceed 3A, but can also be used for other purposes. By replacing the trimmer with a potentiometer it can even be used as an adjustable power supply unit.

- Supplied with heat sink
- Output voltage adjustable from 3 to 30V, stabilised
- Output current: max 3A
- Output ripple voltage 0.5mV
- Short-circuit stable
- Overload protected
- Transformer not supplied
- Dimensions 130 x 91 x 50mm
- Power supply 9 to 30Vac (depending on required output)
- Manufacturer's part **K7203**

Type	Order code	1+
3A Power Supply	70-4280	22.95

velleman® **Symmetric 1A Power Supply Kit**



The Velleman Symmetric 1A Power Supply Kit provides a low-cost, compact universal symmetric power supply, ideal for amplifiers or op-amp applications. Just add a suitable transformer and a heatsink and you're ready to go. Trimmers can be replaced by potmeters to allow continuous adjustment of output voltage.

- LED output indicators
- Positive and negative output adjustable between 1.2 and 24VDC
- Output current: up to 2 x 1A continuous (with suitable heatsink)
- Very good line and load regulation
- Low ripple
- Short circuit protection
- Thermal protection
- Size 78 x 52 x 24mm
- Power supply 2 x 24Vac max
- Manufacturer's part **K8042**

Type	Order code	1+
Symmetric Powe Supply	70-4306	7.49

velleman® **Low Cost Universal Battery Charger**

This Low-Cost Universal Battery Charger from Velleman is particularly useful for use in charging mobile phones, toys, portable CD players and video batteries boats. This Velleman charger transforms a standard mains adaptor into a charger (adaptor socket included).

- LED charge indication
- Charges NiCd or NiMH batteries
- Charging current: 50mA, 100mA, 200mA, 300mA, 400mA (selectable)
- Supply current: same as charging current
- Power supply polarity protected
- PCB size 40 x 60mm
- Power supply 6.5 to 21Vdc
- Manufacturer's part **K7302**

Type	Order code	1+
Battery Charger	70-4284	6.19

velleman® **Universal Battery Charger/Discharger**

Unlike many other battery chargers, the Velleman Universal Battery Charger Kit enables you to charge both Nickel Cadmium (NiCd) and Nickel Metal Hydride (NiMH) batteries. They can be charged either quickly (52 minutes) or normally (14 hours). In order to ensure the battery is fully discharged prior to charging and thus has a longer life cycle, an automatic discharger is also fitted.

- Charging current: from 15mA to 750mA (selectable)
- Charges both NiCd and NiMH batteries
- Usable battery voltages: 1.2V, 2.8V, 3.6V, 4.6V, 6V, 7.2V, 8.4V and 9.6V
- Quick charge in 52 minutes, normal charge in 14 hours
- Automatic discharge and charge cycle
- PCB size 85mm x 78mm
- Power supply 15Vdc/800mA
- Manufacturer's part **K7300**

Type	Order code	1+
Battery Charger	70-4282	13.99

Page 1096

Boxes



velleman® **Solderless Experimental Electronics Starter Kit**



Take your first steps into the world of electronics with the Velleman EDU01 Solderless Experimental Starter Kit. If you ever needed proof that electronics can be fun, this is it, as the EDU01 allows you to build your own circuits in a fun, safe and educational way.

The kit contains a breadboard and all the components needed to get started, so you can finish assembling your first circuit in just a few minutes.

- Projects include:
- LED with push button
- Transistor as current amplifier
- Astable multivibrator
- Simple burglar alarm with LED indication and sound
- Light detector
- Polarity tester
- Start-Stop circuit
- Timer circuit
- Light switch
- Water alarm
- No soldering required
- High-quality breadboard with 456 contact terminals
- Extended manual
- Dimensions: 80mm x 60mm

Requires 9V battery (not included)

Type	Order code	1+
Solderless Experiment	70-4204	10.99

velleman® **Solderless Experimental Solar Energy Electronics Kit**



With the Velleman EDU02 Solar Energy Experiment Kit you get much more than just a science project. This kit brings you ten projects in one, making it a great value option for schools, colleges and other training centres. All projects can be assembled on solderless breadboard.

- Projects include:
- Solar powered LED
- Flashing LED
- Solar attention grabber
- Solar cricket
- Solar battery charger
- Solar musical instrument
- IR remote tester
- Solar garden light
- Solar motion detector
- Solar alarm simulator
- Kit includes all components, breadboard and solar cell
- No soldering required
- Good sunlight or a 60W lamp required to power experiments.

Type	Order code	1+
Solar Energy	70-4206	15.16

velleman®**Oscilloscope Tutor Board**

The Velleman EDU06 Oscilloscope Tutor Board will show you how to get the most out of your digital oscilloscope. The board generates a number of signals, which you can use to become familiar with AC, DC and frequency measurements, sine and square waves, power supply ripple, full and half wave rectifiers and oscillators. The kit will also help you learn the meaning of terms such as V/div, Time/div, trigger level and auto-setup. Most of the experiments involved can be done using any digital storage scope. Some experiments can be performed with an analogue scope.

- Assembled and tested
- No soldering required
- Dimensions: 116 x 74 x 24mm
- Power supply 9-12V AC/100mA min



Type	Order code	1+
Tutor board	70-4210	14.79

518052

velleman®**Radioactivity Monitor**

We should all be aware of the dangers of exposure to radiation and with the Velleman Radioactivity Monitor you should never be caught unawares. The Velleman Radioactivity Monitor will emit a beep to indicate the presence of radiation in the workplace, school, college, home or even outdoors. The stronger the radiation level the quicker the speed of the beeps. This small compact device is supplied with a pocket clip, making it easily portable.

- Ideal for checking incoming parcels
- Suitable for use when travelling in unfamiliar areas
- Dimensions 160 x 26 x 24mm
- Power supply 2 x AAA batteries (supplied)
- Manufacturer's part **VM 200**

Type	Order code	1+
Radioactivity Monitor	70-4572	164.52

518207

velleman®**Ultrasonic Radar Module**

The Velleman Ultrasonic Radar Module is designed for use with security systems, car parking or the detection of objects - in fact any project where an indication of distance is required. The module gives off a buzzing sound when the target is detected.

- LED alarm indicator
- 3 buzzer speeds - fast, slow and continuous

- Adjustable alarm distance
- Range 20 to 250cm
- Frequency 40kHz
- Digital output 5V (50mA max)
- Buzzer output 12V (100mA max)
- Dimensions 110 x 50 x 18mm
- Power supply 12Vdc
- Manufacturer's part VM125

Type	Order code	1+
Ultrasonic Radar Module	70-4494	25.99

518170

velleman®**Mini USB Interface Board**

You can use your PC to communicate with the rest of the world with the Velleman Mini USB Interface Board. You can write custom Windows Applications in Microsoft Visual Basic, Microsoft VC or other 32-bit Windows application development tools which support calls to a DLL.

- USB powered and controlled I/O board
- 15 inputs/outputs - can be expanded
- Manufacturer's part **VM167**

Type	Order code	1+
USB Interface	70-4558	26.99

518200

velleman®**LED Dimmer with RF Remote Control**

The LED Dimmer with RF Remote Control Module from Velleman is ideal for use with LED strips.

- Suitable for incandescent lamps
- Selectable slow on/slow off effect
- High power Mosfet output
- Power supply 12 to 24Vdc
- Dimensions 80 x 70 x 23mm
- Manufacturer's part **VM152**



Type	Order code	1+
Dimmer With Remote	70-4538	29.99

518190

velleman®**VM161 RGB LED Strip Colour Controller**

An RGB LED controller that is suitable for use with common anode LED strips.

- Suitable for easy remote control operation
- High power MOSFET outputs
- Seven colour tone settings
- Ten dimming steps
- **FCC NLO8058** approved
- **Velleman type VM161**



Type	Order code	1+
LED PWM frequency	±300Hz	
Outputs	3x 12V 3A	
Tx/Rx frequency	433MHz	
Power supply	12V 9A max.	
Dimensions approx.	80 x 70 x 23mm	

Type	Order code	1+
RGB LED Strip Cntrl	35-6324	23.95
8-chan. RF remote Tx	35-6325	34.95

116334

velleman®**VM151 RGB LED Effect Generators**

This RGB controller and RF remote is ideal for the remote control of lighting systems containing RGB units, such as flexible light strips.

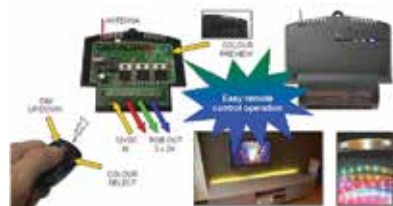
- Suitable for both incandescent bulbs and LEDs
- Hard transition effects, running lights, colour loop, etc.
- Smooth fade effects
- Wide-range effect speed adjust
- Memory for last selected effect and speed
- Five user-editable colour tables
- High power MOSFET outputs
- Addressable so up to seven units can be controlled independently
- **Velleman type VM151**

Technical specification

LED PWM frequency	±300Hz
Outputs	3x 12V 3A
Intensity levels	256 per channel
Tx/Rx frequency	433MHz
Power supply	12V 9A max.
Dimensions approx.	80 x 70 x 23mm

Type	Order code	1+
RGB Controller & remote	35-6322	29.95

116333

velleman®**RGB LED Dimmer and Colour Selector with RF Remote**

If you need to control LEDs for advertising displays or other effects, this Velleman RGB LED Dimmer and Colour Selector is just what you need. This module is designed to control LEDs, allowing you to select numerous colour and dimming combinations. The three outputs drive high power Mosfets which can each sink about 3A.

- Supplied with one key fob style transmitter, available as Rapid part **70-4498**
- Manufacturer's part **VM162**

Type	Order code	1+
Dimmer & Selector	70-4550	29.99

518196

velleman®**MP3 Player Board**

It's the ultimate compact home sound system - and now you can make your own MP3 player with the Velleman MP3 Player Board it. With an MP3 player you can have a jukebox, jingle player and sound effects machine at your fingertips.

- SD card operation (SD card not included)
- High-quality VLSI decoder
- 7 preset buttons with external connection
- 8 different preset sound modes
- 6 play modes
- Mono operation possible
- PCB size 132 x 62mm
- Power supply 12Vdc / 1A
- Manufacturer's part **VM8095**

Type	Order code	1+
MP3 Player Board	70-4576	72.99

518209

velleman® RGB Power Slave Module

The Velleman RGB Power Slave Module can be used to increase the output of other modules and allows for easier distribution and wiring of LED strips. The three outputs drive high power Mosfets which can each sink about 4A. This module will mimic the function of other modules to which it is connected. Suitable for use with the following Velleman parts: VM146 (order code 70-4530, VM150 (70-4536), VM151 (70-4166), VM152 (70-4538), VM161 (73-4404) and VM162 (73-4468).

- Every unit adds up to 144W (12V) or 288W (24V)
- Works with single power supply or multiple power supplies
- Allows simultaneous use of 12V and 24V strips
- Only 4 interconnecting wires required
- Manufacturer's part **VM169**

Type	Order code	1+
Power Slave	70-4560	27.49

518201

velleman® LED Driver Modules

These Velleman LED Driver Modules can power up to 4 high-power LEDs, delivering the accurate constant current required by most high power LEDs. Two versions are available - for 1W and 3W LEDs.

- High efficiency due to switch mode principle
- 350mA constant current source
- Input voltage 6 to 12Vdc/9 to 18Vdc
- Maximum power consumption 650mA
- Dimensions 45 x 30 x 16mm
- LEDS not supplied

Type	Order code	1+
1W LEDs kit	70-4522	11.26
3W LEDs kit	70-4524	11.86

518184

velleman® Energy Saver Module

If you regularly forget to turn off the lights when you leave the home or office then you need the Velleman Energy Saver Module. With this unit you'll need to worry no more. The Energy Saver Module will always turn off your lights or any other small appliance. Just install it between the wires and it is all set to go.

- Different timers can be selected - 1 hour, 2 hours, 4 hours and 8 hours
- LED power/timer indication
- Easy installation
- Input voltage 110 to 230Vac
- Maximum output 500W
- Dimensions 80 x 70 x 25mm
- Manufacturer's part **VM133**

Type	Order code	1+
Energy Saver	70-4502	12.99

518175

New products
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velleman® Start/Stop Timer Kit

The Velleman Start-Stop Timer can be used for a wide variety of applications where a stopwatch or other timer is the order of the day. It has an adjustable delay of anything from 1 second to 60 hours.

- Wide timing range
- Easy time setting
- LED animation during operation
- Start and stop buttons
- Front panel mountable
- Dimensions 70 x 45 x 20mm
- Power supply 12Vdc/100mA
- Manufacturer's part **VM141**

Type	Order code	1+
Start/Stop Timer	70-4518	13.99

518182

velleman® 4-Channel Remote Control



The Velleman 4-Channel Remote Control Module is a mains operated 4-channel RF receiver which can be used as a remote or code lock security transmitter/receiver. Also available is a handheld 4-channel RF transmitter and a desktop RF transmitter.

- Operating range up to 30m

Type	Order code	1+
Remote control set	70-4544	44.99
Desktop transmitter	70-4546	49.49
Handheld transmitter	70-4548	15.99

518193

velleman® 2-Channel RF Remote Control Set

A general purpose remote control set, which can be used for controlling many different applications such as garage doors, garden lighting, gate and door control, etc.

- Easy to install
- Transmitter included
- **Receiver:**
 - 2 relay contact outputs
 - Store up to 31 transmitters
 - Toggle or pulse function selectable per output
 - Pulse function with turn off timer
 - LED indicators for: output, power and timer function
 - Selectable internal heating resistor for cold environments
- **Transmitter:**
 - Generates unique 32-bit code
 - More than 1,000,000,000 unique codes
 - Code can easily be changed for safety purposes
 - Choose continuous or 'burst' transmission
 - LED - transmit indicator
 - 100% code compatible with **VM108 & VM109**
 - Limited compatibility with older **K6706, K6706A & K6706B/G**



- R&TTE compliant (ETS 300-220) (approved only for EU countries)
- Additional transmitters, type **VM130T** are available separately
- **Velleman type VM130** (set)

Technical specification

Receiver:	
Power supply	9 to 13V AC or DC
Power consumption	130mA max. / 20mA standby (heating off)
Relay contacts	NO / NC: 5A (resistive load) each
Operating frequency	433MHz
Selectable timers per output	0.5s, 5s, 30s, 1min, 5min, 15min, 30min and 60min
Heating option for use in cold environments	Yes
Open field range	Up to 30m possible
Antenna	External
Dimensions	80 x 70 x 25mm (3.15 x 2.75 x 0.98in.)
Transmitter:	
Power supply	12V battery (included)
Battery type	V23GA, 23A
Operating frequency	433MHz
Dimensions	63 x 40 x 16mm (2.5 x 1.6 x 0.6in.)

Type	Order code	1+
Remote control set	70-3998	38.95

118201

velleman® One Channel Dual Output Receiver

Using multiple receivers of this type in combination with 8 channel transmitters, VM118R and K8074, will allow you to control remotely up to 8 devices at different places. A single transmitter key-press activates two independent outputs. Each output can be configured as toggle, pulse or pulse with timer.

- Easy setup and transmitter 'learning', no jumper settings
- Toggle or pulse function selectable per output
- Pulse function can have turn off timer
- Up to 31 different VM118R transmitters or transmitter buttons can be stored
- All-clear function
- LED indicators for outputs and functions
- For use with VM118R (or K8058 kit) RF transmitters
- Relay contacts NO / NC: 2A max. each
- 433MHz operation
- Selectable timers per output: 0.5, 5 & 30s, 1, 5, 15, 30 and 60min
- Open field range of up to 30m possible
- Power supply : 9 to 12V AC or DC / 100mA max
- Dimensions: 80 x 70 x 25mm (3.14 x 2.75 x 0.98in.)
- **Velleman type VM119**

Type	Order code	1+
1 channel 2 o/p receiver	70-4200	20.99

124647

velleman® 2-Channel Remote Control Transmitter

Velleman 2-Channel Remote Control Transmitter for use with various appliances including Velleman's 2-Channel Remote Receiver (Rapid part 70-4021) and RGB LED Effect Generator (35-6322).

- Generates unique 32-bit code
- More than 1,000,000,000 unique codes available
- Code can easily be changed
- Choice of continuous or burst transmission
- LED transmission indicator
- Manufacturer's part **VM130T**

Type	Order code	1+
Remote Transmitter	70-4498	13.19

518172



Need a product urgently?

We can offer a next day, before noon, delivery service

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velleman®
2-Channel Transmitter
with LED Light

The Velleman 2-Channel Transmitter with LED Light is a handy combination of remote control and LED light in one compact unit. Very small size makes this unit highly portable. It is compatible with various receivers including Velleman parts VM130 (Rapid code 70-3998), VM151 (35-6322), VM152 (70-4538), VM162 (70-4550) and K8057 (70-4021).

- Bright LED
- Generates univie 32-bit code
- LED transmit indicator
- Power supply 6V battery
- Dimensions 46 x 33 x 14mm
- Manufacturer's part **VM166T**

Type	Order code	1+
Transmitter With LED	70-4556	15.49

518199

velleman®
15-Channel IR Transmitter

The Velleman 15-Channel Infrared Transmitter allows the use of multiple receivers in one room. Compatible for use with the following Velleman parts: K6712 (Rapid order code 70-4270), K8046 (70-4186), K8050 (73-4402), MK161 (73-4404) and VM122 (70-4490).

- Operates up to 15 channels
- Rubber keypad
- LED function indication
- Rang up to 20m
- Power supply 3 x AAA batteries (not included)
- Manufacturer's part **VM121**

Type	Order code	1+
IR Transmitter	70-4488	39.99

518187

velleman®
15-Channel IR Receiver

The Velleman 15-Channel IR Receiver can receive up to 15 channels on one of three addresses and, with four different output modes, provides a method of controlling multiple devices. The kit makes an ideal project for those with good soldering techniques, but the receiver is also available as a pre-assembled module.

- Reception on up to 15-channels
- Three addresses allow the use of multiple receivers in one room
- 15 sepearate open collector outputs
- Sepearate LED indication for each output
- Four sepearate operating modes
- Small compact board
- Transmitter – receiver range up to 20m
- **Velleman K8050**

Technical specification		
Power supply	8-14V DC 150mA	
Current consumption	All outputs off 10mA	
	All outputs on 150mA	
Dimensions	71 x 114mm (2.8 x 4.5in)	
Modes	15 Independent outputs	
	15 Rotary outputs	
	7 Independent and 8 rotary outputs	
	7 Rotary and 8 rotary outputs (independent from each other)	

Type	Order code	1+
Kit	73-4402	15.99
Pre-assembled module	70-4490	31.99

074258

velleman®
8-Channel Relay Card



The Velleman 8-Channel Relay Card can be used to convert electronic outputs or contacts to relay contacts. This results in a practical isolation between load and driving circuit. Ideal for use with computer interface cards or infrared remote control receivers. The card features high grade input and output connectors.

- Power supply 12Vac/500mA (including 12V output)
- Manufacturer's part **VM129**

Type	Order code	1+
Relay Card	70-4496	36.99

518171

velleman®
Mini Pic-PLC Application Module



It's small in size, but the Velleman Mini PIC-PLC Application Module is big in heart and big in performance. You can create your own custom application without the hassle of making the hardware. With the Velleman Application Module all the buffered inputs and outputs are ready-made for you. The VM142 features an on-board LED, a relay output and an audible warning buzzer. Suitable for home or automotive applications. All you need is a programmer such as the Velleman VM134 (Rapid part 70-4506) or K8076 (70-4328).

Type	Order code	1+
Pic-PLC Module	70-4520	27.95

518183

Velleman PA
Equipment Sets

velleman®
Universal Mono Pre-Amplifier



This kit has been developed as a pre-module for a number of audio applications where there is insufficient input signal.

- Suitable for applications as a microphone pre-amplifier or for level correction
- Ideal for increasing sensitivity of power amplifiers, etc.
- Assembly skill level suitable for the hobbyist
- Dimensions 44(L) x 30(W)mm
- **Velleman K1803**

Technical specification		
Power supply	10-30V DC, 10mA	
Output impedance	1kΩ	
Adjustable output level	40dB max.	
Frequency response	20Hz to 20kHz, ±3dB	
Input signal max.	40mV	
Dimensions (PCB)	44(L) x 30(W)mm	

Type	Order code	1+
Mono pre-amplifier	70-4084	5.32

074648

velleman®
7W Mono Audio Amplifier



This small amplifier is capable of delivering 4Wrms at 4Ω.

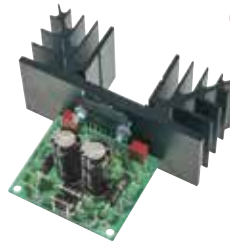
- IC is completely thermally and short-circuit protected
- Conventional DC supply can be connected as supply
- Overload and short-circuit protected
- Small but powerful multi-purpose amplifier
- Suitable for use with portable audio equipment
- Powerful amplifier for audio projects
- Ideal for in-car use
- Assembly skill level suitable for beginners
- Dimensions 55(L) x 35(W)mm
- **Velleman K4001**

Technical specification		
Supply voltage	15V DC, 0.5A	
Music power output	7W/4Ω	
RMS output	35W/4Ω and 2W/8Ω	
Frequency response	20Hz to 20kHz (-3dB)	
S/N ratio	86dB	
Input sensitivity	40mV/150kΩ	
Dimensions (PCB)	55(L) x 35(W)mm	

Type	Order code	1+
7W Mono amplifier	70-4098	7.98

074655

velleman®
2x 30W Audio Power Amplifier



This small amplifier is constructed with a maximum supply capability of 2x 15Wrms (4Ω) of 2x 10Wrms (8Ω).

- IC is protected against overheating and short circuits
- Additional rectifier and smoothing filter are unnecessary
- Assembly skill level suitable for beginners
- Dimensions 70(L) x 50(W)mm
- **Velleman K4003**

Technical specification		
Supply voltage	2x 12V AC/2A	
Music power output	2x 30W/4Ω	
RMS output	2x 15Wrms/4Ω or 2x 10Wrms/8Ω	
Total harmonic distortion	0.07% (1W/1kHz)	
Channel separation	70dB	
Frequency response	7Hz to 60kHz (-3dB)	
Signal-to-noise ratio	98dB	
Input sensitivity	300mV/150kΩ	
Transient suppression	On/Off switch	
Dimensions	70(L) x 50(W)mm	

Type	Order code	1+
2x 30W Power amplifier	70-4100	18.64

074656

velleman® Stereo VU Meter 2x 10 LEDs

Add a visual readout to your existing or new equipment with this VU meter with a scale, consisting of 2x 10 LEDs and an adjustable input.

- Dot or bar indicator
- Instant visualisation of audio signals
- Easy to hook up a line level
- Ideal for use with mixing panels, amplifiers CD players radios Etc.
- Supplied with 1 front panel suitable for horizontal or vertical mounting
- Assembly skill level suitable for the hobbyist
- Dimensions 68(L) x 37(W)mm
- **Velleman K4305**

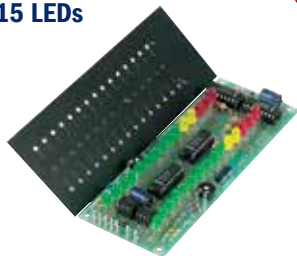
Technical specification

Power supply 10-15V DC/250mA
Range -20dB to +3dB
Input sensitivity Low input 150mV to 6Vrms (47K)
High input 1.5V to 60Vrms (470K)
Dimensions 68(L) x 37(W)mm

Type	Order code	1+
Stereo VU meter	70-4118	17.39

074664

velleman® Precision Stereo VU Meter 2x 15 LEDs



This unit allows you to instantly visualise signal levels from a whole range of different audio sources.

- For use with mixing panels, amplifiers, CD players and radio's Etc.
- A special input is provided, which allows direct connection to a speaker output
- Select dot or bar mode, to suit your application
- Kit comes with an attractive display window, which can be used both horizontal and vertical
- Unit can be calibrated by means of a trim potentiometer
- Assembly skill level suitable for the hobbyist
- Dimensions 150(L) x 57(W)mm
- **Velleman K4306**

Technical specification

Power supply 10 to 15V DC/300mA max.
Scale -23dB to +5dB, 15 LEDs per channel
dB-linear division -4 to +5dB (1dB per LED)
Systematically growing steps Below -4dB
Accuracy 0.5dB (1KHz)
Frequency range 20Hz to 30KHz (-3dB)
Three different LED colors Green, orange and red
Adjustable sensitivity 150mV to 5Vrms low input 1.5V to 50Vrms high input
Input impedance 47K low input/470K high input
Dimensions (PCB) 150(L) x 57(W)mm

Type	Order code	1+
Precision VU meter	70-4120	26.69

074665

velleman® Sound Generator



The ideal device for DJs, jingles for radio stations or just to attract attention.

- One output for direct connection to a speaker
- 10 sound effects may be generated directly by means of a push button
- Sounds include machine gun, European siren, phasor gun, racing car with motor howl, screeching of car tyres on a curve, explosion, mortar fire followed by explosion, music, wild charge tune, snake charmers tune and US siren
- Assembly skill level suitable for beginners
- Dimensions 75(L) x 75(W)mm
- **Velleman K4401**

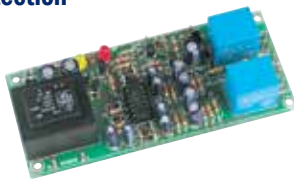
Technical specification

Supply Voltage 8-10VDC/100mA or 9V battery
Line output 1Vrms
Speaker output 1W
PCB dimensions 75(L) x 75(W)mm

Type	Order code	1+
Sound generator	70-4124	16.99

074667

velleman® 2-Channel Loudspeaker Protection



This stereo speaker protection kit will prevent switch-on clicks.

- Suitable for amplifiers with symmetrical power supply
- Suitable for amplifiers with asymmetrical power supply
- Assembly skill level suitable for the advanced
- Dimensions 125(L) x 55(W)mm
- **Velleman K4700**

Technical specification

Supply voltage 220V AC
Switch-delay ±6 seconds
DC protection +1V/-1V
Input voltage 200Vpp + DC max.
Switching current 10A max.
LED indication for WATT (switch-on delay) and ERROR (DC on speaker output)
Dimensions (PCB) 125(L) x 55(W)mm

Type	Order code	1+
Loudspeaker protection	70-4126	14.79

074668

velleman® Telephone Amplifier

This telephone amplifier can be used either as an independent amplifier with loudspeaker, or it can be connected to an amplifier or a mixing-panel.



- Assembly skill level suitable for the hobbyist
- Dimensions 63(L) x 52(W)mm
- **Velleman K4900**

Technical specification

Power supply 7-9V AC or 9-12V DC/150mA
Input Isolation transformer interface
Speaker output 0.5W/8Ω
Line output 0dB (0.775Vrms)
Dimensions (PCB) 63(L) x 52(W)mm

Type	Order code	1+
Telephone amplifier	70-4130	9.18

074670

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On all orders for in-stock items placed between 8am and 7pm Monday to Friday

velleman® Powerbook 100W Power Amplifier

This power amplifier is an ideal set-up for active speaker use.



- Kit form
- Build a high-quality system, using two (stereo) or more (surround) amplifiers
- Due to its auto switch-on, through input signal sensing, the unit can be installed at almost any place
- Comes complete with enclosure and transformer
- Fully discrete design using Epitaxial Darlington transistors
- Kit includes all connectors, transformer and enclosure
- Overload and short-circuit protection
- DC error protection with LED indication
- Automatic switch-on upon input signal sensing (automatic switch-off after a period of no signal)
- 200W music power at 4Ω load
- 100W rms power at 4Ω load @ 10%THD
- Distortion 0.02% at 1KHz/10W
- Damping factor >800
- Frequency response 3Hz to 200KHz (-3dB)
- Sensitivity 0.6V rms
- Signal to noise ratio 115dB
- Power supply 235 or 115V AC
- Dimensions 195(L) x 180(W) x 60(D)mm
- **Velleman kit No. K8081**

Type	Order code	1+
100W Power amplifier	35-6145	61.36

078367

velleman® Volume and Tone Pre-Amplifier

This pre-amplifier is an indispensable device for controlling audio power amplifiers with easy to operate functions, such as volume and tone control.



- Possible to amplify or attenuate the input signal.
- Stereo volume control
- Stereo Baxandall bass and treble control
- Bass and treble potentiometers with centre click
- Customisable attenuation or amplification
- Complete with knobs
- Kit assembly suitable for beginners
- Dimensions 55(L) x 55(W) x 35(D)mm
- **Velleman K8084**

Technical specification

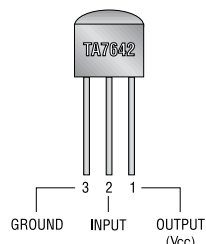
Supply voltage 2x 12V AC / 100mA
Frequency response 3Hz - 500KHz (-3dB)
Standard amplification x1
Signal to noise ratio 98dB
Harmonic distortion <0.005% (@1KHz)
Maximum output 5V RMS
Tone control ±15dB @ 20Hz
±15dB @ 15KHz
Input impedance 50KΩ
PCB dimensions 105 x 70mm

Type	Order code	1+
Pre-amplifier	70-4023	15.95

078451

Page 906

Relay



velleman®
**USB Controlled
DMX Interface**

This unit can control DMX fixtures using a PC and USB interface.

- Test software and DMX Light Player software is included, a DLL is provided to write your own software
- Stand-alone test function that outputs all 512 channels at a time, with adjustable levels
- Connected and powered through USB
- 512 DMX channels with 256 levels each
- 3-pin XLR-DMX output connector
- DLL included to write your own software
- Optional 9V battery needed for stand alone test mode
- Solid state - fuse protection on DMX output
- Windows 98SE or higher compatible
- Dimensions 106(L) x 101(W) x 44.5(D)mm
- Supplied with nice enclosure, USB cable, CD with test software, DLL for own developments, free DMX light player
- **Velleman part No. VM116**

Type	Order code	1+
DMX Interface	70-4180	69.95

078453



velleman®
**USB PIC Programmer
and Tutor Board**

An experimental board suitable for programming Microchip Flash PIC microcontrollers, available either ready-assembled or kit form.

- Test buttons and LED indicators to carry out educational experiments, such as the enclosed programming examples
- Easy connection to a PC through the serial port
- A flash Microcontroller is included (PIC16F627) that can be reprogrammed up to 1000 times for experimenting at will
- Software to compile and program your source code is included
- Power supply 12 or 15V DC, min. 300mA, non-regulated adapter (PS1205 / PS1208 / PS1508 (230V AC), PS1208USA (115V AC))
- IBM compatible PC, Pentium or better, with Windows 95/98/ME/NT/2000/XP, CDROM and a free serial RS232 port (cable not included, e.g. CW014)
- Dimensions 145(L) x 100(W)mm
- Rev 2.5 supports these microcontrollers PIC12F629, PIC12F675, PIC16C83, PIC16CR83, PIC16F83, PIC16C84, PIC16CR84, PIC16F84, PIC16F84A
- PIC16F870, PIC16F871, PIC16F872, PIC16F873, PIC16F873A, PIC16F874, PIC16F874A, PIC16F876, PIC16F876A, PIC16F877(A)(ICSP only)
- PIC16F627, PIC16F627A, PIC16F628, PIC16F628A, PIC16F648A, PICF630, PIC16F676, PIC16F818, PIC16F819
- Available ready assembled or in kit form
- **Velleman types VM111 (Assembled) and K8048 (Kit)**

Type	Order code	1+
Assembled	70-4035	34.99
Kit	70-4064	21.27

078788



Page 1042

Protoploc



**No minimum order value
UK mainland only**

Clock Movements

TruMotion

Quartz Clock Movement and Numerals

These quartz crystal controlled clock movements and numerals are ideal for replacing defective units or for creating your own personalised clock projects.

They allow you to make any number of different clocks from CDs, papier mache, even paper plates, the only limits are your imagination. Use paper crafting techniques to design and build clocks that will suit any room and express your creativity.

- Quartz crystal controlled clock movements ideal for replacing defective units or for creative clock projects
- Black self-adhesive Arabic Numerals, 16mm high
- Gold self-adhesive Arabic Numerals, 16mm high

Type	Order code	1+	5+	25+	100+
Clock movement	85-1430	2.03	1.19	1.17	1.12
Numeral set - black	85-1421	0.779	0.715	0.66	0.606
Numeral set - gold	85-1422	1.45	1.30	1.18	1.06

074959



RVFM

Wooden Clock Face Blanks

Have fun with these handy square wooden clock face blanks.

- Great for painting and decorating with your own design
- Suitable for use with our clock mechanisms:
85-1430, 85-1421, 85-1422
- Size: 170 x 170mm
- Supplied in **packs of 10**

Type	Order code	1+
Square clock blanks	06-0782	6.31

010568



Rapid

Clock Group Kit



This kit enables pupils to create and design their own working clocks.

- Kit contains 10x wooden clock blanks, 10x clock mechanisms, 10x numeral sets and 100 sheets of A4 white card
- Clock blanks 170 x 170mm
- Suitable for all ages
- **Supplied as a pack**

Type	Order code	1+
Clock group kit	13-0152	27.29

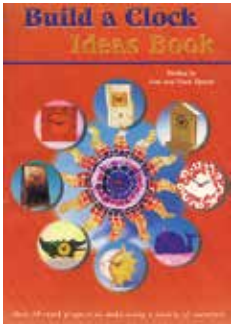
070756

Hands On

Build a Clock Ideas Book

Toni and Mark Tippet, 2000, 60 pages. If you are looking for something different to make, then why not try making a clock? Today, with quartz technology, the mechanisms are surprisingly cheap yet very reliable.

- This book provides information and inspiration for anyone who is thinking of making their own clock
- Ideal for educational, craft, technology or design projects
- With over 20 different clock faces to choose from, it provides a rich feast of ideas



035101

Type	Order code	1+
Build a clock	97-1860	12.99

Component Kits

Rapid

Electricity Classpack



A cost-saving classpack containing a selection of commonly used electrical accessories.

- Cost saving over buying parts separately
- Popular parts can be topped up
- Packed in a Grannells storage tray with lid
- Please see individual product descriptions for full details
- Supplied as a **pack**

Technical specification					
Order code	Qty	Description	Order code	Qty	Description
41-0125	10	3.5V bulbs	75-0180	5	Toggle switch
18-0125	5	2xAA battery holders	76-0100	5	Slide switch
41-0070	5	Bulb holders	78-0115	5	Push on/off switch
37-0140	5	Motors	78-0112	5	Push to make switch
18-0105	5	Battery snaps	35-3610	5	Buzzer
17-0350	10	Croc clips & leads	14-0432	1	Grannells tray
01-0102	5	Wire	14-0436	1	Lid for tray

Type	Order code	1+
Electricity classpack	70-1012	34.30

078013

Page 728

Wire



Rapid

Education Electrical Kit



This respectable sized kit contains a wide range of high quality electrical consumables suitable for even the most ambitious students.

- Cost saving over buying components separately
- Ideal for tight school budgets
- Great resource for all ages
- Dimensions of box: 43cm x 31cm x 7cm
- Total components = 105
- Supplied as a **pack**

Technical specification

Kit contains: zzer + 10cm lead	35-3596	10x 6v LES lamps	41-0105
30x Push to make switch	78-0100	10x Bulbholders	41-0070
3x Crocodile leads (pack 10)	17-0350	1x Shallow Tray	14-0430
5x Medium torque motor	37-0142	1x Tray lid	14-0436

Type	Order code	1+
Electrical kit	13-0114	27.69

065942

Rapid

Electrical Essentials Kit



A cost-saving classpack containing a selection of essential electrical accessories.

- Cost saving over buying parts separately
- Popular parts can be topped up
- Packed in a Grannells storage tray with lid
- Please see individual product descriptions for full details
- Suitable for **Key Stages 2, 3 & 4** (ages 7 to 16)
- Supplied as a **pack**

Technical specification

Order code	Qty	Description	Order code	Qty	Description
17-0350	10	Crocodile leads	76-0100	3	Slide switches
21-0100	1	Connecting block (cut in 2's)	23-4939	3	Bell push switches
18-0105	3	Battery snaps	75-0730	3	Rocker switches
18-1052	6	AA batteries	41-0070	6	MES bulb holders (screw connection)
37-0342	1	Pulley black 10mm	41-0095	6	Bulb holders (clip-on)
37-0344	1	Pulley black 20mm	86-0405	1	100 x 3mm flat blade screwdriver
37-0346	1	Pulley black 30mm	86-0455	1	15 x No.1 Phillips screwdriver
37-0348	1	Pulley black 40mm	37-0144	3	3 - 6V electric motors
18-0125	3	2x AA battery holders	35-3596	3	Buzzers 6V
18-0129	3	C size battery holders	01-0108	1	Stranded wire pack (pack 100)
18-1054	3	C size batteries	34-5926	1	Band pack
18-0150	3	1x AA battery holders	14-0430	1	Grannells tray (shallow)
85-0230	1	Light duty wire cutter	14-0436	1	Lid for tray
60-0515	3	Reed switches			

Type	Order code	1+
Electrical essentials kit	70-1014	30.59

078014

Rapid

Education Wire Starter Pack



A substantial kit containing a wide array of wire related consumables.

- Ideal for the classroom
- Contains wire cutters and strippers, wire, batteries and battery clips
- Offers a massive saving over separately purchased items
- Moulded box included
- Dimensions of the box: 43cm x 31cm x 7cm
- Great resource for all ages
- Supplied as a **pack**

Technical specification

5x Wire stripper	86-0350	50x PP3 battery clip	18-0105
5x Economy side cutter	85-0205	1x Shallow tray	14-0430
10x Equipment wire (pack)	01-0108	1x Tray lid	14-0436
15x PP3 zinc chloride battery	18-1448		

Type	Order code	1+
Wire starter pack	13-0112	34.34

065938

Rapid

Education Spares Kit



A comprehensive range of essential electronic consumables offering a huge saving over individually purchased items.

- The kit is ideal for the classroom and contains LEDs, resistors, capacitors, etc.
- All the pieces are neatly packed into a well laid out stackable storage box with lid
- Dimensions of the box: 43cm x 31cm x 7cm
- Great school resource
- Total number of components = 1945
- Supplied as a **pack**

Technical specification

1x 5mm red LED (pack 100)	55-1796	2x Equipment wire (pack 11)	01-0108
1x 5mm green LED (pack 100)	55-1792	100x BC548B Transistor	81-0066
1x 5mm yellow LED (pack 100)	55-1794	50x LM741 Op-amp	82-0458
1x Carbon film resistor kit (pack 1000)	13-0260	50x NE555 Timer	82-0336
1x Electrolytic capacitor kit (pack 93)	13-0220	1x Shallow Tray	14-0430
1x Polyester capacitor kit (pack 100)	13-0215	1x Tray lid	14-0436
30x Stripboard 25 x 64mm	34-0500	1x Insert (3 long compartments)	14-0438
2x Single sided pins (pack 100)	34-0610		
Total number of components = 1945			

Type	Order code	1+
Education spares kit	13-0108	46.70

065934

Rapid

Education LED Pack



A considerable range of LEDs and LED related products are neatly packaged in this classroom kit.

- All the pieces come in re-sealable polythene bags
- Offers a significant saving over separately bought items
- Storage box with compartment tray and lid
- Dimensions of the box: 43cm x 31cm x 7cm
- Suitable for all ages
- Total number of components = 680
- Supplied as a **pack**

Technical specification

1x 5mm red LED (pk 100)	55-1790	1x 3mm green LED (pk 100)	55-1772
1x 5mm green LED (pk 100)	55-1792	1x 3mm yellow LED (pk 100)	55-1774
1x 5mm yellow LED (pk 100)	55-1794	1x LED tester	13-0502
25x Flashing 5mm red LED	55-0140	1x Miniature LDR	58-0134
25x Flashing 5mm green LED	55-0142	1x Shallow tray	14-0430
25x Flashing 5mm yellow LED	55-0144	1x Tray lid	14-0436
1x 3mm red LED (pk 100)	55-1770	1x Insert 8 compartment	14-0443
Total components = 680			

Type	Order code	1+
Education LED pack	13-0122	33.78

065946

Rapid

Education Capacitor Kit



A generous package of capacitor consumables essential for schools electronic projects.

- This wide ranging kit is packed with high quality capacitors
- All components carefully placed into re-sealable polythene bags
- A strong durable stackable box with lid containing a compartment tray sees that all the components are stored neatly
- Dimensions of the box: 43cm x 31cm x 7cm
- Total number of components = 299
- Supplied as a **pack**

Technical specification

Kit contains: citor kit (pack 93)	13-0220	5x 470µF 16V Axial electrolytic	11-0025
10x 2.2µF 63V Axial electrolytic	11-0105	3x 1000µF 16V Axial electrolytic	11-0030
10x 1µF 63V Axial electrolytic	11-0110	3x 1000µF 25V Axial electrolytic	11-0150
10x 4.7µF 25V Axial electrolytic	11-0115	2x 2200µF 16V Axial electrolytic	11-0035
15x 10µF 25V Axial electrolytic	11-0120	1x Metal polyester capacitor kit (pack 110)	13-0210
5x 22µF 25V Axial electrolytic	11-0125	1x Shallow tray	14-0430
10x 47µF 25V Axial electrolytic	11-0130	1x Tray lid	14-0436
15x 100µF 16V Axial electrolytic	11-0015	1x Insert 6 compartments	14-0440
5x 220µF 16V Axial electrolytic	11-0020		
Total number of components = 299			



Type	Order code	1+
Capacitor pack	13-0128	33.78

065949

Rapid

...where price meets quality

Lithium



Selected brands

CR Lithium Battery Coin Cells

Type	Order code	1+	25+	100+	500+
CR2025 Lithium cell	18-0485	0.795	0.631	0.391	0.218
CR2032 Lithium cell	18-0490	0.562	0.426	0.344	0.26
CR2032 PCB horiz.	18-0461	1.03	0.799	0.63	0.567
CR2032 PCB vert.	18-0467	1.04	0.804	0.631	0.573

Type	Order code	1+	12+	24+
AAA x2	18-0216	8.51	7.65	6.48
AA x2	18-0214	6.70	6.01	5.58

Nickel-metal Hydride (NiMH)



Type	Order code	1+
2x 700mAh	51-1966	1.88
4x 700mAh	51-1967	3.63
4x 900mAh	51-1968	4.11
4x 1100mAh	51-1970	6.20
4x 1000mAh	51-1971	4.71

Type	Order code	1+
4x 2300mAh	51-1933	7.86
4x 2600mAh	51-1934	9.28
4x 2400mAh	51-1935	8.15

Type	Order code	1+
1x 4500mAh	51-1738	3.94

Type	Order code	1+
2x 5000mAh	51-1740	9.71



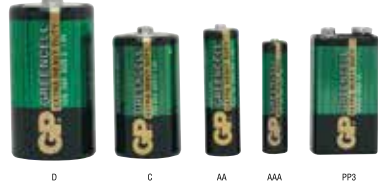
Rechargeable Batteries Set

Always keep extra batteries on hand with this saver pack from Conrad.

This handy NiMH saver pack includes some of the most popular sizes. There are 4x NiMH AAA 500mAh rechargeable batteries, 4x NiMH AA 1100mAh rechargeable batteries and 1x NiMH 9V (PP3) 160mAh rechargeable battery.

Type	Order code	1+
Battery Pack	51-1745	9.63

Zinc Carbon/Zinc Chloride



Type	Order code	1+	10+	40+	200+
AAA	18-1050	0.146	0.113	0.102	0.093
AA	18-1052	0.16	0.124	0.112	0.102
C	18-1054	0.378	0.295	0.265	0.241
D	18-1056	0.642	0.499	0.449	0.408
PP3	18-1058	0.524	0.408	0.367	0.334

Type	Order code	1+	20+	100+	500+
AAA	18-1440	0.22	0.149	0.103	0.069
AA	18-1442	0.254	0.161	0.115	0.082
C	18-1444	0.319	0.264	0.207	0.161
D	18-1446	0.563	0.379	0.321	0.289
PP3	18-1448	0.519	0.333	0.253	0.218

Type	Order code	1+	6+	24+
PP9 Battery	18-0249	3.40	3.15	3.05

Type	Order code	1+	6+	24+
PJ996 / 4R25	18-0273	2.26	1.86	1.44

AN-MANN

Basic 5 NiCD/NiMH Charger

The Basic 5 is a constant-current-charger for nickel cadmium and nickel metal hydride batteries.

- Desktop charger
- Charges 1 - 4 cells
- Suitable for AAA, AA, C, D, and a PP3 (7.2 - 9.6V) batteries
- Charging indicator for cylindrical cells and 9V
- Protection against reverse polarity

Batteries not included.

Type	Order code	1+
Basic 5 charger	18-2522	9.14

VOLTCRAFT

SK-B620C100 11 - 18VDC Multi Charger Discharger

The Voltcraft SK-B620C100 11 to 18V DC multi-charger/-discharger is a classic microprocessor-controlled high-performance quick charger with many different charging options to offer the best charging program for each application. It has a robust aluminium casing with an LCD and features automatic cell detection, built-in balancer for Li batteries, delta-peak charge termination, quick charge and trickle charge, automatic charging limit setting, charging temperature sensor connection, monitoring of input voltage and charging time limit. Once you have established the optimum charging routine for a particular battery the parameters can be saved to internal memory for easy recall (up to 5 batteries). Has a USB charging socket which supplies up to 1A DC. Supplied with charging cable with alligator clips, charging cable with open ends, balancer adapter plate, temperature sensor cable, USB cable, software and instructions.

• Up to 10A charging current

• Includes USB adapter with software



• Suitable for NiCd/NiMH/lead acid/LiPo/Li-ion and LiFe batteries

• Dimensions approx. 150 x 116 x 56mm

• Weighs approx. 615g

Type	Order code	1+
SK-B620C100 charger	55-2984	61.57

Alkaline



Type	Order code	1+	20+	100+	500+
AAA	18-1450	0.319	0.275	0.196	0.149
AA	18-1452	0.319	0.275	0.196	0.149
C	18-1454	0.938	0.769	0.674	0.589
D	18-1456	1.13	0.931	0.85	0.746
PP3	18-1458	1.32	1.08	0.953	0.85

Type	Order code	1+	20+	100+	500+
N	18-1900	0.652	0.563	0.519	0.492
AAA	18-1902	0.326	0.23	0.17	0.154
AA	18-1904	0.357	0.255	0.189	0.171
C	18-1906	1.00	0.829	0.743	0.576
D	18-1908	1.32	1.09	0.99	0.75
PP3	18-0200	0.905			

Type	Pack qty	Order code	1+	5+	10+
AAA	4	18-3250	3.34	2.89	2.53
AA	4	18-3260	3.34	2.89	2.53
AA	12	18-3262	8.72	7.64	6.83
C	2	18-3265	2.89	2.53	2.26
C	6	18-3267	7.75	6.83	6.14
D	2	18-3270	3.2	2.75	2.44
D	6	18-3272	8.67	7.35	6.55
PP3	1	18-3275	3.1	2.69	2.44

For our full range of batteries visit

www.rapidonline.com