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Rapid part of the  Group

Approved Framework Supplier

Rapid is an approved supplier within the National Universities Working Party on Electronic Components. The company was awarded all four Lots in the current framework agreement:



Lot 1: Electronic Components & Service Aids

Lot 2: Tools & Fixings

Lot 3: Test & Measurement Equipment

Lot 4: Batteries

This framework is available to members of NWUPC (North Western Universities Purchasing Consortium), LUPC (London Universities Purchasing Consortium), SUPC (Southern Universities Purchasing Consortium), NEUPC (North Eastern Universities Purchasing Consortium), APUC (Advanced Procurement for Universities and Colleges) and HEPCW (Higher Education Purchasing Consortium, Wales).

E-Procurement Integration PROACTIS

Rapid is able to fully integrate with a number of E-Procurement platforms and already operates both punchout and hosted catalogue type systems for many Universities around the UK.



The Spend Control Company

basware

Simplify Operations, Spend Smarter.

To find out more about connecting with Rapid as an E-Procurement supplier, please contact education@rapidonline.com.

Over **100,000** products from **1,500** brands

From Arcol to Vishay, Arduino to Weller, Rapid is home to some of the biggest brands in electronics, education, tools and industrial equipment.



KITTING SERVICE



We know that buying components for individual orders can be a time-consuming process, when you take into account the cross-referencing, possible price differences and the time spent booking in stock. Wouldn't it be great if all this was done for you?

Rapid's kitting services provide you with everything you need for a particular course or project in a kit, on dates that suit your schedule or timetable.

- **Customised kits for specific courses**

You can specify the electronic components, tools, test equipment, fasteners and fixings or any parts you need for particular courses, and we will supply the products in wallets or cases. If a certain brand, size or type of product is not available we will provide the closest match on quality and price.

- **Component kits for regular projects**

For your regular projects, we can pack components, PCBs and fixings in the quantities required for each student, so you do not have to sort through and make up your own bags. There is only one code to order when replenishing stock.

To enquire about our kitting services for education, please contact us at education@rapidonline.com.

www.rapidonline.com/Universities/Kitting-Service

High Performance Diagonal Cutters



- Minimum cutting force required due to long lever arm and offset axis
- High durability due to chrome molybdenum vanadium steel composition
- Chromed finish
- Removable return spring

Length	Order code	1+
160mm	86-5061	22.74
180mm	86-5066	24.99

Long Half-Round Nose Pliers



- Narrow finely serrated tips
- Chrome finished
- Ergonomic grips
- Side cutter for copper and hard steel wire
- Removable return spring
- Length 200mm
- Manufacturer's part 185.20CPE

Length	Order code	1+
200mm	86-5047	24.99

Engineers Combination Pliers



- Cutting edges designed to cut all types of wire including piano wire
- Long lever arm, offset pivot for minimum cutting effort
- Made from high durability chrome-molybdenum-vanadium steel
- Very hard cutting edges 61/63 HRC
- Ergonomic grips resistant to chemical agents
- Removable return spring
- Chromed finish

Length	Order code	1+
185mm	86-5049	22.39
205mm	86-5053	22.99

4-Piece CPE Pliers Set



Set includes: Locking twin slip-joint multigrip pliers length 245mm; high performance diagonal cutters 160mm; long half-round nose pliers 200mm; combination pliers 185mm.

Type	Order code	1+
Set of 4	86-5346	99.99

PROTWIST® Screwdriver Sets

Technical specification

Order code	Pieces	Screwdrivers
49-6233	4	Slotted 4 x 200, 5.5 x 200; Phillips PH1 x 250, PH2 x 250mm
49-6234	5	Slotted 4.0 x 25, 5.5 x 35, 6.5 x 35; Phillips PH1 x 25, PH2 x 35mm
49-6239	5	Slotted 4.0 x 100, 6.5 x 150, 8.0 x 175; Phillips PH1 x 100, PH2 x 125mm
49-6230	6	Slotted 3.5 x 75; 4 x 100; 5.5 x 150; 6.5 x 150; Phillips PH1 x 100, PH2 x 125mm
49-6236	6	Slotted 4.0 x 100, 5.5 x 150, 6.5 x 150, 8 x 175; Phillips 1.0 x 100, 2.0 x 125mm
49-6238	6	Slotted 2.5 x 75, 3.5 x 75, 4.0 x 100, 5.5 x 125; Phillips PH1 x 100, PH2 x 125mm
86-5312	6	Slotted 3.5 x 75, 4 x 100, 5.5 x 150, 6 x 150; Phillips 1 x 100, 2 x 125mm
49-6237	6	Slotted 4.0 x 100, 5.5 x 125, 3.5 x 75, 2.5 x 75; VDE Pozidriv PZ1 x 100, PZ2 x 125mm
49-6229	8	Slotted 4 x 100; 5.5 x 125; 6.5 x 150; 8 x 150; Phillips 1 x 100; 2 x 125; Pozidriv 1 x 100; 2 x 125mm
49-6231	10	Slotted 2.5 x 75, 3.5 x 100, 5.5 x 125, 6.5 x 150, 8 x 175; Phillips PH0 x 75, PH1 x 100, PH2 x 125; Pozidriv PZ1 x 100, PZ2 x 125mm
86-5314	13	Slotted 3.5 x 75, 4 x 100, 5.5 x 125, 6.5 x 150, 8 x 150, 10 x 200, 4 x 25, 6.5 x 35; Phillips 1 x 100; 2 x 125; 2 x 35; Pozidriv 1 x 100, 2 x 125mm
86-5317	12	Slotted 2.5 x 75, 4 x 100, 5.5 x 150, 6.5 x 150; Pozidriv 1 x 100, 2 x 125; Phillips PH0 x 75, PH1 x 100, PH2 x 125mm; Insulated Slotted 3.5 x 100, 5.5 x 125, Insulated Poz PZ1 x 100mm
86-5318	12	Slotted 2.5 x 75, 4 x 100, 5.5 x 150, 6.5 x 150; Pozidriv PZ1 x 100, PZ2 x 125; Phillips PH1 x 100, PH2 x 125; Torx T15 x 75, T20 x 100, T25 x 100, T30 x 125mm
49-6232	7	Torx T8 x 50; Resistorx TX10 x 75, TX15 x 75, TX20 x 100, TX25 x 100, TX27 x 100; TX30 x 125mm
49-6235	7	Resistorx T15 x 75, T10 x 75, T40 x 150, T30 x 125, T27 x 100, T25 x 100, T20 x 100mm



Pieces	Type	Order code	1+	Pieces	Type	Order code	1+	Pieces	Type	Order code	1+
4	Slot/PH	49-6233	34.99	6	Slot/VDE PH	49-6238	31.99	13	Slot/PH/PZ	86-5314	84.99
5	Slot/PH	49-6234	26.66	6	Slot/PZ	86-5312	27.29	12	Slot/PH/PZ	86-5317	62.19
5	Slot/PH	49-6239	54.49	6	Slot/VDE PZ	49-6237	44.79	12	Slot/PH/PZ/Torx	86-5318	73.49
6	Slot/PH	49-6230	22.99	8	Slot/PH/PZ	49-6229	41.99	7	Torx/Resistorx	49-6232	39.99
6	Slot/PH	49-6236	41.49	10	Slot/PH/PZ	49-6231	72.79	7	Resistorx	49-6235	39.95

SWINGO Automatic Stripping Pliers



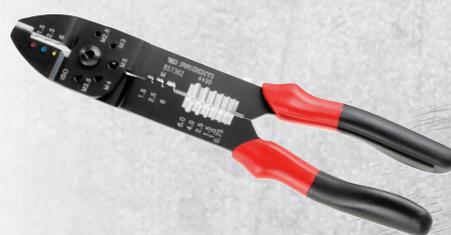
This all-purpose SWINGO automatic stripper from Facom can both cut and strip wires as small as 0.02mm² and as large as 10mm². Why buy a number of tools when just one can do the job?

- Play take-up mechanism for smooth and easy stripping
- Stripping capacity: 0.02 to 10mm² (AWG32 to 8)
- Stripping length adjusted from 3 to 18mm
- Built-in cutting function
- Cutting range up to 1.5mm² single strand wire, 10mm² multi strand wire
- Ergonomic body in glass charged nylon
- Weight: 136g
- Manufacturer's part 793936

Replacement jaws and pads available separately.

Type	Order code	1+
0.02 to 10mm ²	86-5274	64.99

449B Standard Crimping Pliers for Insulated Terminals



- Crimps bare and pre-insulated terminals 1.5mm² to 2.5mm² and 5mm² to 6mm²
- Stripping capacity 0.75mm² to 6mm²
- Length 225mm

Manufacturers part number	Order code	1+
449B	49-4505	24.49

ACL1A PROTWIST® Ratcheting Screwdriver Bit Holder +15 Bits

- Ergonomic bi-material grip for extra comfort
- Chrome finished 100mm blade
- 3-position bush to determine screwing, unscrewing or locked position
- Magnetic adaptor holds bit and screw
- Manufacturer's part ACL1A

Supplied with the following screw bits: slotted 4 to 6.5mm, Phillips PH1 and PH2, Pozidriv PZ1 and PZ2, hex 4 to 6 and Resistorx EXR 110, EXR 115, EXR 120, EXR 125, EXR 127, EXR 130 and EXR 140.

Type	Order code	1+
Bit holder +15 bits	49-4465	29.99

Ratchet Bit Set 31 Piece

Featuring a comfortable grip handle, this set also comes with a bitset and extension bit adaptor, ratchet, extension 100mm, plus the following bits:

Torx Tamper: T10/T15/T20/T25/T27/T30/T40
Torx T6/T7/T8/T9
Allen: 1.5/2/2.5/3/4/5/6/7/8mm
Phillips: PH1/PH2/PH3
Pozidriv: PZ1/PZ2/PZ3
Slot: 4, 5.5mm

Type	Order code	1+
Ratchet bit set	49-4487	74.99

Combined Set of 28 High Perf Bits and Holder

This bit set from Facom includes 28 high-quality 6.35mm (1/4in) bits to tackle 5 different types of screw, all contained in a compact wallet-type case.

Set includes the following High Perf bits: Slotted 4.5mm, 6.5mm and 8mm; Phillips PH1, PH2 and PH3; Pozidriv PZ1, PZ2 and PZ3; hex 3mm, 4mm, 5mm and 6mm; Torx® T10, T15, T20, T25, T30 and T40.

Type	Order code	1+
28-Piece set	49-4466	39.99



Combination Spanner Sets

When the going gets tough, these high quality **combination spanners** from **Facom** will keep going. These wrenches are **strong** yet compact and meet the high standards required by the aeronautical industry.

- Specially designed handle makes spanner easier to control - and offers increased comfort
- Designed for maximum safety - these spanners will distort gradually rather than break
- Ring head provides better clearance than regular spanners for reaching recessed nuts
- Satin chrome finish
- Resistant to chemicals
- Available

Pieces	Order code	1+
9	49-4461	63.99
12	49-5148	74.99
24	49-5149	74.99



Adjustable Wrenches



- Easy setting
- Non-protruding moving jaw at maximum capacity
- Pre-adjustment of jaw opening thanks to millimetric gradation
- Right-hand button rotation

Length	Order code	1+
206mm	86-5003	14.49
255mm	86-5005	20.49
306mm	86-5006	26.99
380mm	85-5007	44.99

Chromed Sheath Adjustable Wrenches



- Easy setting
- Non-protruding moving jaw at maximum capacity
- Pre-adjustment of jaw opening thanks to millimetric gradation
- Right-hand button rotation

Length	Order code	1+
116mm	86-5008	19.49
159mm	86-5009	19.99
209mm	86-5011	19.99
259mm	86-5013	29.99
310mm	86-5016	44.99

Combination Wrench Sets



These high-quality combination ratchet **wrench sets** from **Facom** are suitable for tackling a variety of tightening and untightening tasks. These ultra-compact tools are available in a range of combinations and sizes supplied in a handy portable case (except **49-6225**).

- Ring tightening facility
- Wrenches resistant to chemicals and impact

Wrench type	Number in set	Order code	1+
Standard	7	49-6225	84.99
Standard	10	49-6226	134.99
Hinged	10	49-6227	164.65
Short	5	49-6228	64.99

JP Hexagon Key Sets

These **hexagon key sets** from **Facom** are available in a range of key styles and supplied in a compact wallet. These sets include either 9 metric hex keys or 8 hex keys in imperial sizes.

- Wallet allows easy selection of key required



Key type	Manufacturers part number	Order code	1+
Metric			
Short	82H.JP9A	49-6220	12.86
Long	83H.JP9A	86-5277	16.45
Spherical head long	83SH.JP9AP8	49-6223	14.15
Extra long	83S.JP9AL	49-6221	29.99
Imperial			
Spherical head x long	83SH.JP8AU	49-6222	23.49



EXCELLENCE INNOVATION QUALITY

Over the last 95 years, Facom has imposed an unequalled quality standard.

This search for excellence is the obsession of Facom teams.

Combination Spanners



- High mechanical strength combined with compact size meeting aeronautical standards
- Ring head designed for better access to series or embedded screws
- Heads angled at 15°
- Open end head-handle geometry optimised for increased access
- Satin chrome finish
- Available in a range of metric sizes

Size	Order code	1+	Size	Order code	1+
4mm	86-5101	4.09	19mm	86-5124	7.25
5mm	86-5103	4.30	20mm	86-5126	9.40
5.5mm	86-5105	4.64	21mm	86-5127	9.02
6mm	86-5107	4.77	22mm	86-5128	10.10
7mm	86-5109	4.26	23mm	86-5129	10.84
8mm	86-5111	4.26	24mm	86-5131	12.14
9mm	86-5112	4.26	25mm	86-5132	11.91
10mm	86-5113	4.30	26mm	86-5133	15.09
11mm	86-5114	5.10	27mm	86-5134	14.21
12mm	86-5116	4.55	28mm	86-5136	15.92
13mm	86-5117	6.45	29mm	86-5137	15.20
14mm	86-5118	5.29	30mm	86-5141	16.90
15mm	86-5119	6.02	32mm	86-5143	21.41
16mm	86-5121	6.15	35mm	86-5144	35.29
17mm	86-5122	6.56	36mm	86-5146	37.24
18mm	86-5123	7.80	41mm	86-5147	68.63

Ratcheting Spanners



- Compact ratchet mechanism reversible by lever
- Ring head angled at 15°
- Open end head angled at 15°
- Satin chrome finish
- Available in a range of metric sizes

Size	Order code	1+	Size	Order code	1+
6mm	86-5188	9.52	15mm	86-5198	12.04
7mm	86-5189	9.52	16mm	86-5199	13.56
8mm	86-5191	9.74	18mm	86-5202	14.79
10mm	86-5192	13.50	21mm	86-5204	16.13
11mm	86-5193	10.75	22mm	86-5206	17.56
12mm	86-5194	11.17	24mm	86-5207	19.08
14mm	86-5197	12.04	27mm	86-5208	38.01



Lifetime guarantee*

*See website for details

Maintenance Free Pear Head Ratchets



- Palm control system avoids the risk of accidental reverse
- Drive direction changed by switch which can be operated easily even with greasy hands
- 72-tooth mechanism for 5° increments
- Compact head
- Hanging hook
- ISO 3315, DIN 3122

Size	Order code	1+
3/8in	49-4472	32.49
1/4in	49-4475	32.99
1/2in	49-4478	39.99

Flexible Extendable Locking Ratchet 1/2in Drive



- 1 ratchet instead of 2
- Short setting for standard use and easy storage
- Long setting for more torque with less effort
- Strong extension mechanism
- Watertight
- High accuracy
- Provides optimum safety
- Minimum length 304mm
- Extended length 437mm
- Manufacturer's part SXL.171

Type	Order code	1+
437mm maximum length	86-5517	69.99

Palm Control Ratchets



- 72-teeth mechanism for 5° increments
- Ring reversing
- ISO 3315, DIN 3122

Size	Order code	1+
3/8in	49-4470	39.99
1/4in	49-4473	31.89
1/2in	49-4476	39.99

Power Bar 3/8in Drive



- Stiffened joint
- Bright chrome finish
- Length 260mm
- Manufacturer's part J.140A

Type	Order code	1+
Power bar 3/8in drive	86-5383	27.99

Rotator Ratchet 3/8in Drive 6-Point Metric Socket Set



- Ratchet length 233mm
- Extension bar length 125mm
- Socket sizes 8mm, 10mm, 12mm, 13mm, 14mm and 17mm
- Manufacturer's part J.360PACK

Type	Order code	1+
8-Piece set	86-5389	49.99

Bi-Hexagon Deep Sockets 3/8in Drive Metric



Long reach bi-hexagonal sockets from the Facom "Junior" range with OGV profile. The OGV profile is achieved by a succession of curves instead of the flats found in conventional sockets and offers more powerful tightening.

- Extra length for deep recess or thread access
- 3/8in drive
- Bright chrome finish
- Available in a range of metric sizes

Size	Order code	1+	Size	Order code	1+
8mm	86-5366	7.64	16mm	86-5373	9.27
10mm	86-5367	7.64	17mm	86-5375	9.58
12mm	86-5368	7.89	19mm	86-5377	10.90
13mm	86-5371	7.89			

Hexagon Sockets 1/4in Drive



These hexagonal sockets from Facom are part of the Radio range and have a 1/4in square drive.

- OGV profile gives more powerful tightening
- Bright chrome finish
- Available in a range of sizes

Size	Order code	1+	Size	Order code	1+
5.5mm	86-5455	3.33	10mm	86-5458	3.33
7mm	86-5456	3.33	13mm	86-5459	3.33
8mm	86-5457	3.33			

1/4in. Square Drive 6-Point Metric Socket Set 3.2 to 14mm and Rack



- Set contains: 3.2, 4, 5, 5.5, 6, 7, 8, 9, 10, 11, 12, 13 & 14mm hexagon sockets
- Supplied on a metal rail for easy storage
- Weight 255g
- Facom type R.40E

Type	Order code	1+
18-Piece socket set	86-5463	49.99

1/4in Drive Extensions



These 1/4in square drive extension bars from Facom are part of the Radio range of ratchets and sockets.

- Chrome finish
- Diameter 12mm
- Available in different lengths

Size	Order code	1+	Size	Order code	1+
55mm	86-5467	5.49	250mm	86-5469	16.95
150mm	86-5468	8.49			

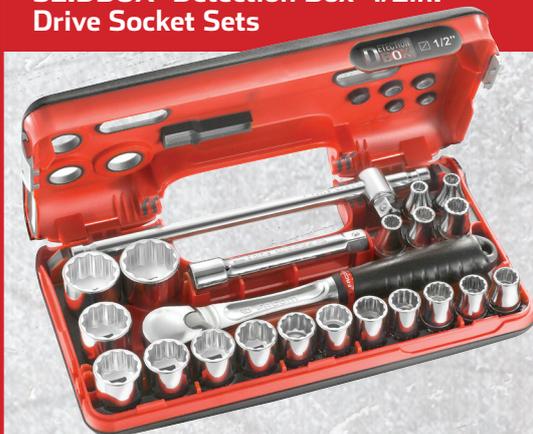
12-Point 3/8in Drive Socket Set Metric Detection Box



Set includes: Sockets 8mm, 9mm, 10mm, 11mm, 12mm, 13mm, 14mm, 15mm, 16mm, 17mm, 18mm, 19mm, 21mm and 22mm; 125mm and 250mm locking extension bars plus universal joint.

Type	Order code	1+
18-Piece set	86-5441	179.99

SL.DBOX 'Detection Box' 1/2in. Drive Socket Sets



Facom type Order code	SLDBOX1 49-6258 6-point	SLDBOX112 49-6259 12-point	SLDBOX4 49-6260 6-point	SLDBOX412 49-4469 12-point
Socket type				
8mm	y	y	y	y
9mm			y	y
10mm	y	y	y	y
11mm	y	y	y	y
12mm	y	y	y	y
13mm	y	y	y	y
14mm	y	y	y	y
15mm	y	y	y	y
16mm	y	y	y	y
17mm	y	y	y	y
18mm	y	y	y	y
19mm	y	y	y	y
21mm	y	y	y	y
22mm	y	y	y	y
23mm			y	
24mm	y	y	y	y
27mm	y	y	y	y
30mm	y	y	y	y
32mm	y	y	y	y
245mm, 72-tooth ratchet handle	y	y	y	y
Sliding T bar			y	
130mm extension bar with 8° wobble			y	
130mm extension bar	y	y		
150mm extension bar	y	y		
Universal joint	y	y		
Box dimensions	340 x 180 x 58mm	340 x 180 x 58mm	340 x 180 x 58mm	340 x 180 x 58mm
Weight	3.68kg	3.68kg	3.75kg	3.75kg

6-point	Order code	1+	12-point	Order code	1+
SLDBOX1	49-6258	194.99	SLDBOX112	49-6259	159.99
SLDBOX4	49-6260	159.99	SLDBOX412	49-4469	148.99

Nano Socket Sets



Metric Bits			
No. of bits/points	Ratchet type	Order code	1+
25/12	Pear head	49-6244	123.99
38/6	Palm control	49-6243	149.99
38/6	Pear head	49-6245	149.99
38-6	Palm cont/locking	49-4486	159.99

Imperial Bits			
No. of bits/points	Ratchet type	Order code	1+
27/12	Pear head	49-6247	149.99
38/6	Palm head	49-6246	123.99
38/12	Pear head	49-6248	149.99



Plastic Tool Boxes

These high quality plastic **tool boxes** from **Facom** are **self-closing** and ideal for use by professionals and hobbyists.

- Latch opening with one hand
- 2 storage compartments on the cover
- High strength metal closures
- Folding handle
- Removable tray
- Stackable
- Padlock clasp (padlock not supplied)

Size	Order code	1+
16in	86-5319	13.99
19in	86-5320	17.99
24in	86-5322	29.99



Compact Hacksaw Frame



High quality compact lightweight **hacksaw frame** from **Facom** made from impact-resistant resin-coated steel.

- Blade tension 80kg
- 2 blade positions: 45° and 90°
- Supplied with single 300mm blade
- Dimensions: 385 x 145mm
- Weight: 590g
- Manufacturer's part **601**

Size (mm)	Order code	1+
300	86-5266	18.99

Jet+ 4 Drawer Chest, 3 Modules per Drawer

This chest is part of the **Jet+** system from **Facom** which offers the ultimate in **mobile tool storage**. This unit has 4 drawers each with 3 separate modules and can be used alone or in combination with a roller cabinet to hold your tools and accessories.

- 12 modules distributed in the 60 and 130mm drawers
- 200mm can also be fitted with modules
- Supplied with 12 partitions for 60mm drawers and removable partitions (not supplied)
- Total drawer load capacity: 85kg
- Total static load on worktop: 500kg
- High storage capacity: 75 litres
- Overall dimensions: 774 x 546 x 480mm
- Available in red or black



Colour	Order code	1+
Red	86-5409	439.99
Black	86-5411	439.99

Y.103B Riveting Pliers



These **riveting pliers** from **Facom** are supplied with three nosepieces with keys capable of handling rivets from 3mm up to 5mm.

- Suitable for aluminium rivets 3mm, 3.2mm, 4mm, 4.8mm and 5mm diameter
- Suitable for steel rivets 3mm, 3.2mm and 4mm diameter
- Nose 22mm diameter
- Length 250mm
- Manufacturer's part **Y.103B**

Size (mm)	Order code	1+
250	49-4498	26.99



Jet+ 6 Drawer Roller Cabinet, 3 Modules per Drawer

The **Jet+** system from **Facom** offers the ultimate in **mobile tool storage**. This roller cabinet has 6 drawers each with 3 separate modules to hold all your tools and accessories.

- Polymer bumpers with shock absorbers on all edges
- Centralised folding key locking system
- Worktop with integral handle and storage compartment for screwdrivers etc
- 15 modules distributed in the 60 and 130mm drawers
- 200mm and 270mm drawers can also be fitted with modules
- Supplied with 6 partitions for 60mm drawers and 2 partitions for 130mm drawers
- Total load capacity: 140kg
- Wall storage capacity: 155 litres
- Overall dimensions (including wheels and worktop): 774 x 546 x 971mm
- Available in red or black

Colour	Order code	1+
Red	86-5393	556.99
Black	86-5395	556.99

Plastic Organiser



This **plastic organiser** from **Facom** can accommodate a range of hand tools, power tools and parts and is ideal for any maintenance professional who needs to keep equipment close at hand while on the move.

- Storage for parts (9 removable partitions), hand tools (central compartment) and power tools (6 removable partitions)
- Various compartment layouts possible
- All tools readily visible and accessible
- Closure with integral spring, easy opening and closing
- Capacity: organizer 2 x 6 litres, central base 4.7 litres
- Max load: 15kg
- Dimensions (L x D x H): 426 x 316 x 234mm
- Weight: 2.67kg
- Manufacturer's part **BPZ46A**

Size (mm)	Order code	1+
426 x 316 x 234	86-5327	41.49

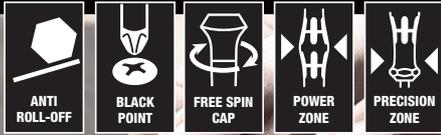
Facom Heavy-Duty Mobile or Fixed Workbench

The **Jet+** system from **Facom** offers the ultimate in **mobile tool storage**. This workbench can be movable or set into one position. Simply lower the feet with the rotating handle and your mobile workbench becomes as stable as a fixed workplace.

- Large 0.7m² worktop in multilayered beech wood coated with lint oil for stronger resistance to liquids and easier maintenance
- A vice can be fixed to worktop
- Handle enables easy movement of workbench
- Fitted with 4 x 125mm wheels - 2 swivelling, 2 fixed
- 6 drawers with aluminium handles and withstanding a load of 30kg per drawer
- 1 compartment with shelf to store larger tools or objects
- Single key fits drawers and compartment
- Dimensions 1194 x 1002 x 670
- Manufacturer's part **JET.6MWB**



Size (mm)	Order code	1+
1194 x 1002 x 670	86-5398	1124.99



Micro Screwdrivers

Screwdrivers

Slotted Screwdrivers 2035 Kraftform Micro Series

Hex Screwdrivers 2054 Kraftform Micro Series

Slotted Screwdrivers 335 Kraftform Plus Series

Ball End Hex Screwdrivers 352 Kraftform Plus Series



Tip width	Tip thickness	Blade length	Order code	Price each
0.8mm	0.16mm	40mm	54-7833	2.65
1.0mm	0.18mm	40mm	54-7834	2.37
1.2mm	0.2mm	40mm	54-7835	2.16
1.5mm	0.23mm	40mm	50-4144	2.43
1.2mm	0.25mm	40mm	50-4143	2.42
1.2mm	0.25mm	60mm	54-7836	2.17
1.5mm	0.23mm	60mm	54-7837	2.17
1.8mm	0.3mm	40mm	54-7838	2.17
1.8mm	0.3mm	60mm	50-4145	2.43
2mm	0.4mm	40mm	54-7839	1.90
2mm	0.4mm	60mm	50-4146	2.13
2mm	0.4mm	100mm	54-7840	2.25
2.5mm	0.4mm	50mm	54-7841	2.04
2.5mm	0.4mm	80mm	50-4147	1.82
2.5mm	0.4mm	100mm	54-7842	2.25
3mm	0.5mm	50mm	54-7843	1.82
3mm	0.5mm	80mm	50-4148	1.97
3mm	0.5mm	100mm	54-7844	2.25
3mm	0.5mm	150mm	54-7845	2.46
3.5mm	0.6mm	80mm	50-4149	1.90
4mm	0.8mm	80mm	50-4150	1.97
4mm	0.8mm	100mm	54-7846	2.25
4mm	0.8mm	150mm	54-7847	2.46

Tip size	Blade length	Order code	Price each
0.7mm	40mm	50-4274	3.10
0.9mm	40mm	50-4268	2.42
1.3mm	40mm	50-4269	2.35
1.5mm	60mm	50-4270	2.41
2.0mm	60mm	50-4271	2.16
2.5mm	60mm	50-4272	2.16

Size	Order code	Price each
0.4/2.0/60	54-7758	2.10
0.4/2.5/60	54-7759	1.69
0.4/2.5/75	54-7760	1.88
0.5/3.0/80	54-7761	2.00
0.5/3.0/150	54-7762	2.93
0.5/3.0/200	54-7763	3.73
0.6/3.5/100	54-7764	2.82
0.6/3.5/125	54-7765	2.65
0.6/3.5/200	54-7766	3.28
0.8/4.0/100	54-7767	2.55
0.8/4.0/150	54-7768	3.17
0.8/4.0/200	54-7769	3.75
0.8/4.0/300	54-7770	4.93
1.0/5.5/125	54-7771	3.72
1.0/5.5/150	54-7772	4.08
1.0/5.5/200	54-7773	4.28
1.0/5.5/300	54-7774	5.13
1.2/6.0/100	54-7775	4.20

Size	Order code	Price each
Metric		
1.5/60	54-7852	2.31
2.0/100	54-7853	2.31
2.5/100	54-7854	2.49
3.0/100	54-7855	2.59
4.0/100	54-7856	2.93
5.0/100	54-7857	3.61
6.0/125	54-7858	3.98
8.0/150	54-7859	5.70
10.0/150	54-7860	7.19
12.0/150	54-7861	8.12
Imperial		
5/32in/100	54-7862	2.56
3/16in/100	54-7863	3.60
7/32in/100	54-7864	3.49
1/4in/125	54-7865	4.24
5/16in/150	54-7866	5.88
3/8in/150	54-7867	7.53
1/2in/150	54-7868	8.54

Phillips Screwdrivers 2050 Kraftform Micro Series



Size	Blade length	Order code	Price each
PH00	60mm	51-1334	2.67
PH0	60mm	51-1335	2.25
PH1	80mm	51-1336	2.32

Pozi Screwdrivers 2055 Kraftform Micro Series



Size	Blade diameter	Blade length	Order code	Price each
PZ0	3mm	60mm	50-4093	2.78
PZ1	4mm	80mm	50-4094	2.96

Pozidriv Screwdrivers 335PZ Kraftform Plus Series



Size	Blade length	Order code	Price each
PZ0	60mm	54-6901	3.28
PZ1	80mm	54-6902	4.24
PZ1	200mm	54-6903	4.71
PZ1	300mm	54-6904	5.93
PZ2	100mm	54-6905	5.39
PZ2	200mm	54-6906	6.53
PZ2	250mm	54-6907	6.61
PZ2	300mm	54-6908	6.61
PZ3	150mm	54-6909	7.73
PZ4	200mm	54-6910	9.66

Hex-Plus Screwdrivers 354 Kraftform Plus Series



Size	Order code	Price each
2.0/75	54-7742	2.32
2.5/75	54-7743	2.41
3.0/75	54-7744	2.95
4.0/75	54-7745	2.86
5.0/80	54-7746	3.72
6.0/80	54-7747	2.89
8.0/100	54-7748	3.47
10.0/100	54-7749	6.25

BO Torx Key Ball End 9-Piece Set



Set includes the following Torx keys: TX8 x 76mm (without bore hole), TX9 x 79mm (without bore hole), TX10 x 85mm, TX15 x 90mm, TX20 x 96mm, TX25 x 104mm, TX27 x 112mm, TX30 x 122mm, TX40 x 132mm.

Type	Order code	Price each
Torx Key Ball End Set	86-5637	17.49

L-Key 9-Piece Set with Holding function

Set includes the following sizes: 1.5 x 90, 2 x 101, 2.5 x 112, 3 x 123*, 4 x 137*, 5 x 154*, 6 x 172*, 8 x 195* and 10 x 224*.

* With holding function.



Type	Order code	Price each
L-Key Set	86-5657	27.94



Zyklop Mini Bit Check

Type	Order code	Price each
PH/PZ/TX/Hex 10-Piece set	54-6474	17.32

Adjustable Torque Screwdrivers 7400 Kraftform

Size	Order code	Price each
0.3-1.2Nm	54-8011	55.99
1.2-3Nm	54-8012	44.99

Joker



Combination Ratchet Spanners Joker

Size (mm)	Length (mm)	Order code	Price each
Metric			
8	144	54-7266	11.57
10	159	50-4879	11.02
11	165	54-7267	12.66
12	171	54-7268	12.65
13	177	50-4880	12.03
14	188	54-7269	15.83
15	200	54-7270	16.11
16	212	54-7271	16.16
17	224	50-4881	15.43
18	235	54-7272	18.30
19	246	50-4882	17.41
Imperial			
5/16"	144	54-7273	12.59
3/8"	159	54-7274	12.59
7/16"	165	54-7275	14.24
1/2"	177	54-7276	14.57
9/16"	188	54-7277	16.80
5/8"	212	54-7278	18.50
11/16"	235	54-7279	19.95
3/4"	246	54-7280	19.51



Zyklop



Ratchet Drives Zyklop



Size	Order code	Price each
1/4in	50-6382	32.04
3/8in	50-6383	36.28
1/2in	50-6384	38.74

1/4in Ratchet Sockets HMA Zyklop



Size	Order code	Price each
4mm	54-6697	2.38
4.5mm	54-6699	2.38
5mm	54-6700	2.38
5.5mm	54-6701	2.38
6mm	54-6702	2.38
7mm	54-6703	2.38
8mm	54-6704	2.38
9mm	54-6698	2.52
10mm	54-6705	2.52
11mm	54-6706	2.56
12mm	54-6707	2.56
13mm	54-6708	2.66
14mm	54-6709	2.66
3/16in	54-6710	2.38
7/32in	54-6711	2.38
1/4in	54-6712	2.38
9/32in	54-6713	2.38
5/16in	54-6714	2.38
11/32in	54-6715	2.38
3/8in	54-6716	2.52
7/16in	54-6717	2.56
1/2in	54-6718	2.56
9/16in	54-6719	2.66

3/8in Ratchet Sockets HMB Zyklop



Size	Order code	Price each
6mm	54-6720	3.35
7mm	54-6721	3.35
8mm	54-6722	3.35
9mm	54-6723	3.35
10mm	54-6724	3.35
11mm	54-6725	3.35
12mm	54-6726	3.35
13mm	54-6727	3.40
14mm	54-6728	3.52
15mm	54-6729	3.52
16mm	54-6730	3.52
17mm	54-6731	3.52
18mm	54-6732	3.52
19mm	54-6733	3.55
20mm	54-6734	3.94
21mm	54-6735	3.94
22mm	54-6736	3.94
24mm	54-6737	4.25
1/4in	54-6738	3.35
5/16in	54-6739	3.35
11/32in	54-6740	3.35
3/8in	54-6741	3.35
7/16in	54-6742	3.35
1/2in	54-6751	3.35
9/16in	54-6743	3.52
5/8in	54-6744	3.52
11/16in	54-6745	3.52
3/4in	54-6746	3.73
13/16in	54-6747	3.97
7/8in	54-6748	4.24

1/2in Ratchet Sockets HMC Zyklop



Size	Order code	Price each
10mm	54-6749	3.34
11mm	54-6750	3.56
12mm	54-6752	3.56
13mm	54-6753	3.51
14mm	54-6754	3.79
15mm	54-6755	3.79
16mm	54-6756	3.79
17mm	54-6757	3.85
18mm	54-6758	4.10
19mm	54-6759	3.85
20mm	54-6760	4.23
21mm	54-6761	4.49
22mm	54-6762	4.23
24mm	54-6763	4.74
27mm	54-6764	5.70
30mm	54-6765	6.34
32mm	54-6766	6.34
3/8in	54-6767	3.34
7/16in	54-6768	3.34
1/2in	54-6769	3.34
9/16in	54-6770	3.56
19-32in	54-6771	3.56
5/8in	54-6772	3.56
11/16in	54-6773	3.74
3/4in	54-6774	3.74
25/32in	54-6775	3.74
13/16in	54-6776	4.21
7/8in	54-6777	4.21
15-16in	54-6778	4.53
31/32in	54-6779	4.53
1in	54-6780	4.53
1.0625in	54-6781	5.74
1.125in	54-6782	5.74
1.875in	54-6783	5.77
1.25in	54-6784	5.96

Ratcheting Combination Wrenches, Metric 11-Piece Set

Set includes: 1 each: 8 x 144mm, 10 x 159mm, 11 x 165mm, 12 x 170.7mm, 13 x 177mm, 14 x 188mm, 15 x 200mm, 16 x 212mm, 17 x 224mm, 18 x 235mm, 19 x 246mm.

Ratcheting Combination Wrenches, Imperial 4-Piece Set

Mfrs part no.	Order code	Price each
05020013001	54-7281	133.28
05020010002	54-7283	57.99

Set includes: 1 each: 7/16in x 165mm, 1/2in x 177mm, 9/16in x 188mm, 3/4in x 246mm.

27-Piece Kraftform Kompakt Zyklop Mini 2 Shallow Socket Set

Set includes: Zyklop Mini 1 ratchet; socket adaptor 870/1; Zyklop Mini 2 ratchet; 14 bits - Phillips PH1 and PH2, Pozidriv PZ1 and PZ2, Torx TX 10, TX15, TX20, TX25, TX30 and TX40, Hex-Plus 3, 4, 5 and 6mm; Hexagon 11 sockets 4, 5, 5.5, 6, 7, 8, 10, 12 and 13mm.

Mfrs part no.	Order code	Price each
05135918001	86-5627	64.95

28-Piece Zyklop 8100 SA8 Slim Ratchet and Socket Set Metric



Set includes the following: Sockets 5, 5.5, 6, 7, 8, 10, 11, 12, 13mm; Phillips bits PH1, PH2, PH3; Pozidriv bits PZ1, PZ2; Torx bits TX10, TX15, TX20, TX25, TX27, TX30; Hex-Plus 3, 4, 5, 6mm.

Mfrs part no.	Order code	Price each
050040180011	86-5639	48.32



Only
£209.05
Order code
89-6994

Tool Chest Combination 6 Drawer BB Runners - 128-Piece Tool Kit

Sealey model no.	Description
LED005PB	5 LED mini aluminium torch with magnetic pick-up - blue
S0433	Needle nose pliers set 3-piece 275mm
S0437	Needle nose pliers 275mm offset
S0447	Pliers set 3-piece
S0448	Adjustable wrench set 3-piece 150, 200 & 250mm
S0465	Hex key set 25-piece
S0865	Engineer's hacksaw set 2-piece
S0488	Magnetic collector 110mm
S0529	Retractable utility knife
S0562	Combination metric spanner set 11-piece
S0598	Soft grip screwdriver & bit set 23-piece
S0610	Magnetic pick-up set 2 piece
S0711	Metric socket set 52-piece 1/4in. & 1/2in. square drive



Only
£136.32
Order code
89-7435

Topchest 9 Drawer - BB Runners - Red/Grey & 204-Piece Tool Kit

Set includes: 36LED + 0.5W LED stick light; 3-piece pliers set; 3-piece adjustable wrench set 150, 200 & 250mm; 25-piece hex key set; 100-piece power tool/security bit set; 300mm hacksaw; 110mm magnetic collector; 21-piece screwdriver set with carry case; junior hacksaw with spare blade; retractable utility knife; 11-piece metric combination spanner set; 36-piece metric socket set 1/4in & 3/8in sq drive. Other products of equivalent value will be supplied in the event that items cease to be available.

3-Piece Adjustable Wrench Set Ni-Fe Finish



Only
£19.28
Order code
89-1323



WallDrive Deep Sockets 3/8in Sq Drive

Size	Order code	1+
8mm	89-2328	2.86
9mm	89-2330	2.86
10mm	89-2332	2.86
11mm	89-2334	2.86
12mm	89-2336	2.86
13mm	89-2338	2.86
14mm	89-2340	2.86
15mm	89-2342	2.86
16mm	89-2344	2.86
17mm	89-2346	3.19
18mm	89-2348	3.50
19mm	89-2350	3.50

WallDrive Sockets 3/8in Sq Drive



Size	Order code	1+
6mm	89-2325	1.44
7mm	89-2326	1.44
8mm	89-2327	1.44
9mm	89-2329	1.44
10mm	89-2331	1.44
11mm	89-2333	1.44
12mm	89-2335	1.44
13mm	89-2337	1.44
14mm	89-2339	1.44
15mm	89-2341	1.44
16mm	89-2343	1.77
17mm	89-2345	1.77
18mm	89-2347	1.77
19mm	89-2349	1.77
20mm	89-2351	2.16
21mm	89-2352	2.16
22mm	89-2353	2.16
24mm	89-2354	2.55

WallDrive Sockets 3/4in Sq Drive



Size	Order code	1+
19mm	89-2304	5.43
22mm	89-2305	5.76
24mm	89-2306	6.21
26mm	89-2307	6.21
27mm	89-2308	6.21
29mm	89-2309	6.41
30mm	89-2310	6.92
32mm	89-2311	7.31
33mm	89-2312	7.95
36mm	89-2313	8.59
38mm	89-2314	8.98
41mm	89-2315	10.27
42mm	89-2316	10.91
46mm	89-2317	12.38
50mm	89-2318	13.48
55mm	89-2319	19.59



WallDrive Deep Sockets 1/4in Sq Drive

Size	Order code	1+
4mm	89-4779	2.16
5mm	89-4781	2.16
5.5mm	89-4892	2.16
6mm	89-4783	2.16
7mm	89-4791	2.16
8mm	89-4792	2.16
9mm	89-4793	2.16
10mm	89-4794	2.16
11mm	89-4795	2.16
12mm	89-4796	2.16
13mm	89-4103	2.16
14mm	89-6103	2.16

WallDrive Sockets 1/4in Sq Drive



Size	Order code	1+
4mm	89-4778	1.32
5mm	89-4780	1.32
5.5mm	89-4891	1.32
6mm	89-4782	1.32
7mm	89-4784	1.32
8mm	89-4785	1.32
9mm	89-4786	1.32
10mm	89-4787	1.32
11mm	89-4788	1.32
12mm	89-4789	1.32
13mm	89-4790	1.32
14mm	89-6102	1.32



Ratchet Wrenches Pear-Head Flip Reverse

Type	Order code	1+
1/4in.	89-7473	13.48
3/8in.	89-7474	16.37
1/2in.	89-7475	19.28



Ratchet Combination Spanners

Size	Order code	1+
6mm	89-3447	8.05
7mm	89-3448	6.69
8mm	89-2172	6.69
10mm	89-2174	9.98
11mm	89-2175	10.34
12mm	89-2176	10.70
13mm	89-2177	11.41
14mm	89-2178	11.77
15mm	89-2179	12.13
16mm	89-2180	12.48
17mm	89-2181	13.41
18mm	89-2182	14.84
19mm	89-2183	16.42
21mm	89-2184	20.35
22mm	89-2185	22.14
24mm	89-2186	24.50
27mm	89-5336	32.50
30mm	89-5337	46.45
32mm	89-5338	48.95

18-Piece TRX-Star & Ball-End Hex Key Set Long Anti-Slip



Only
£19.58
Order code
89-6881

9-Piece Long Metric Ball-End Hex Key Set



Only
£6.27
Order code
89-3690

13-Piece TRX-Star Key Set Anti-Slip Extra-Long



Only
£14.54
Order code
89-6510

11-Piece Anti-slip Ball-end Hex Key Set



Only
£12.13
Order code
89-0268

Cutting Nipper 110mm



Only
£5.99
Order code
89-4104

Side Cutters 160mm



Only
£5.58
Order code
89-3743



5-Piece Mini Pliers Set

Diagonal Side Cutter 110mm, Needle Nose Pliers 150mm, End Cutter 105mm, Snipe Nose Pliers 125mm, Long Nose Pliers 125mm

Only
£12.98
Order code
89-0106

Combination Pliers 180mm and 200mm



Type	Order code	1+
180mm	89-0412	2.83
200mm	89-0414	2.69

Long Nose Pliers



Length	Order code	1+
170mm	89-3737	5.76
215mm	89-3738	7.36

6-Piece Microtip Precision Screwdriver Set



Type	Order code	1+
6-Piece Microtip Precision Screwdriver Set	89-1369	9.78

6-Piece Microtip Precision Security TRX-Star Driver Set



Type	Order code	1+
6-Piece Microtip Security TRX-Star Driver Set	89-3797	14.13

GripMAX 8-Piece Screwdriver Set



Type	Order code	1+
8-piece set	89-6989	22.17

8-Piece ProMAX Screwdriver Set



Type	Order code	1+
8-Piece ProMAX Screwdrivers Set	89-6144	14.54

Wire Stripping Tool Heavy-Duty Automatic



Only
£14.08
Order code
89-0886

Weller®

(900W) WTHA 1

One compact, easy-operating station with a smart temperature profile mode adjustable for diverse rework applications, assuring fast, safe performance.

The Weller WTHA 900 is a 900W hot air station ideal for simple repair and heating tasks requiring an accurate temperature and airflow.

- Intuitive operation via clear menu structure
- Back-lit graphic liquid crystal display
- Can stack with the Weller WT 1 and WT 1H power supply units
- Electronically controlled temperature
- Accurate adjustment of hot air via brushless pump
- Up to 5 pre-sets which can be automatically run in a profile

More than just a lot of hot air.

Technical Data

	WTHA1
Dimensions L x W x H	210 x 160 x 125mm 8.30 x 6.30 x 4.90 in
Weight	3.0kg
Mains supply	230V/50Hz, 120V-60Hz
Power consumption	900W
Safety class	I. Antistatic housing
Temperature range	50°C – 600°C 120°F – 1100°F
Air flow	l/min 5–60
Temperature accuracy	±30°C / ±54°F

Order code 85-4936

£698.99



(90W)

WT1012

The Weller WT 1012 set consists of a WT 1, 90W power supply unit, a WSP 80 80W soldering iron and a WSR 201 safety rest.

- Front panel mounted mains switch
- Multi-functional LCD with adjustable back-light and power-bar
- Menu button allows quick navigation of the menu structure
- Automatic standby mode via acceleration sensor in the connected tool
- Units can be stacked on the WTHA 1 hot air station, or on each other, saving space on the workbench
- Flat, heat-resistant silicone pad for placing tips and other items
- Backwards compatible with soldering irons from WSD and WD stations, except micro irons

Technical Data

	WT1
Dimensions L x W x H	150 x 130 x 101mm 5.91 x 5.12 x 3.98 in
Weight	1.9kg
Mains supply	230V/50Hz, 120V-60Hz
Power consumption	900W
Safety class	I. Antistatic housing III. Soldering tool
Temperature range	50°C – 450°C / 550°C 150°F – 850°F / 950°F
Temperature accuracy	±9°C / ±17°F

Order code 85-4915

£284.99



Zero Smog EL Fume Extractor Kit 1 FT91012699N

The WellerFT Zero-Smog 2 produces more suction force than its predecessor and is powerful enough to remove all types of fumes from the work bench. It can produce 190m³/h suction volume and offers a high extraction power of 3000Pa even with a used filter in place.

The performance increase is provided by a high-quality, reliable, long-life, maintenance-free brushless EC blower. In combination with flexible and adjustable 'Easy-Click 60' arms, the Zero Smog 2 unit is the ideal solution for smaller, cost-conscious soldering applications for 1 to 2 work benches.

- Portable fume extraction unit with 1x extraction hose and funnel nozzle
- Designed for placing under or next to bench-top
- Quick and simple installation with 'Easy-Click' System
- Economic unit purifies air for 1 to 2 workplaces
- Large EPA E12 filter surface of 2.4m² For long filter lifetime
- Main filter with EPA E12 efficiency of 99.5% at MPPS
- Activated carbon filter to remove additional gaseous pollutants
- Easy filter change
- Supplied complete with: Extraction hose, flexible, 3m, Ø60mm Funnel nozzle ALFA (225 x 100mm)
- Replacement filters, additional extraction arms and parts are available separately
- Weller type Zero-Smog 2 EL Kit 1, FT91012699

Order code 85-5793

£450.80



(80W) WD1000



An 80W, temperature controlled soldering station consisting of a WD1 power supply unit, WP 80 soldering pencil and a WDH10 iron stand.

- Temperature control between 65°C to 450°C
- Three programmable preset buttons for frequently used temperatures
- Extensive menu for special features
- Setback, lockout, temp. window, F/C switching, standby, auto-off time
- Large high-contrast LCD displays information at a glance
- ESD safe to protect sensitive components
- A fume extraction kit for the WP80 iron is available separately
- Weller type WD1000

Order code 85-0576

1+ **£289.49**
3+ **£284.49**
10+ **£279.49**

Gas Soldering Iron WSTA6



Order code
85-1100

A self-igniting, butane gas operated soldering iron with an effective rating of 15 to 60W

1+ **£68.99** 3+ **£66.99**

Butane Gas Refill Canister 75ml

High quality butane gas in a refill canister suitable for use with all Weller gas powered soldering irons and pyropens.

Order code 85-1120
1+ **£4.63** 6+ **£4.41** 12+ **£4.20**



(60W) W61 Temperature Controlled Mains Soldering Iron

The Weller W61 is a 230V AC mains voltage, temperature-controlled soldering iron with an output of 60W, making it suitable for medium and heavy electrical connections to transistors, PCBs, heavy-duty connectors and sheet metal.

The temperature of the iron is controlled by a built-in 'Magnastat' thermostatic switch. As magnets are heated, their strength reduces and this principle is used to operate a spring-loaded switch, turning off the power when a certain temperature is reached and turning it back on when the iron cools down. A click can often be heard or felt when the switch operates.

The operating temperature of the iron can be changed by swapping the soldering tip. Each tip has a disc fitted to its end which touches the thermostatic switch inside the iron. Different tips have different discs to which the magnet is attracted by different amounts, changing the temperature at which the thermostat switches.

- Tips with numbers ending in 7, e.g., CT5A7, cause the iron to operate at 370°C.
- Tips with numbers ending in 8, e.g., CT5F7, cause the iron to operate at 425°C.
- Tips with numbers ending in 9, e.g., CT5D7, cause the iron to operate at 480°C.

The number 7, 8 or 9 is stamped into the disc on the end of each tip.

Order code 85-5344

1+ **£69.99** 5+ **£65.99** 10+ **£65.81**

 4CT5A7-1 CT5 A7 Solder Tip - Chisel Tip 370°C 1.6mm Order code 85-5359 1+ £5.18 5+ £4.86 10+ £4.54	 4CT5B7-1 CT5 B7 Solder Tip - Chisel Tip 370°C 2.4mm Order code 85-5356 1+ £5.18 5+ £4.86 10+ £4.54	 4CT5C7-1 CT5 C7 Solder Tip - Chisel Tip 370°C 3.2mm Order code 85-5357 1+ £5.18 5+ £4.86 10+ £4.54	 4CT5D7-1 CT5 D7 Solder Tip - Chisel Tip 370°C 5.0mm Order code 85-5358 1+ £5.07 5+ £4.75 10+ £4.36
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Pyropen Piezo Soldering Iron With Gas



Powered by Butane gas, this Pyropen offers soldering iron, hot air blower and blow torch options. It has a short heat up time and can be refilled in seconds from a refill cylinder. A sight glass shows the level of gas in the reservoir. Temperature control is achieved by increasing and decreasing the gas flow.

- One filling lasts approx. 2 hours
- Gas capacity 28ml
- Piezo ignition
- Temperature range soldering: 350 to 500°C, hot air: approx. 650°C
- Compares with 20 to 80 Watt electric iron
- Weight 100g
- Supplied complete with iron-plated soldering tip, metal box with iron holder, cleaning sponge, burn proof accessory pocket and gas refill
- Suitable tip family - Weller 70-x-series

Order code 85-5766

1+ **£143.88**
5+ **£138.35**

Pan Head Pozidriv Machine Screws

A range of bright zinc plated, Pozidriv cross head, coarse threaded steel screws.

- Steel grade 4.8
- Bright zinc plated and clear passivated
- Manufactured to BS4183
- Supplied in **packs of 100**



Type	Length (mm)	Order code	Price per pack of 100	
			1+	10+
M2	10	33-2210	1.06	0.911
M2.5	6	33-2200	0.964	0.878
	10	33-2202	1.13	0.942
	12	33-2205	1.06	0.889
M3	20	33-2207	1.11	0.921
	6	33-2300	0.942	0.825
	8	33-2302	1.83	1.72
M4	10	33-2305	1.11	1.01
	12	33-2310	1.11	1.01
	16	33-2315	1.01	0.908
	20	33-2320	1.43	1.30
	25	33-2325	1.79	1.66
	30	33-2330	2.54	2.23
	6	33-2410	1.79	1.66
M5	10	33-2415	1.43	1.25
	12	33-2420	1.31	1.05
	16	33-2425	1.33	1.07
	20	33-2430	1.38	1.10
	25	33-2435	1.74	1.56
	30	33-2440	1.99	1.64
	6	33-2445	2.06	1.69
M5	10	33-2450	2.33	1.92
	12	33-2455	1.94	1.58
	16	33-2460	1.98	1.61
	20	33-2465	2.50	2.08
	25	33-2470	3.37	2.71

Countersunk Pozidriv Screws

Bright zinc-plated and clear passivated Pozidriv head screws manufactured to BS4183.

- Steel grade 4.8
- Supplied in **packs of 100**



Type	Length (mm)	Order code	Price per pack of 100	
			1+	10+
M3	6	33-2950	3.41	2.49
	10	33-2952	2.20	1.58
	12	33-2955	2.01	1.74
	16	33-2957	1.65	1.21
	20	33-2960	0.921	0.697
M4	25	33-2962	1.79	1.64
	6	33-2965	1.88	1.46
	10	33-2967	1.71	1.42
	12	33-2970	2.06	1.51
	16	33-2972	2.08	1.54
M5	20	33-2975	2.11	1.56
	25	33-2977	2.36	2.01
	10	33-2980	2.94	2.39
	12	33-2982	3.17	2.58
	16	33-2984	3.89	3.14
M5	20	33-2986	4.02	3.26
	25	33-2988	4.65	3.73

Pan Head Pozidriv Black Machine Screws

A range of black machine screws.

- Steel grade 4.8
- Suitable for use in areas requiring low light reflection or simply to enhance the appearance of equipment
- Supplied in **packs of 100**
- M3 x 20mm supplied in **packs of 1000**



Type	Length (mm)	Order code	Price per pack of 100	
			1+	10+
M3	6	33-2620	1.12	0.889
	10	33-2625	1.33	0.975
	12	33-2630	1.29	1.01
M4	6	33-2650	1.46	1.14
	10	33-2655	1.59	1.16
	12	33-2660	3.01	2.66
M3	20	33-2635	16.53	

Steel Nuts

A range of bright zinc plated coarse threaded steel full nuts.

- Nuts are manufactured in **BS3692** grade 8
- Supplied in **packs of 100 or 1,000**



Type	Order code	1+	10+	
Packs of 100	M2	33-1725	0.935	0.84
	M2.5	33-1705	0.672	0.599
	M3	33-1710	0.578	0.536
	M4	33-1715	0.683	0.609
	M5	33-1720	0.746	0.704
Packs of 1,000	M2	33-1925	6.56	6.10
	M2.5	33-1930	5.37	4.79
	M3	33-1935	4.27	4.11
	M4	33-1940	4.91	4.31
	M5	33-1942	5.80	5.27

Steel Washers

A range of bright zinc plated washers, available in a variety of thread sizes.

- Plain washers to **BS4320** made from mild steel
- Supplied in **packs of 100 or 1,000**



Type	Order code	1+	10+	
Packs of 100	M2	33-1750	0.654	0.536
	M2.5	33-1755	0.685	0.611
	M3	33-1760	0.578	0.536
	M4	33-1765	0.461	0.428
	M5	33-1770	0.825	0.697
Packs of 1,000	M2	33-1943	4.80	4.36
	M2.5	33-1945	5.48	
	M3	33-1950	5.47	4.96
	M4	33-1955	3.86	3.59
	M5	33-1957	5.92	5.38

Steel Shakeproof Washers

A range of bright zinc plated shakeproof washers, available in a number of thread sizes.

- Shakeproof washers made from hardened steel
- Supplied in **packs of 100 or 1,000**



Type	Order code	1+	10+	
Packs of 100	M3	33-1910	1.16	1.06
	M4	33-1915	1.28	1.16
	M5	33-1920	1.38	1.28
Packs of 1,000	M3	33-1965	7.49	6.95
	M4	33-1970	8.02	7.49
	M5	33-1975	9.63	

Order online

Activate your account for online ordering.

For further information:

www.rapidonline.com/activate

Stainless Steel Pan Head Pozidriv Screws

A range of pan head Pozidriv, ISO metric, coarse threaded A2 stainless steel screws to **BS4183**.

- Resistant to corrosion, chemicals and heat
- Applications include electronic, domestic, chemical and construction use, as well as in food and medical environments
- Supplied in **packs of 100**



Size	Length (mm)	Order code	Price per pack of 100	
			1+	5+
M2.5	6	33-4200	2.81	2.55
	12	33-4205	3.36	2.98
M3	6	33-4210	2.75	2.42
	12	33-4215	3.05	2.75
	20	33-4220	3.28	2.98
M4	6	33-4230	4.03	3.66
	12	33-4235	4.63	4.15

Stainless Steel Nuts

A range of nuts manufactured from A2 class stainless steel, resistant to corrosion, chemicals and heat.

- Applications include electronic, domestic, chemical and construction use, as well as in food and medical environments
- Full nuts coarse threaded to **BS3692**
- Supplied in **packs of 100**



Type	Order code	1+	5+
M2.5	33-4300	3.28	3.00
M3	33-4305	2.21	2.03
M4	33-4310	2.50	2.26

Stainless Steel Plain Washers

A range of washers manufactured from A2 class stainless steel, resistant to corrosion, chemicals and heat.

- Applications include electronic, domestic, chemical and construction use, as well as in food and medical environments
- **BS4320** (form A)
- Supplied in **packs of 100**



Type	Order code	1+	5+
M2.5	33-4315	0.975	0.921
M3	33-4320	0.975	0.921
M4	33-4325	1.14	1.04

Stainless Steel Shakeproof Washers

A range of shakeproof washers manufactured from A2 class stainless steel, resistant to corrosion, chemicals and heat.

- Applications include electronic, domestic, chemical and construction use, as well as in food and medical environments
- **DIN6797** standard
- Supplied in **packs of 100**



Type	Order code	1+	5+
M2.5	33-4330	1.95	1.77
M3	33-4335	2.07	1.84
M4	33-4340	2.42	2.20

Polycarbonate Screws

Transparent polycarbonate screws, ideal for applications where electrical insulation is required.

- Lightweight
- Corrosion free
- Cross head
- Supplied in **packs of 100**



Thread	Length	Order code	1+	10+
M3	6mm	33-2092	3.37	2.93
M3	10mm	33-2094	3.83	3.24
M3	12mm	33-2096	4.23	3.70
M4	8mm	33-2098	3.83	3.24

Polycarbonate Nuts

Transparent polycarbonate nuts, ideal for applications where electrical insulation is required.

- Lightweight
- Corrosion free
- Supplied in **packs of 100**



Type	Order code	1+	10+
M3	33-2108	4.68	3.97
M4	33-2110	5.19	4.37

900 Series Professional Storage Cabinets



45 drawer cabinet
Order code 14-1512

£28.95

36 drawer cabinet
Order code 14-1514

£28.95

18 drawer cabinet
Order code 14-1516

£28.95

6 drawer cabinet
Order code 14-1518

£28.95

28 drawer cabinet
Order code 14-1520

£28.95

A professional range of cabinets constructed from high quality enamelled steel with impact-resistant, durable polypropylene drawers.

- Dimensions: 417 x 306 x 150mm
- Finish: dark blue enamel paint
- Spot-welded steel body
- Stop rim ensures drawers do not fall out

- Rubber feet for scratch protection and firm standing
- Free-standing or wall mountable
- 10 year manufacturing guarantee
- Available in a range of drawer combinations
- Matching free-standing carousels and racks are available separately
- **Raaco 900 series**



Carousel for 900 series
Order code 14-1530

£199.99

Rack for 900 series
Order code 14-1532

£164.79

Professional Assorter Component Boxes

These tough, polypropylene multi-compartment storage boxes from Raaco come in 3 sizes with a variety of moulded-in compartment layouts. They are ideal for storing components and parts of differing sizes.

- Can cope with the rigours of industrial applications
- Durable hinges
- Sliding locks



Type	Order code	1+
1 compartment	14-0701	2.78
7 compartments	14-0703	2.80
12 compartments	14-0707	3.07
9 compartments	14-0709	4.40
18 compartments	14-0711	4.40
15 compartments	14-0713	7.86
32 compartments	14-0717	7.86

Open Toolbox
Order code
14-1553
£10.54



Open Toolbox

This Raaco Open Tool Box keeps your frequently used tools easily accessible and has a handy drawer for smaller tools, parts, screws, nails, etc., so you don't have to rummage about in the bottom for odds and ends.

- 3 compartments plus drawer
- Top compartment approx 200mm wide
- Large compartment 320 x 150mm to handle
- Small compartment 100 x 195mm to handle
- Made from tough polypropylene plastic
- Blue with clear drawer

HandyBox 55
Order code
14-0601
£39.24



HandyBox 55 with 4 Assorter 55 Service Cases

The Raaco HandyBox 55 is a lightweight yet robust, portable storage unit which includes 4 Raaco Assorter 55 service cases.

- 2 cases with 15 compartments and 2 cases with 17 compartments
- Can be used as a stand-alone rack, or can be stacked, hung or grouped together
- Moulded-in lugs allow safe side-by-side grouping
- Impact-proof polypropylene
- Overall dimensions: 310 (H) x 376 (W) x 265 (D) mm
- Net weight 4.66kg

1200 Series Professional Storage Cabinets



Carousel for 1200 series
Order code 14-1534

£117.05

Cabinets are not included with the carousel rack, 14-1534.



60 drawer cabinet
Order code 14-1500

£34.95

48 drawer cabinet
Order code 14-1502

£34.95

24 drawer cabinet
Order code 14-1504

£34.95

8 drawer cabinet
Order code 14-1506

£34.95

16 drawer cabinet
Order code 14-1508

£34.95

40 drawer cabinet
Order code 14-1510

£34.95

A professional range of cabinets constructed from high quality enamelled steel with impact-resistant, durable polypropylene drawers.

- Dimensions: 552 x 306 x 150mm
- Finish: dark blue enamel paint
- Spot-welded steel body
- Stop rim ensures drawers do not fall out
- Rubber feet for scratch protection and firm standing
- Free-standing or wall mountable
- 10 year manufacturing guarantee
- Available in a range of drawer combinations
- Matching free-standing carousel racks are available separately
- **Raaco 1200 series**





FORMULA FOR SUCCESS

LOCTITE® has helped one of the UK's most successful teams to continue a proud record of achievement in student motorsport. The University of Hertfordshire's Formula Student team have used more LOCTITE® products "than ever before" in its 2017 car, largely due to an increase in the number of carbon fibre components. Formula Student is a competition in which students at universities from across the UK design and manufacture a racing car and have their engineering and business skills scrutinised in a series of tests.

"We made a list of all the positives and negatives from last year's Formula Student competition in order to identify priority areas for improvement," explains Tristan Tissiman, Team Leader at UH Racing. "For instance, although we were a little disappointed with the power of last year's Honda CBR500 engine, we wanted to keep it due to its high reliability. As a result, for the first time we've introduced a turbocharger, which has almost doubled our power output."

A further difference relates to aerodynamics, in particular the method of manufacturing the many different carbon fibre composite components, where prepreg is now preferred to wet lay-up on the bodywork and wings (front, rear and side). The 2017 car also included twin side pods on the wings.

"The wings are all bonded in - and together - using LOCTITE®, as are the wing mounts and close-out panels," says Mr Tissiman. "We have a lot more bonded applications this year and we're enjoying the benefits of using products such as LOCTITE® 9466 for our carbon fibre requirements, as well as LOCTITE® H3101 methacrylate adhesive system for the close-out panels."

Additional car enhancements saw the team switch from 10in aluminium to 13in magnesium wheel rims, while C17 Continental tyres were also introduced.

Other new features included the adoption of a solid axle spool in place of a differential, representing a significant weight saving, and the use of bigger disk brakes that are now CNC machined in-house to save cost. To be successful at Formula Student competitions, the teams have to prosper in a number of different disciplines. Alongside dynamic events such as sprint testing, acceleration testing, skid pan testing and endurance/efficiency testing, the teams are also judged on factors that included design, cost, manufacturing and sustainability.

"It's amazing how many applications we have had for LOCTITE® products this year," states Mr Tissiman. "For example, we use LOCTITE® SI 5990 gasket sealant on the engine casing and sump. We've also used extensive amounts of LOCTITE® threadlocking adhesive and retaining compound, as well as lots of LOCTITE® cleaning products. LOCTITE® 3090 cyanoacrylate instant adhesive is another popular product around the workshop - it sticks anything and everything."

UH Racing finished 16th out of 75 in the 2017 competition, winning four awards, including Class 1 Design and Endurance Event Fastest Lap.

Although UH Racing retains Henkel's principal support, LOCTITE® products are also being used by a number of additional universities who competed at Formula Student 2017, including the University of Bath, Oxford Brookes University, UCLAN, University of Central Lancashire, University of Sheffield, University of Strathclyde and University of Sunderland. In all cases, technical guidance from Henkel UK is offered.

EA 9466 A&B (2:1) Dual Cartridge 50ml

Loctite 9466 is a tough, multi-purpose, industrial grade epoxy adhesive with extended workable life.



Order code 87-0399

£10.69

AA H3101 Hysol Methacrylate Adhesive 50ml

This 2-part methacrylate adhesive system from Loctite is formulated to provide fixturing strength within 20 to 25 minutes while requiring little or no surface preparation.



Order code 87-7345

£19.99

3090 Instant Adhesive - Gap Filling - Two Component Gel 10g

Loctite 3090 is a two-component, fast curing, gap-filling adhesive with excellent bonding characteristics to a variety of substrates including plastics, rubbers and metals.



Order code 87-0397

£14.19

SI 5990 Silicone Copper High Temperature Resistant

Loctite SI 5990 is a non-corrosive silicone sealant which cures on exposure to moisture in the air to form a tough rubber gasket. It has excellent temperature resistance characteristics and can also be used for electrical insulating applications. This product is typically used in applications up to 350°C.



Order code 87-7347

£7.49

LOCTITE®

THREADLOCKERS



Loctite 222 Screwlock Controlled Torque 10ml

Loctite 222 is a low-strength thread locker that still permits screws to be adjusted. It is ideal for use on low-strength metals like aluminium and brass which could fracture during disassembly.

Loctite 222 works on all metals, including passive substrates, such as stainless steel, aluminium and plated surfaces. It is proven to be tolerant of minor contamination due to industrial oils, e.g., engine oils, corrosion-prevention oils and cutting fluids.

£5.99
Order code 87-0380



Loctite 243 Medium Strength Oil Tolerant Threadlocker 10ml

Loctite 243 is a medium strength general-purpose thread locker which secures and seal bolts, nuts and studs to prevent them from loosening due to vibration. Loctite 243 works on all metals, including passive substrates such as stainless steel, aluminium and plated surfaces. It is proven to be tolerant of minor contamination like industrial oils, engine oils, corrosion-prevention oils and cutting fluids.

£5.99
Order code 87-0383



Loctite 290 High Strength Penetrating Threadlocker 10ml

The Loctite 290 Threadlock Adhesive is a high strength adhesive with 'seeking' properties for application after parts have been assembled. Seals porous castings and welds.

£6.49
Order code 87-0386



Loctite 2400 Health & Safety Friendly Medium Strength Threadlocker 50ml

Loctite 2400 is a medium threadlocker formulated to secure and seal bolts, nuts and studs to prevent loosening due to vibration. It works on all metals and passive substrates. Slight contamination by industrial oils, corrosion prevention oils and cutting fluids is tolerated.

£27.59
Order code 63-1082

RETAINERS



Loctite 620 Bearing Fit Medium Strength 10ml

Loctite 641 is ideal for the bonding of cylindrical fitting parts, particularly where disassembly is required for servicing operations. The product cures when confined in the absence of air between close-fitting metal surfaces and prevents loosening and leakage due to shock and vibration.

£5.39
Order code 87-7083



Loctite 638 High Strength Fast Cure 10ml

Loctite 638 has been designed for the bonding of cylindrical fitting parts, particularly where bond gaps can approach 0.25mm. It cures when confined, in the absence of air, between close-fitting metal surfaces and prevents loosening and leakage due to shock and vibration.

£6.89
Order code 87-7077



Loctite 6300 Health & Safety Friendly High Strength 50ml

Loctite 6300 has been designed for the bonding of cylindrical fitting parts. It cures when confined, in the absence of air, between close-fitting metal surfaces and prevents loosening and leakage due to shock and vibration. It is also approved for use on bearings. Loctite 6300's key differentiator is the 'White Material Safety Data Sheet'.

£27.75
Order code 63-1045



Loctite 648 High Strength High Temperature Fast Cure 10ml

Loctite 648 is designed for the bonding of cylindrical fitting parts and is ideal for the retention of parts with a small clearance or interference fit. It cures when confined, in the absence of air, between close-fitting metal surfaces and prevents loosening and leakage due to shock and vibration.

£9.63
Order code 63-1583

SERVICE CLEANERS



Loctite 7061 Super Clean 400ml

Loctite SF 7061 is a non-CFC, solvent-based formulation for the cleaning and degreasing of surfaces to be bonded with Loctite adhesives. It is used for final pre-assembly cleaning to remove most greases, oils, lubrication fluids, metal cuttings and fine debris from surfaces to be bonded. Its high solvent power allows it to be very effective in other degreasing or part-cleaning applications.

£9.99
Order code 63-1095



Loctite 7063 Parts Cleaner General Purpose 400ml

Loctite SF 7063 is a general-purpose solvent-based product for cleaning and degreasing all kinds of surfaces and machinery components before applying Loctite adhesives. Loctite 7063 removes most greases, oils, lubricating fluids, metal cuttings, etc., and leaves no residue.

£9.99
Order code 63-1623



Loctite 7070 Cleaner Aerosol Low Flash Off 400ml

Loctite SF 7070 is a solvent-based (non-CFC) parts cleaner and degreaser formulated specifically to prepare plastic components ready for bonding with adhesives.

£9.39
Order code 87-7305



Loctite 7850 Citrus Hand Cleaner 400ml

Loctite SF 7850 is a natural hand cleaner containing no petroleum solvents. It cleans hands with a solvent extracted from oranges, has a citrus scent and contains no artificial fragrance. It is a skin-friendly abrasive lotion that contains aloe vera, lanolin and jojoba oil for skin conditioning.

£5.39
Order code 87-7315

WHO NEEDS RIVETS WHEN YOU'VE GOT 3M?



While a screw or rivet can join two substrates at a single point, speciality bonding tape like 3M's VHB tape permanently adheres one substrate to another and spreads the stress load across the entire length of the joint.

Once substrates are joined with high-strength bonding tape, an almost indestructible "weld" is created.

But why is 3M's VHB tape so resilient?

The unique combination of closed cell foam with pressure sensitive adhesive on both sides means that VHB tape bonds instantly, absorbs shock, distributes stress evenly and expands and contracts in a controlled manner without threatening the strength of the bond. The seal VHB tape produces is waterproof and conformable, can be die-cut to any shape, size or profile, and has a smooth, invisible appearance.

With no holes to drill, rivets to fit or liquid adhesives to cure, 3M's VHB tape is simple to apply and creates bonds of exceptional strength. With greater durability and elasticity than conventional tape, it has applications in a wide range of industries.

www.rapidonline.com/3M

3M™ VHB™ 4910F Acrylic Foam Tape

You can bond and seal transparent materials on contact with no drying time using **VHB™ 4910** tape from **3M™**. This fast and easy-to-use tape effectively replaces screws, rivets and studs when bonding and provides a clear seal.

Size	Order code	1+
6mm x 33m	87-8088	18.99
9mm x 33m	87-8089	25.38
12mm x 33m	87-8095	47.99
19mm x 33m	87-8096	66.65
25mm x 33m	87-8097	79.99
38mm x 33m	87-8105	124.99



3M™ VHB™ 4941P Acrylic Foam Tape

Use **VHB™ 4941** acrylic foam tape from **3M™** to provide immediate handling strength by bonding in seconds. This high strength closed-cell **acrylic foam tape** is durable, double-sided, conformable and pressure sensitive.

Size	Order code	1+
12mm x 33m	87-8106	57.99
19mm x 33m	87-8107	77.99
25mm x 33m	87-8115	95.99



3M™ 9088-200 High Performance Double Coated Tape

This high performance **double coated tape** from **3M™** is ideal for industrial use providing long term adhesion in a very broad range of applications where a thicker tape is desired. The adhesive is applied to each side of a strong, highly transparent polyester (PET) film carrier.

Size	Order code	1+
12mm x 50m	87-8077	4.18
19mm x 50m	87-8078	6.62
25mm x 50m	87-8079	8.70
50mm x 50m	87-8087	16.76



Also available:

3M Extreme Sealing Tapes

It plugs gaps in your guttering, fills in your flashings, even seals up ceilings. 3M's Extreme Sealing Tape is a no-nonsense solution to household jobs. It bonds to metals and plastics and unlike liquid sealants has no drying time, dripping or oozing. It is easy to paint too!



3M Scotch® ATG adhesive system

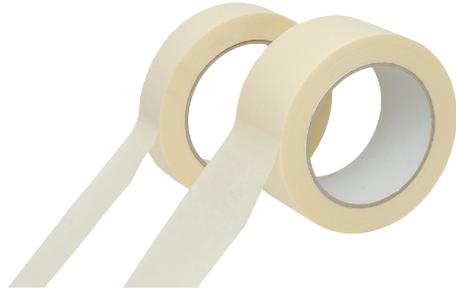
The 3M Scotch® ATG adhesive system is an efficient way to apply adhesive tape to a wide range of surfaces. In fact, there are more than 350 combinations of substrates that can be joined using just a handful of different tapes. The ATG applicator gun is easy to feed tape into and there is no waste to cut off.



To see our range of Extreme and ATG Tapes visit www.rapidonline.com/3M



Masking Tape



A self-adhesive creped paper masking tape with rubber resin adhesive that is easily cut or torn as required, ideal for painting, surface protection and labelling.

- Suited to a wide variety of applications
- Available in widths of **19, 25 and 50mm**
- Supplied on **reels of 50m**

Type	Order code	1+	12+	24+	36+
19mm masking tape	87-1926	0.86	0.82	0.75	0.70
25mm masking tape	87-1927	1.03	0.97	0.90	0.85
50mm masking tape	87-1928	1.98	1.94	1.86	1.81

Double-Sided Tape



A lightweight, double-sided adhesive tape, manufactured from a thin transparent polypropylene film coated on both sides with a good quality high-tack rubber-based adhesive.

- Very high adhesion to metals, plastics, foam and paper
- Available in **12 and 25mm** widths
- Supplied on **33m reels**

Type	Order code	1+	12+	24+
12mm	87-1873	1.08	0.98	0.87
25mm	87-1872	1.70	1.64	1.53

Clear Adhesive Tape



Good quality general purpose clear adhesive tape.

- Available in a range of widths
- High tack-adhesion qualities for everyday sealing and sticking
- Length 66m

Type	Order code	1+	12+	36+
19mm x 66m	34-3180	0.599	0.567	0.515
25mm x 66m	34-3182	0.819	0.725	0.62
48mm x 66m	14-0992	1.33	1.12	0.94

Hazard Warning Tape

Hazard warning tape made from heavy-duty plasticised PVC film.

- Coated with an aggressive, white, non-corrosive, pressure-sensitive adhesive
- Highly flexible
- Water and UV resistant
- Good abrasion resistance
- Can be walked on immediately after laying
- 0.14mm thick, 50mm wide
- Supplied on **33m reels**

Type	Order code	1+	6+	12+	24+
Black/yellow	87-3020	2.64	2.47	2.24	2.06

PVC Insulating Tape

A superior quality electrical grade PVC self-adhesive insulating tape conforming to **BS3924**.

- Nominal thickness 0.15mm
- Dielectric breakdown 40kV/mm
- Temperature range 0°C to +80°C
- Flame retardant
- Available in 19mm width in a wide range of colours on **20m or 33m reels**
- Black tape is also available in 25mm width on **20m or 33m reels**
- **Packs of 8 assorted coloured reels** are available in 19mm width, in **20m or 33m lengths**
- Each pack contains one reel of red, yellow, green, blue, white, green/yellow and two reels of black

Type	Order code	1+	10+	50+
20m reels				
20m x 19mm Black	87-1552	0.588	0.525	0.41
20m x 25mm Black	87-1588	1.04	0.945	
20m Brown	87-1554	0.588	0.525	0.41
20m Red	87-1556	0.588	0.525	0.41
20m Yellow	87-1558	0.588	0.525	0.41
20m Green	87-1560	0.588	0.525	0.41
20m Green/yellow	87-1562	0.588	0.525	
20m Blue	87-1564	0.588	0.525	0.41
20m Grey	87-1566	0.588	0.525	
20m White	87-1568	0.588	0.525	0.41
20m Assorted pack	87-1592	5.85	5.41	

Type	Order code	1+	10+	50+
33m reels				
33m x 19mm Black	87-1570	0.945	0.83	0.683
33m x 25mm Black	87-1590	1.94	1.61	1.23
33m Brown	87-1572	0.945	0.83	
33m Red	87-1574	0.945	0.83	
33m Yellow	87-1576	1.02	0.899	0.740
33m Green	87-1578	1.02	0.899	0.740
33m Green/yellow	87-1580	1.02	0.899	
33m Blue	87-1582	0.945	0.83	
33m Grey	87-1584	1.02	0.899	0.740
33m White	87-1586	1.02	0.899	0.740
33m Assorted pack	87-1594	6.55	5.68	

Fabric-Backed Waterproof Tape

Tough fabric-backed, polythene coated self-adhesive gaffer tape in a choice of 3 colours.

- Can easily be torn without cutting
- Excellent waterproofing properties
- Width 50mm
- Supplied on **50m reels** in black, white or silver

Type	Order code	1+	6+	12+
Black 50m waterproof tape	87-1886	3.86	3.68	3.50
White 50m waterproof tape	87-1887	3.86	3.68	3.50
Silver 50m waterproof tape	87-1888	3.86	3.68	3.50

Rhino Aluminium Foil Tape

These **aluminium foil tapes** from **Ultratape** have been designed to protect against the effects of fire, dust and moisture, making them ideal for insulation and construction industries. The are used in the HVAC market for closing rigid air duct insulation.

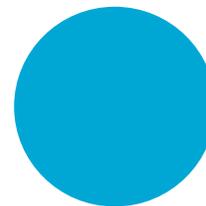
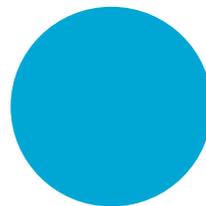
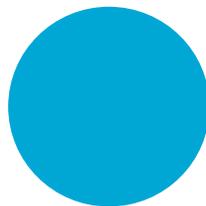
- Keeps moisture and dust out
- Meets class 'O' Rating
- 30 microns
- Length: 45.7m
- Widths: **50mm, 75mm or 100mm**

Dimensions (W x L)	Order code	1+	6+	12+	24+
50mm x 45.7m	87-1900	4.29	4.19	3.95	3.70
75mm x 45.7m	87-1736	4.99	4.89	4.79	4.49
100mm x 45.7m	87-1738	6.29	6.09	5.99	5.79



AlphaWire

Cables you trust. Service you deserve.



ECOWIRE STRANDED AND SOLID

Alpha Wires's EcoWire hook-up wire, achieves expanded functionality over standard PVC-based hook-up wire while employing insulation that is fully recyclable.

Using a modified polyphenylene ether (mPPE) thermoplastic that is inherently lighter, tougher and more durable than PVC, EcoWire is non-halogenic and contains no heavy metal pigments. The result is UL AWM wire that helps manufacturers meet Waste Electrical and Electronic Equipment (WEEE) requirements. Additional features such as better dielectric strength, a wide temperature range that meets VW-1 and low specific gravity make this wire suitable for a wide range of applications.

The wire gives designers a remarkable alternative in hook-up wire. It will yield significant space and weight savings over PVC counterparts, while offering ten times better abrasion and pinch resistance. Because mPPE contains no halogens, phthalates, or heavy metals, it meets RoHS and WEEE requirements for the elimination of hazardous substances and recyclability. Every application is critical and cable and wire failure is not an option when the safety of your equipment and personnel is paramount. This wire will fulfil its obligation when it comes to quality and reliability.

The EcoWire wire is available in sizes from 28AWG (0.07 mm²) to 10AWG (5.37 mm²) with solid or stranded tinned copper conductors. Rated for operating temperatures to 105°C, the wires meet UL VW-1. This superior wire is available from stock in most sizes and constructions, in both small and large quantities, so you can order it when you need it.

- Smaller and lighter than PVC counterparts
- Up to 45% smaller diameter
- Up to 40% lighter in weight
- Non-halogenated
- Excellent abrasion resistance and far superior to PVC
- Oil resistant to Oil Res. 1
- Available in 10, 12, 14, 16, 18, 20, 22, 24, 26 and 28AWG options
- Available in **black, red, white, blue, dark blue, green, brown, yellow, orange, slate, violet, green/yellow**
- Supplied on reels of **30.5m** or **305m**

Technical specification

Alpha Part No.	Conductor Size (AWG)	Conductor Size (mm)	Stranding (AWG)	Stranding (mm)	Insulation Thickness (mm)	Wire Diameter (mm)
6710	28	0.07	7/36	7 x 0.12	0.24	0.86
6711	26	0.14	7/34	7 x 0.16	0.24	0.97
6712	24	0.22	7/32	7 x 0.20	0.24	1.09
6713	22	0.35	7/30	7 x 0.25	0.24	1.24
6714	20	0.51	10/30	10 x 0.25	0.24	1.4
6715	18	0.81	16/30	16 x 0.25	0.24	1.7
6715S	18	0.82	Solid	Solid	0.24	1.5
6716	16	1.32	26/30	26 x 0.25	0.28	2.06
6717	14	2.09	41/30	41 x 0.25	0.28	2.44
6717S	14	2.08	Solid	Solid	0.28	2.18
6718	12	3.31	65/30	65 x 0.25	0.3	2.97
6719	10	5.37	105/30	105 x 0.25	0.3	3.61

Over 200 Ecowire Stranded Hook-up Wires available



For full details and pricing visit www.rapidonline.com/alphawire

HOOK-UP WIRE

Solid EcoWire Hook-up wire

- Solid wire
- Smaller and lighter than PVC counterparts
- Up to 45% smaller diameter
- Up to 40% lighter in weight
- Non-halogenated
- Excellent abrasion resistance and far superior to PVC
- Oil resistant to Oil Res. 1
- Available in 14 and 18AWG options
- Available in **black, red, white, blue, green, brown, yellow, orange, slate, violet and green/yellow**
- Supplied on **reels of 305m**

Type	Order code	1+	5+	10+
18AWG Solid				
Black	01-5110	210.82	204.55	198.39
Red	01-5111	210.82	204.55	198.39
White	01-5112	210.82	204.55	198.39
Blue	01-5113	210.82	204.55	198.39
Green	01-5114	210.82	204.55	198.39
Brown	01-5115	210.82	204.55	198.39
Yellow	01-5116	210.82	204.55	198.39
Orange	01-5117	210.82	204.55	198.39
Slate	01-5118	210.82	204.55	198.39
Violet	01-5119	210.82	204.55	198.39
Green/yellow	01-5120	210.82	204.55	198.39

Type	Order code	1+	5+	10+
14AWG Solid				
Black	01-5121	347.58	331.60	319.60
Red	01-5122	347.58	331.60	319.60
White	01-5123	347.58	331.60	319.60
Blue	01-5124	347.58	331.60	319.60
Green	01-5125	347.58	331.60	319.60
Brown	01-5126	347.58	331.60	319.60
Yellow	01-5127	347.58	331.60	319.60
Orange	01-5128	347.58	331.60	319.60
Slate	01-5129	347.58	331.60	319.60
Violet	01-5130	347.58	331.60	319.60
Green/yellow	01-5131	347.58	331.60	319.60

Flexible PVC Insulated Hook-Up Wire UL 1007

A wide range of superior PVC insulated hook-up wire.

- Ideal for internal wiring of electronic and electrical equipment
- Working temperature between -40°C to +105°C
- Rating of 300V
- Stranded tinned copper conductor
- Colour coded flexible PVC
- Full **UL/CSA** approvals
- Supplied on **reels of 30.5m and 305m**



EXAMPLE
24AWG Violet - 30.5m
Order code 01-1335
1+
£8.18

Over 70 Hook-up Wires available
See full details at www.rapidonline.com

Flexible PVC Insulated Hook-Up Wire UL1015

A wide range of high grade PVC insulated hook-up wire suitable for primary circuits up to 600V.

- Working temperature between -20°C to +105°C
- Stranded tinned copper conductor
- Colour coded PVC
- Full **UL/CSA** approvals
- Supplied on **reels of 30.5m and 305m**

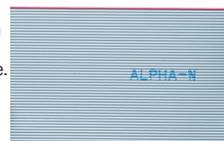
EXAMPLE
24AWG Blue - 30.5m
Order code 01-1402
1+
£10.65

Over 30 Hook-up Wires available
See full details at www.rapidonline.com

“ Rapid can offer access to the complete Alpha Wire catalogue – so even if we do not stock the product or line you need, we can order and despatch it for you. All lines are available on short lead times. Find out more by visiting www.rapidonline.com/alphawire. ”

Grey Ribbon Cable

This top quality grey ribbon cable from Alpha Wire has a red strip marking the leading edge. It is available in a range of sizes.

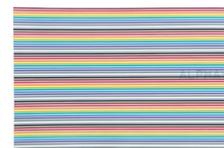


- Ideal for conserving space
- Suitable for computer chassis to connect a PC board to hard drives, CD-ROMs etc.
- 28AWG (0.09mm±)
- Stranding: 7/36 (7x0.13mm)
- Insulation thickness: 0.010 (0.25mm)
- Supplied on **reels of 30.5m**

Type	Order code	1+	5+
9-way	01-1460	49.64	48.16
10-way	01-1461	54.21	51.99
14-way	01-5455	76.17	73.88
15-way	01-1463	78.92	76.56
16-way	01-1464	86.87	81.68
20-way	01-1465	105.29	104.01
24-way	01-1466	127.50	123.68
34-way	01-1469	178.98	173.60
37-way	01-5456	194.79	188.94
40-way	01-1471	212.61	206.22
50-way	01-1472	263.19	255.30
60-way	01-1473	315.97	306.48
64-way	01-1474	336.87	326.77

Coloured Ribbon Cable

This range of top quality multi-coloured ribbon cable from Alpha Wire is available with a variety of ways.



- Ideal for conserving space.
- Suitable for computer chassis to connect a PC board to CD-ROMs and hard drives etc.
- Supplied on **reels of 30.5m**

Type	Order code	1+	5+
9-way	01-1460	49.64	48.16
10-way	01-1461	54.21	51.99
14-way	01-5455	76.17	73.88
15-way	01-1463	78.92	76.56
16-way	01-1464	86.87	81.68
20-way	01-1465	105.29	104.01
24-way	01-1466	127.50	123.68
34-way	01-1469	178.98	173.60
37-way	01-5456	194.79	188.94
40-way	01-1471	212.61	206.22
50-way	01-1472	263.19	255.30
60-way	01-1473	315.97	306.48
64-way	01-1474	336.87	326.77

Communication and Control Cable

A high quality communication and control cable.

- 22AWG
- Suitable for intercom and security systems, sound and audio
- Equivalent to **Belden 8442/3/4/5**
- Supplied on **reels of 30.5 or 305m**

Type	Reel size	Order code	1+	5+
2-core	30.5m	02-0865	21.89	18.21
2-core	305m	01-5418	108.43	99.19
3-core	30.5m	02-0866	26.78	26.24
3-core	305m	01-5419	179.70	174.31
4-core	30.5m	02-0867	26.58	25.90
4-core	305m	01-5420	204.62	183.31
5-core	30.5m	02-0868	24.67	24.46
5-core	305m	01-5421	188.37	182.71
6-core	30.5m	01-5422	34.65	32.34
6-core	305m	01-5423	202.87	196.78
7-core	30.5m	01-5424	36.99	35.00
7-core	305m	01-5425	220.20	213.59
8-core	30.5m	01-5426	45.22	44.51
9-core	30.5m	01-5427	45.51	44.14
10-core	30.5m	01-5428	86.80	81.23
12-core	30.5m	01-5429	46.01	45.30

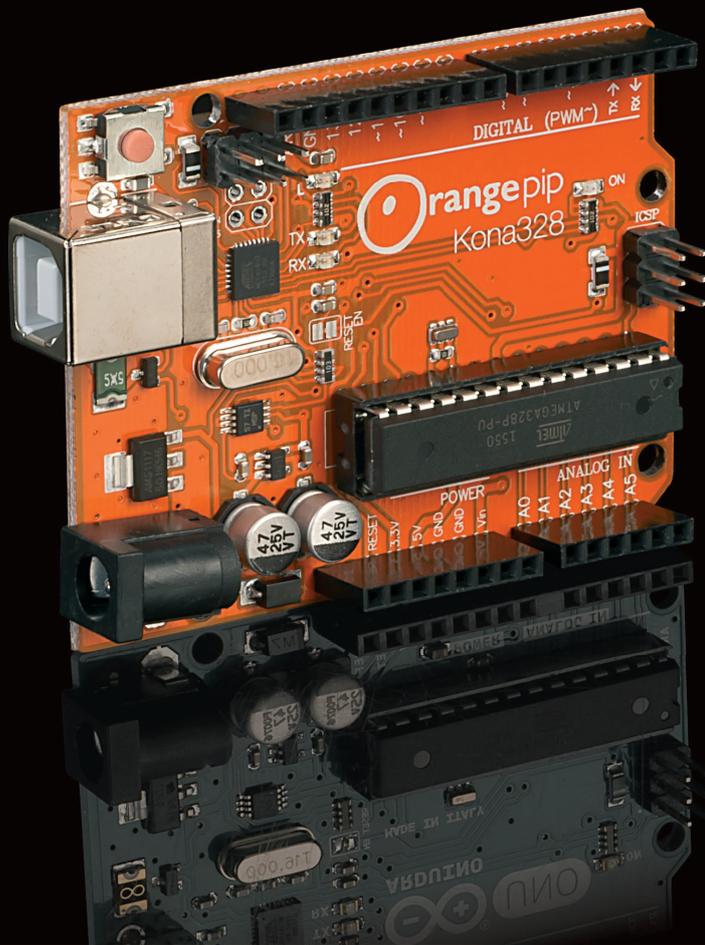
Twisted Pair Data Cable

These cables from Alpha Wire are available with a range of twisted pairs and are specifically designed for the interconnection of computers and data processing equipment. With durable PVC jacket material, this data cable can be used in a range of different environments courtesy of its -20°C to +80°C temperature range.

- 24AWG
- Sheathed in grey PVC
- Pairs colour coded to aid identification
- Equivalent to **Belden 9501/2/3/4/5**
- Supplied on **reels of 30.5, 152 and 305m**

Type	Length	Order code	1+	5+
1-pair	30.5m	01-5459	13.30	12.60
1-pair	152m	02-0542	71.92	68.89
1-pair	305m	02-0543	104.35	92.58
2-pair	30.5m	01-5460	17.58	16.64
2-pair	152m	02-0544	87.33	84.72
2-pair	305m	01-5461	164.84	159.90
3-pair	30.5m	01-5462	21.16	21.01
3-pair	152m	02-0546	104.56	101.43
3-pair	305m	01-5463	193.31	187.52
4-pair	30.5m	01-5464	28.36	28.10
4-pair	152m	02-0548	133.21	129.22
4-pair	305m	02-0549	256.99	249.28
5-pair	30.5m	01-5465	44.80	43.45
5-pair	152m	02-0550	172.83	167.65
5-pair	305m	01-5466	343.84	329.99

Same board different price!



Only
£8

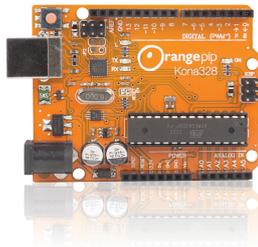
per board when
bought in a
classpack

£7.35 cheaper
than an Arduino
Uno!



rangepip
Kona328

From only
£8.00
per board



Kona328
Single Board

£9.79

Order code 75-0550

Kona328
Class Pack
(pack of 15)

£120.00

Order code 75-0592

rangepip
Mega2560

From only
£17.50
per board



Mega2560
Single Board

£20.15

Order code 75-0551

Mega2560
Class Pack
(pack of 10)

£175.00

Order code 75-0593



INDUSTRY LEADING MICROCONTROLLERS

- ✓ Affordable
- ✓ Arduino compatible
- ✓ Easy to use
- ✓ Free software

STM32 MCU Discovery Kits



Type	Order code	1+
STM32F746G	75-0766	£40.00
STM32F769I	75-0767	£63.20
STM32F429I	75-0768	£23.90
STM32F0308	75-0769	£7.10
STM32L476G	75-0770	£15.90
STM32F407G	75-0779	£15.92

These STM32 microcontroller Discovery boards provide a comprehensive and cost effective solution for the evaluation of the outstanding abilities of STM32 MCUs. The boards have the necessary architecture to allow users to develop and share applications with STM32 Series microcontrollers based on the ARM Cortex-M7 core. A HAL library and comprehensive software examples further enhance the evaluation and development experience.

The discovery kits enable a wide diversity of applications, benefiting from audio, multi-sensor support, graphics, security, video and high-speed connectivity features. The Arduino connectivity support provides unlimited expansion capabilities with a large choice of specialized add-on boards.

The **STM32F746G** discovery kit (75-0766) enables a wide diversity of applications, benefiting from audio, multi-sensor support, graphics, security, video and high-speed connectivity features. The Arduino connectivity support provides unlimited expansion capabilities with a large choice of specialized add-on boards.

The **STM32F769I** discovery kit (75-0767) allows users to develop and share applications with STM32F7 Series microcontrollers based on the ARM Cortex-M7 core.

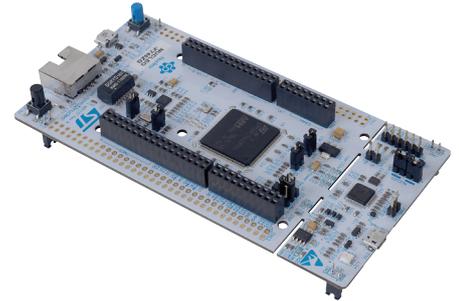
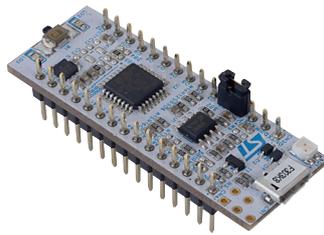
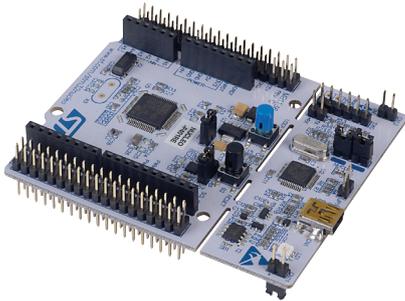
The **STM32F429I** discovery kit (75-0768) leverages the capabilities of the STM32F429 high-performance microcontrollers, to allow users to easily develop rich applications with advanced Graphic User interfaces.

The **STM32F0308** discovery kit (75-0769) enables the discovery of the STM32F030 Value Line Cortex-M0 features, and to develop your applications easily. It includes everything required for beginners and experienced users to get started quickly.

The **STM32L476G** discovery kit (75-0770) helps users to develop and share applications with the STM32L4 ultra-low-power microcontrollers. The discovery kit combines STM32L476 features with LCD, LEDs, audio DAC, sensors (microphone, 3 axis gyroscope, 6 axis compass), joystick, USB OTG, Quad-SPI Flash memory, expansion and probing connectivity. It includes an embedded ammeter which measures the MCU consumption in low power modes. An external board can be connected thanks to extension and probing connectors.

The **STM32F407G** discovery kit (75-0779) leverages the capabilities of the STM32F407 high performance microcontrollers, to allow users to easily develop applications featuring audio.

- Ideal for prototyping
- Extension connectors give access device I/O
- Integrated debugger/programmer
- On-board ST-LINK/V2-1
- Mbed-enabled
- SA1 audio codec
- Audio line in and line out jack
- Stereo speaker outputs
- Five power supply options
- Voltage output for external applications 3.3 or 5V
- Arduino Uno V3 connectors
- Comprehensive free software



STM32 Nucleo Development Boards 64-Pin Arduino Compatible

The **STM Nucleo** development boards from **ST** are highly affordable and flexible **Arduino** compatible development boards that allow you to tryout new ideas, create prototypes and refine designs using any STM32 microcontroller. The range of boards let you choose a combination of performance, power consumption and features that suit your development requirements.

The boards feature **Arduino Uno V3** connectivity support, and **ST morpho** headers extend the functionality of the Nucleo open development platform via a wide choice of specialised shields. The inclusion of the ST-LINK/V2-1 debugger and programmer means that the boards do not require external probing. To aid you in getting started there is a comprehensive software HAL library, together with various packaged software examples, as well as direct access to the ARM mbed online at <http://mbed.org>.

- Features STM32 MCU in a QFP64 package
- Arduino Uno V3 and ST morpho connectivity
- ARM mbed
- Onboard debugger/programmer
- Power via USB, VBUS or external supply
- LED Status indication
- User and reset pushbuttons
- USB re-enumeration capability
- Support for a wide choice of IDEs

Type	Order code	1+
P030R8	75-0771	£8.26
L053R8	75-0772	£10.40
F401RE	75-0773	£10.40
F103RB	75-0774	£8.26
F446RE	75-0775	£11.20
F411RE	75-0777	£10.40

STM32F3 Nucleo Development Board 32-Pin Arduino Compatible

From the STM32F3 series, this **STM Nucleo** development board features the **STM32F303K8T6** microcontroller and is a highly affordable and flexible **Arduino** compatible development board that allows you to tryout new ideas, create prototypes and refine designs. The board gives a combination of performance, power consumption and features that will suit your development requirements.

The board features **Arduino Uno V3** connectivity support, and **ST morpho** headers extend the functionality of the Nucleo open development platform via a wide choice of specialised shields. The inclusion of the ST-LINK/V2-1 debugger and programmer means that the board does not require external probing. To aid you in getting started there is a comprehensive software HAL library, together with various packaged software examples, as well as direct access to the ARM mbed online at <http://mbed.org>.

- Features an STM32F303K8T6 MCU
- 512Kbytes Flash memory
- Arduino Uno V3 and ST morpho connectivity
- ARM mbed
- Onboard debugger/programmer
- Power via USB, VBUS or external supply
- LED Status indication
- User and reset pushbuttons
- USB re-enumeration capability

Order code 75-0776 **£8.26**

STM32F7 Nucleo Development Board 144-Pin Arduino Compatible

From the STM32F7 series, this **STM Nucleo** development board features the **STM32F746ZGT6** microcontroller and is a highly affordable and flexible **Arduino** compatible development board that allows you to tryout new ideas, create prototypes and refine designs. The board gives a combination of performance, power consumption and features that will suit your development requirements.

The board features an **ST Zio** connector, which is an extension of Arduino Uno V3, providing more access to peripherals while **ST morpho** headers extend the functionality of the Nucleo open development platform via a wide choice of specialised shields. The inclusion of the ST-LINK/V2-1 debugger and programmer means that the board does not require external probing. To aid you in getting started there is a comprehensive software HAL library, together with various packaged software examples, as well as direct access to the ARM mbed online at <http://mbed.org>.

- Features an STM32F746ZGT6 MCU
- 1Mbyte Flash memory
- Arduino Uno V3 and ST morpho connectivity
- ARM mbed
- Onboard debugger/programmer
- 32.768kHz LSE crystal
- Ethernet connector
- Power via VBUS or external supply
- Three user LEDs
- User and reset pushbuttons
- USB re-enumeration capability
- Support for a wide choice of IDEs

Order code 75-0778 **£18.40**



PEPPERL+FUCHS

VDM28-8 Series Distance Sensors

- Two versions - with or without analog output
- Accurate, clear and reproducible measurements
- IO-Link interface
- Laser Class 2
- Dimensions 25.8 x 93 x 54.3mm
- Transmit/receive range 50m
- Operating voltage 10 to 30V DC/ (with IO-Link-Modus) 18 to 30V DC
- IP65
- Connection device M12 plug, 4 poles

Type	Order code	1+
110/122	50-7921	299.22
136	50-7922	283.22

519714

Sharp Infrared Distance Sensors

Two versions are available and should be selected based on the distance that you wish to measure.

- Easy to use
- 5V supply required
- Analogue output
- 3-way JST connector - a suitable connecting cable with 30cm leads is available separately (70-6412)



Type	Order code	1+
4-30cm Optical sensor	70-6407	8.31
10-80cm Optical sens.	70-6408	8.31

55862

Photoresistors



Photoresistors in various packages that are suitable for building photoelectric sensors, light relays, photoelectric light controllers, counters, alarm systems, light monitoring systems, etc.

- Available in ø5mm, 5.2 x 5.2mm or TO-18 packages

Type	Housing	Order code	1+	50+
Photoresistor	5mm dia	50-2071	0.804	0.697
Photoresistor	TO-18	50-2073	2.54	2.38

52017



TruSens

HC-SR505 Mini PIR Motion Sensor

This device is a miniature passive Infrared (PIR) motion sensor that features automatic control and a repeatable trigger. Typical applications include security products, industrial automation and control, auto sensing of electrical equipment, lighting, toys, etc.

The attached datasheet also includes details of a testing hook up with an Arduino board.

- Small size
- Wide operating voltage
- Low power operation
- High output signal

Type	Order code	1+	25+	50+
PIR Motion sensor	78-4110	2.06	1.73	1.55

563426

TruSens

HC-SR501 PIR Motion Detector

The HC-SR501 is a PIR motion detector with an adjustable range that can sense up to 7m. The sensor uses infrared technology and features high sensitivity, ultra-low voltage mode, high reliability, and is ideal for using in battery-operated equipment. This sensor is designed for use in security products, alarm systems, lighting control, industrial automation, toys, etc.

- 7m Sensing range
- Wide voltage range
- Low power consumption
- Adjustable delay
- Temperature compensation



Type	Order code	1+	10+	50+
HC-SR501	74-1108	2.00	1.90	1.75



TruSens

HC-SR504 Ultrasonic Ranging Module

The HC-SR504 is a non-contact ultrasonic ranging module with a 20 to 4000mm range. The module includes ultrasonic transmitter, receiver, and control circuit - all on a compact circuit board.

- Easy to use
- Ranging accuracy up to 3mm
- Compact dimensions

Type	Order code	1+	10+	50+
HC-SR504	74-1109	2.00	1.90	1.75

56564

Figaro Gas Sensors TGS Series

The TGS series of gas sensors are a range of devices designed for industrial, commercial and domestic applications. Small in size and with low power consumption requirements these gas sensors display high selectivity and sensitivity to low concentrations of air contaminants.

- Low cost
- Long operational life
- Simple circuitry
- Highly sensitive



Type	Order code	1+
TGS 813	50-5769	10.14
TGS 822	50-5768	9.50
TGS 2600	50-0084	9.32
TGS 2610-C	50-9095	10.06
TGS 2611-C	50-9096	10.77

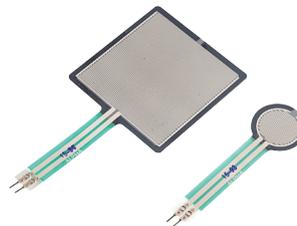
519651

ALPHA

Membrane Force Sensors Circular and Square

These membrane force sensors are flexible and durable components that give a precise resistance change with increase/decrease of applied force. Ideal for applications such as industrial automation, pro-audio equipment, wearable electronics, etc.

- Available in circular or square types
- Sealed construction
- Precise response



Type	Order code	1+	50+
Circ. membrane sens.	78-4007	3.14	2.36
Square membrane sens.	78-4008	4.27	3.20

55861

B.B.

CON-REGME Rain Detectors

The sensor surface responds to rain or snow. The on/off PTC heater prevents icing/condensation and accelerates drying. At its most sensitive setting the device can also detect fog.

Applications: nurseries, agriculture, control of ventilation ports, roof windows, awnings, shutters, building control systems.

Note: When mounting it is recommended that the unit is mounted using bracket and fixings 50-2080.



Type	Order code	1+	3+
24V Rain detector	50-3708	43.20	38.52
12V Rain detector	50-3709	45.36	40.45

519680

TruSens

M5 Short Inductive Sensors

- Available in a choice of output configurations
- Sensing distance 0 to 0.08mm
- Power supply 10 to 30V DC
- Cable connection
- Ferrous metals standard sensing object
- Overcurrent protection
- IP67 Protection
- Installation instructions supplied (in box)

Type	Order code	1+
Sensor M5 NPN NO	78-4112	23.13
Sensor M5 NPN NC	78-4113	9.98
Sensor M5 PNP NO	78-4114	23.13
Sensor M5 PNP NC	78-4115	9.98

563339



For full details on these products and to see our full range of Sensors visit

www.rapidonline.com



WIRELESS

With the growth of IOT, more and more devices are using wireless communication products. Rapid offers a range of antennae, modules, kits, modems, sensors and meters.

Visit our website to see the complete selection:
www.rapidonline.com/wireless-systems

BATTLE HARDENED

ULTIMATE POWER



Ampflow motors have been specifically designed and battle-hardened for use in heavyweight combat robots of the type seen in the **Robot Wars** and **BattleBots** TV shows. In this environment, Ampflow motors are commonly used to drive these monsters that weigh in excess of 100kg and where power is a precious commodity. As well as robots, the high performance of Ampflow motors also makes them ideal for motorised scooters, electric bicycles, electric motorcycles and other electric powered vehicles.



**STOCKED
IN THE UK**

*Apollo were winners of series 8
of the BBC's Robot Wars.*

*The latest version of the Apollo robot
is driven by Ampflow A28-400-F48 motors
and uses VEX Victor BB speed controllers
for maximum power.*

**More high
performance AmpFlow
motors available
online**



3in. Motors

E30-400

Ampflow E30-400 motors are designed to give the best possible performance at the lowest possible price.

Using ferrite magnets and with a nominal voltage of 24V, these motors have a peak power of 2.1hp making them ideal for heavy-duty robotics, motorised vehicles and automation applications.



	E30-400
Order code	37-0281
Nominal voltage	24V
Diameter	79mm (3.1in.)
Length	147mm (5.8in.)
Peak power	1.58kW (2.1hp)
Stall torque	11Nm (1500oz.-in.)
Efficiency	79%
RPM	5700@24V
Shaft diameter	12.7mm (1/2in.)
Shaft length	50.8mm (2in.)
Key-way	3.175mm (1/8in.)
Magnet type	ferrite
No-load current	3.2A
Resistance	0.089Ω
Weight	2.7kg (5.9lb)
Price	£89.99

**A28-400
Replacement
Brush Set**
Order code
37-0285

£39.00



**Sprocket and Key
for 3in. Motors**

These sprockets fit the E30-400, A28-400-F24 and A28-400-F48. Not suitable for the motors with gearboxes.

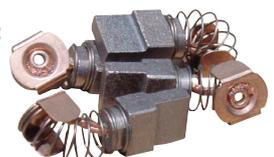
Order code
37-0289

£11.99



**A40-300
Replacement
Brush Set**
Order code
37-0287

£39.00



**6" High-Traction
Drive Wheels with
3/4" Keyed Hubs**
Order code 37-0389

£23.99



3in. Motors with Gearbox

A28-400-F

The Ampflow A28-400-F series are designed to give the highest possible performance from brushed DC motors.

Using rare-earth neodymium magnets and with a nominal voltage of 24 (or 48V), these motors have an impressive peak power of 4.3hp (9.1hp for 48V model) making them ideal for high performance, heavy-duty robotics, motorised vehicles and automation applications. They are fitted with a fan and are drilled with vent holes to allow flow-through cooling which allows longer duty cycles and even higher power outputs.



8.3:1 Gearbox

The gearboxes are made using a three-piece CNC machined aluminium case. The mechanism comprises six sprockets, three roller chains and five bearings. The final sprocket and output shaft are made from a single piece of steel to maximise strength.

The motor and gearbox assembly can be mounted on a plate up to 10mm thick using the four 1/4-20 thread screws supplied.



A28-400-F24	A28-400-F48	E30-400 with Gearbox	A28-400-F24 with Gearbox	A28-400-F48 with Gearbox
37-0282	37-0284	37-0288	37-0283	37-0291
24V	48V	24V	24V	48V
77mm (3in.)	77mm (3in.)	79mm (3.1in.)	77mm (3in.)	77mm (3in.)
200mm (7.8in.)	200mm (7.8in.)	200mm (7.9in.)	250mm (9.9in)	250mm (9.9in)
3.2kW (4.3hp)	6.8kW (9.1hp)	1.58kW (2.1hp)	3.2kW (4.3hp)	9.1hp
25Nm (3560oz.-in.)	51Nm (7260 iz.-in.)	87nm (12,320oz.-in.)	218Nm (30,880oz.-in.)	422Nm (59,840oz.-in.)*
83%	85%	79%	83%	85%
4900@24V	6400@48V	680@24V	580@24V	750@48V
12.7mm (1/2in.)	12.7mm (1/2in.)	19.05mm (3/4in.)	19.05mm (3/4in.)	19.05mm (3/4in.)
50.8mm (2in.)	50.8mm (2in.)	50.8mm (2in.)	50.8mm (2in.)	50.8mm (2in.)
3.175mm (1/8in.)	3.175mm (1/8in.)	6.35mm (1/4in.)	6.35mm (1/4in.)	6.35mm (1/4in.)
neodymium	neodymium	ferrite	neodymium	neodymium
4.4A	4.4A	3.2A	4.4A	4.4A
0.044Ω	0.066Ω	0.089Ω	0.044Ω	0.066Ω
3.3kg (7.2lb)	3.3kg (7.3lb)	4.3kg (9.4lb)	4.8kg (10.6lb)	4.8kg (10.6lb)
£379.00	£379.00	£259.00	£539.99	£539.99

* The current required to reach 422Nm is far outside the safe operating limits of this motor. This figure is theoretical and should be used for comparative purposes only.

4in. Motors

Speed Controller



A40-300

The A40-300 is Ampflow's larger 102mm (4in.) offering that gives more power than the 79mm (3in.) ferrite magnet motors. Rated at 24V and producing 3.8hp, these motors are ideal for heavy-duty robotics, motorised vehicle and automation applications.

The motors are mounted using flanges with 8.65mm (0.34in.) holes.

	A40-300
Order code	37-0286
Nominal voltage	24V
Diameter	101mm (4in.)
Length	176mm (6.9in.)
Peak power	2.8kW (3.8hp)
Stall torque	27Nm (3840oz.-1n.)
Efficiency	84%
RPM	@24V 4000
Shaft diameter	15.9mm (5/8in.)
Shaft length	44.45mm (1.75in.)
Key-way	4.76mm (3/16in.)
Magnet type	ferrite
No-load current	3.5A
Resistance	0.05Ω
Weight	5.4kg (11.9lb)
Price	£315.00

Victor BB 300A Speed Controller

The VEX Victor BB has been designed from the ground up for combat robotics use, but also has numerous other applications where a high continuous current rating is required. The fan-less design is based on over 15 years of combat robot experience with VEX's main objective being to produce the best performing, most durable and lightweight speed controller possible.

The speed controller can be quickly switched from brake to coast mode and can also be connected to a PC via USB to set advanced features such as current limiting, throttle response and battery eliminator circuits.

The VEX Victor BB is the ideal speed controller for use with the Ampflow range of high power motors.

Specification:

- Supply voltage: up to 50V (12C)
- Input signal: PWM
- Maximum current: 300A continuous
- Dimensions: 77 x 77 x 39mm
- Weight: 550g
- Cable: 8 AWG extra-flexible

£374.99

Order code 70-6435



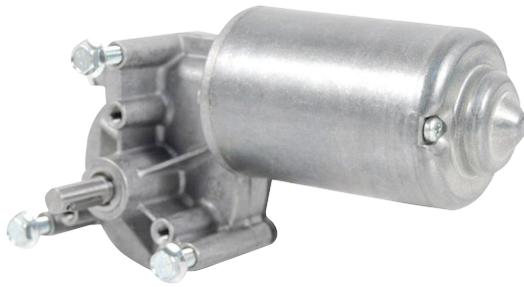
USB to UART TTL Serial Console Cable Assembly

This USB cable allows you to configure advanced functions using the Victor BB dashboard software.

Order code 75-0612

£5.00





DOGA 111 Series Worm Drive Geared DC Motors

A range of brushed DC motors from the DOGA 111 series, ideal for variable speed applications. Their worm drive gearboxes provide an effective brake against turning or over-run when power is switched off and free movement is undesirable.

- 12 and 24V models
- Gear material PLA
- Protection rating IP53

Technical specification

Order code	Mftrs Part No.	Voltage	Speed
64-5926	111.3761.20.00	12V DC	40rpm
64-5915	111.3761.30.00	24V DC	40rpm
64-5920	111.3763.20.00	12V DC	25rpm
64-5916	111.3763.30.00	24V DC	25rpm
64-5922	111.9031.20.00	12V DC	70rpm
64-5917	111.9031.30.00	24V DC	70rpm
64-5928	111.9039.30.00	24V DC	240rpm
64-5945	111.9172.30.00	24V DC	40rpm

Voltage	Speed	Order code	1+
12V DC	40rpm	64-5926	68.53
24V DC	40rpm	64-5915	71.90
12V DC	25rpm	64-5920	68.53
24V DC	25rpm	64-5916	71.74
12V DC	70rpm	64-5922	72.55
24V DC	70rpm	64-5917	75.61
24V DC	240rpm	64-5928	116.30
24V DC	40rpm	64-5945	135.11

560993



DOGA 162 Series DC Motors

A range of brushed DC motors from the DOGA 162 series, ideal for variable speed applications.

- 12, 24 and 48V models
- Range of speeds and torque
- Protection rating IP53

Technical specification

Order code	Mftrs Part No.	Voltage	Speed
64-5919	162.4101.20.00	12V DC	2800rpm
64-5925	162.4101.30.00	24V DC	3000rpm
64-5927	162.4102.20.00	12V DC	2000rpm
64-5921	162.4102.30.00	24V DC	2000rpm
64-5931	162.4109.50.00	48V DC	1500rpm
64-5944	162.4122.30.00	24V DC	1500rpm

Voltage	Speed	Order code	1+
12V DC	2800rpm	64-5919	51.26
24V DC	3000rpm	64-5925	53.68
12V DC	2000rpm	64-5927	51.14
24V DC	2000rpm	64-5921	51.65
48V DC	1500rpm	64-5931	58.03
24V DC	1500rpm	64-5944	114.95

560994



DOGA 168 Series DC Motors

A range of brushed DC motors from the DOGA 168 series, ideal for variable speed applications.

- 12 and 24V models
- Range of speeds and torque
- Protection rating IP40

Technical specification

Order code	Mftrs Part No.	Voltage	Speed
64-5934	168.4108.20.04	12V DC	2800rpm
64-5937	168.4108.30.04	24V DC	2800rpm
64-5938	168.4111.20.04	12V DC	1000rpm
64-5939	168.4111.30.04	24V DC	1000rpm

Voltage	Speed	Order code	1+
12V DC	2800rpm	64-5934	99.56
24V DC	2800rpm	64-5937	109.06
12V DC	1000rpm	64-5938	100.55
24V DC	1000rpm	64-5939	104.55

560995



DOGA 319 Series Worm Drive Geared DC Motors

A range of brushed DC motors from the DOGA 319 series, ideal for variable speed applications. Their worm drive gearboxes provide an effective brake against turning or over-run when power is switched off and free movement is undesirable.

- 12 and 24V models
- Gear material PLA
- Protection rating IP65

Technical specification

Order code	Mftrs Part No.	Voltage	Speed
64-5948	319.3846.20.00	12V DC	95rpm
64-5949	319.3846.30.00	24V DC	95rpm
64-5932	319.3860.20.00	12V DC	30rpm
64-5935	319.3860.30.00	24V DC	30rpm
64-5946	319.3862.20.00	12V DC	45rpm
64-5947	319.3862.30.00	24V DC	45rpm
64-5911	319.9059.30.00	24V DC	230rpm
64-5910	319.9137.30.00	24V DC	175rpm

Voltage	Speed	Order code	1+
12V DC	95rpm	64-5948	140.47
24V DC	95rpm	64-5949	143.17
12V DC	30rpm	64-5932	116.62
24V DC	30rpm	64-5935	118.24
12V DC	45rpm	64-5946	116.57
24V DC	45rpm	64-5947	120.39
24V DC	230rpm	64-5911	160.36
24V DC	175rpm	64-5910	143.73

561001



Analogue Micro Servo Continuous Rotation

The **FS90R** is an analogue micro servo that is capable of continuous rotation clockwise or anti-clockwise, as opposed to moving to a set position. The servo is ideal for the beginning roboticist and is perfect for use with the Motor Shield for **Arduino**. The servo can be controlled using any servo code, hardware or library and to control with an **Arduino**, just connect the orange control wire to pin 9 or 10 and use the Servo library included with the **Arduino IDE**.

Also available is a wheel (**37-1338**) that can be attached directly to the servo. The servo and wheel are also available as a package (**37-1336**).

- Good for making simple moving robots
- Small dimensions means servo can fit in confined spaces
- Lightweight
- Operating voltage 4.8 to 6V
- A 3-pin 10cm cable is available for connecting servos (**37-1337**)

Type	Order code	1+
FS90R 360° Servo	37-1335	4.07
Servo and wheel	37-1336	5.10
Wheel for servo	37-1338	1.24

Mini Servo 120° Operating Speed 0.12sec/60°

The **FS90** is an analog micro servo that has 120° of rotation. The servo is ideal for the beginning roboticist and is perfect for use with the Motor Shield for **Arduino**. The servo can be controlled using any servo code, hardware or library and to control with an **Arduino**, just connect the orange control wire to pin 9 or 10 and use the Servo library included with the **Arduino IDE**.

- Good for making simple moving robots
- Small dimensions means servo can fit in confined spaces
- Lightweight
- Operating voltage 4.8 to 6V
- A 3-pin 10cm cable is available for connecting servos (**37-1337**)

Type	Order code	1+	25+
FS90 Servo	37-1339	2.63	2.42

SCS15 Smart Control Digital Servo with Metal Gears and Brackets

The **SCServo** is a multipurpose UART **BUS robot** servo designed for use with **Arduino**. The unit can work in both servo mode and wheel mode. The servo mode can be wired together in robots to control limbs and set them at specific angles. The wheel mode is intended for wheel-type operations. The **SCServo** can give feedback on the values of position, temperature, load, speed and input voltage, as well as having the ability to set parameters such as speed of rotation, max. output torque, operating voltage limit, operating temperature limit, etc.

To connect to **Arduino** the **TTLInker** control board is required (available separately as **37-1333**). The **TTLInker** is a signal conversion board. **Arduino** needs to convert its UART signals to the half duplex type and through **TTLInker** connect to **SCServo**. The **TTLInker** also has more interfaces to make provision for more sensors.

- Supplied with metal gears and brackets
- A 70mm wheel with tyre is also available (**37-1334**)
- **SCServo** is easily controlled by **Arduino**
- The **SCServo** has a unique ID number to identify on **BUS** network
- Operating voltage range 6 to 8.4V
- 73 rpm Max. operating speed at 8.4V

Type	Order code	1+
SCS15 Servo	37-1332	19.52
TTLInker board	37-1333	2.58
70mm Wheel and tyre	37-1334	1.24
3-Pin servo cable	37-1337	0.464



HS Series Analogue Servos

A wide range of analogue servos from Hitec. The range includes models in standard, mini, midi and custom sizes.

- Please see the Technical Specification table for details

Technical specification								
Order code	Hitec type	Torque at 7.4V	Actuation time 7.4V	Gearbox	Technology	Type	Bearing type	Weight
64-1487	HS-805MG	25Ncm	0.14s (60°)	Metal	Analogue	Custom	Double ball	125g
64-1469	HS-55	15Ncm	0.14s (60°)	Plastic	Analogue	Midi	Plain	8g
64-1474	HS-82MG	27Ncm	0.10s (60°)	Metal	Analogue	Mini	Plain	19g
64-1471	HS-65MG	22Ncm	0.11s (60°)	Metal	Analogue	Mini	Single ball	11.9g
64-1475	HS-85MG	35Ncm	0.14s (60°)	Metal	Analogue	Mini	Single ball	22g
64-1472	HS-81	30Ncm	0.09s (60°)	Plastic	Analogue	Mini	Plain	16.6g
64-1480	HS-322HD	37Ncm	0.15s (60°)	Carbonite	Analogue	Standard	Plain	43g
64-1484	HS-645MG	96Ncm	0.20s (60°)	Metal	Analogue	Standard	Double ball	55.2g
64-1479	HS-311	35Ncm	0.15s (60°)	Polyamide	Analogue	Standard	Plain	43g



Bluebird BLS & BMS Series Digital & Analogue Servos with JR Connectors

A wide range of servos from Bluebird. The range includes both digital and analogue types, with wide range of torque ratings.

- Please see Technical Specification for full details

Technical specification								
Bluebird type	Order code	Torque @6V kg-cm	Gears	Technology	Bluebird type	Order code	Torque @6V kg-cm	Gears
BLS-2209 HV	64-0914	22.1	Titanium alloy	Digital	BMS-630 MG	64-0903	14.04	Metal
BMS-A55H	64-0896	8.6	Metal	Digital	BMS-660 DMG	64-0912	142	Metal
BMS-390DMH	64-0923	5.4	Metal	Digital	BMS-660MG+HS	64-0861	139	Metal
BMS-L560 DMG	64-0907	275	Metal	Digital	BMS-705MG	64-0863	73	Metal
BMS-620MG	64-0902	106	Metal	Analogue				



Micro Servo MC1811

Affordable micro servo from Modelcraft, suitable for use as a replacement servo for **ARF** models or as part of the standard equipment for the hobby workshop.

- Mounting material included

Technical specification

51-2338	JR
Connector system	(L x W x H) 23 x 11.5 x 24.5mm
Dimensions	Plastic
Gear material	MC1811
Manufacturer part no.	Analogue servo
Servo technology	Servo time 6V/7.4V
Servo time 6V/7.4V	0.08s (60°)
Servo torque 6V/7.4V	18
Servo type	Micro servo
Stroke time at 4.8V	0.10s (60°) / 0.08s (60°)
Torque at 4.8V	15 / 18Ncm
Type of bearing	Plain bearing



Order code
51-2338
£5.77

Standard Servo RS2 MG/BB with Ball Bearings and Metal Gears

The Modelcraft RS2 Servo is ideal for numerous applications in the modelling field, such as radio controlled models like cars, airplanes and robots.

- Metallic drive

Technical specification

51-1617	JR
Connector system	(L x W x H) 41 x 20 x 42mm
Dimensions	Metal
Gear material	RS2 MG/BB
Manufacturer part no.	Analogue servo
Servo technology	Servo time 6V/7.4V
Servo time 6V/7.4V	0.17s (60°)
Servo torque 6V/7.4V	35
Servo type	Standard servo
Stroke time at 4.8V	0.19s (60°) / 0.17s (60°)
Torque at 4.8V	31/35 Ncm
Type of bearing	Ball bearing
Weight	49g



Order code
51-1617
£12.48

BMS-410C Plastic Gear JR Standard Analogue Servo

The Modelcraft BMS-410C Standard Servo is not only economical, but ideal for many applications in **Radio Control** modelling owing to its **standard dimensions**. It is also compatible with microcontroller systems such as **PICAXE**, **Arduino** and **Raspberry Pi**.

- Standard dimensions
- Includes control horn and screw
- **Modelcraft type BMS-410C**

Technical specification

Manufacturer part No.	BMS-410C
Servo type	Standard servo
Connector system	JR
Gears	Plastic
Servo technology	Analogue servo
Servo time 6V/7.4V	0.15sec/ 60°
Servo time at 4.8V	0.17sec/ 60°
Servo time at 6V	0.15sec/ 60°
Servo torque at 4.8V	35Ncm
Servo torque at 6V/7.4V	44Ncm
Servo torque at 6V	44Ncm
Stroke time at 4.8V	0.17sec/60°/0.15sec/60°
Length	40.5mm
Width	20mm
Weight	38g



Order code
49-9395
£5.12



Tower Pro SG90 Mini Servo

The Tower Pro SG90 Mini Servo is a low-cost, well specified servo ideal for use in radio-controlled models and for interfacing with microcontroller systems like **Arduino**, **Raspberry Pi**, **PICAXE**, etc.

- Size: 23 x 12.2 x 29mm
- Low-cost, high quality
- Supplied complete with control horns and mounting screws
- **Tower Pro type SG90**

Technical specification

Dimensions	23 x 12.2 x 29mm
Operating voltage	4.8V
Stall torque	1.8kg/cm (4.8V)
Operating speed	0.1s/60° (4.8V)
Dead band width	10µs
Temperature range	0 to 55°C
Weight	9g

Type	Order code	1+	25+	50+
Mini servo	37-1330	2.85	2.61	2.36



Zinc Chloride, Alkaline & Lithium Batteries



GreenCell Zinc Chloride Batteries

Battery size	Voltage	Order code	1+	10+	40+	200+
AAA	1.5	18-1090	0.302	0.229	0.208	0.187
AA	1.5	18-1092	0.333	0.249	0.229	0.208
C	1.5	18-1094	0.781	0.614	0.551	
D	1.5	18-1096	1.33	1.03	0.926	0.843
PP3	9	18-1058	0.545	0.424	0.382	0.347

Lithium AA batteries GP15LF

The GP Lithium AA battery is the best choice of battery for user-replaceable portable electronic devices. It can provide up to 7 times longer lasting power than an ordinary alkaline battery and a 10-year shelf life due to its low self discharge characteristics. Recommended for devices such as digital cameras, electronic flash guns, blood pressure monitors and other medical and professional equipment.



- 7 x longer lasting than Alkaline
- Friendlier to the environment
- High safety and reliability
- Supplied in **packs of two**

Battery size	Order code	1+	10+
GP Primary AA	18-4028	3.81	3.42

Button Cell & Co



Alkaline Button Cells

A range of the most popular long life alkaline manganese button cells.



- Nominal voltage 1.5V
- Used extensively in calculators, cameras, clocks etc.
- Supplied in **protective blister packs of 10**

Type	Size (dia./height mm)	Order code	1+	10+	100+
L621	6.8/2.1	18-1395	1.30	1.09	0.881
L736	7.9/3.6	18-0411	1.70	1.12	0.885
L1131	11.6/3.1	18-1376	1.79	1.23	0.999
L1142	11.6/4.2	18-0403	1.79	1.38	1.13



Ultra Alkaline AA and AAA Batteries

They offer higher energy capacity, better high and low temperature performance, and longer-term storage.

Battery size	Pack size	Voltage	Order code	1+	10+
AA	24	1.5	18-2107	6.66	5.89
AA	40	1.5	18-2112	10.73	9.63
AAA	24	1.5	18-2108	6.66	6.07
AAA	40	1.5	18-2113	10.73	9.63

Lithium 9V Battery 800mAh CR-V9 (PP3)

The GP Lithium 9V battery is the best choice of battery for user replaceable electronic devices. It can provide 5 times longer lasting power than an ordinary alkaline battery and a 10-year service life in ionization type smoke detectors..



Applications:

- Smoke detectors
- Security devices
- Medical equipment
- Carbon monoxide alarms
- Explosion gas alarms
- Meters (gas/electricity/water)
- Metal detectors
- Wireless transmitters
- Electronic toll collection systems, etc.

Battery size	Order code	1+	10+	25+
9V Battery CR-V9	18-4027	6.36	5.49	5.08

Silver Oxide Button Cell Batteries

This GP range of silver oxide button cells is supplied in **blister packs**. The range consists of 5 of the most popular sizes for watches, calculators, hearing aids and many other applications.

- Suitable where size and performance are important factors
- Superior replacements for alkaline cells of the same dimensions
- Nominal voltage 1.55V
- Supplied in **protective blister packs of 5**



Battery size	Size (dia./h. mm)	Order code	1+	10+
392 (SR41W)	7.9/3.6	18-1419	2.49	
357 (SR44W)	11.6/5.4	18-1414	6.04	
364 (SR60)	6.8/2.15	18-1415	1.53	
377 (SR66)	6.8/2.6	18-1416	1.70	
389 (SR1130W)	11.6/3.05	18-1418	4.09	



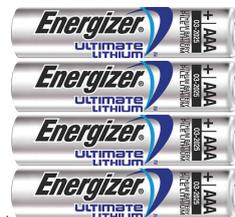
Super Alkaline Mercury Free Manganese Batteries

A range of GP Super Alkaline Mercury Free Manganese Batteries that are ideal for the increasing power demand of everyday devices. They offer great value for money with a long-lasting lifetime.

Battery size	Pack size	Voltage	Order code	1+	20+	100+	500+
N	1	6	18-1900	0.679	0.586	0.54	
AAA	2	1.5	18-1922	0.677	0.479	0.353	0.312
AA	2	1.5	18-1924	0.739	0.53	0.385	0.353
C	2	1.5	18-1926	2.07	1.72	1.53	
D	2	1.5	18-1928	2.75	2.27	2.06	
PP3	1	9	18-0200	1.32	1.17	0.98	

Hi Energy Lithium AAA Battery 1250mAh

The Energizer 639171 is a pack of 4 Hi Energy Lithium AAA Batteries rated at 1250mAh. In a high tech world with countless electronic gadgets that you can't live without, is the reason why Energizer Ultimate Lithium was developed.



The Ultimate Lithium battery will deliver long lasting power to keep up with today's high-tech, power hungry devices like digital cameras, photo flash units and handheld GPS devices.

A 15 year shelf life means that you can be confident you will always have power when you need it most.

- Last up to 9x longer in digital cameras (results vary by camera)
- Supplied in **packs of 4**

Battery size	Order code	1+
Lithium AAA Battery	59-1153	8.06

Button Cell Battery Multipack

The six Alkali-manganese button cell battery sizes in the pack are: AG1, AG3, AG4, AG5, AG12 and AG13.

- 2 x AG1 (6.8 x 2.1 mm)
- 2 x AG3 (7.9 x 3.6 mm)
- 2 x AG5 (7.9 x 5.5 mm)
- 2 x AG12 (11.6 x 4.2 mm)
- 1 x AG13 (11.6 x 5.4 mm)
- 1 x AG4 (6.7 x 2.4 mm).



Coin cells pack of 10
Order code **51-1744**

£0.92



Alkaline Manganese Dioxide Batteries, AA, AAA, C, D, PP3

A range of Industrial Duracell Alkaline-Manganese Dioxide Batteries. These Duracell batteries will provide you with the quality power that you know and trust from Duracell.

Battery size	Voltage	Pack size	Order code	1+	10+
AA LR6	1.5	10	18-3341	3.83	3.39
AAA LR3	1.5	10	18-3342	3.44	3.06
C Cell LR14	1.5	10	18-3343	8.30	7.43
D Cell LR20	1.5	10	18-3344	10.38	9.40
D Cell LR20	1.5	100	18-3347	96.05	
PP3 6LR61	9	10	18-3345	12.57	11.02

Hi Energy Lithium AA Battery 3000mAh

The Energizer 639155 is a Pack of 4 Hi Energy Lithium AA Batteries rated at 3000mAh. In a high tech world with countless electronic gadgets that you can't live without, is the reason why the Energizer Ultimate Lithium battery was developed.



These Ultimate Lithium batteries will deliver long lasting power to keep up with today's high-tech, power hungry devices like digital cameras, photo flash units and handheld GPS devices.

A 15 year shelf life means that you can be confident you will always have power when you need it most.

- Last up to 9x longer in digital cameras (results vary by camera)
- Supplied in **packs of 4**

Type	Pack size	Order code	1+
Lithium AA batteries	4	59-1152	8.06

39-piece Button Cell Battery Multipack

The Alkali-manganese button cell sizes in the pack are:

- 3x AG 1 (6.8 x 2.1mm)
- 3x AG 2 (7.9 x 2.6mm)
- 3x AG 3 (7.9 x 3.6mm)
- 3x AG 4 (6.7 x 2.4mm)
- 3x AG 5 (7.9 x 5.5mm)
- 3x AG 6 (9.5 x 2.1mm)
- 3x AG 7 (9.5 x 2.6mm)
- 3x AG 8 (11.6 x 2.1mm)
- 3x AG 9 (9.5 x 3.6mm)
- 3x AG 10 (11.6 x 3.1mm)
- 3x AG 11 (7.9 x 2.1 mm)
- 3x AG 12 (11.6 x 4.2mm)
- 3x AG 13 (11.6 x 5.4mm)



Coin cells pack of 39
Order code **51-1891**

£4.45

GP Batteries

Lithium Coin Cell Batteries

A range of lithium manganese 3V coin cells.

- Non-rechargeable
- Operating temperature -20°C to +60°C
- Used in miniature electronic equipment, calculators and watches
- PCB versions are ideally suited to memory backup applications
- Supplied in **packs of 5**



Battery type	Size (dia./height mm)	Order code	1+	25+	100+
CR1220	12.0/2.0	18-0363	4.10	3.10	
CR1616	16.0/1.6	18-0367	4.58	3.98	3.36
CR1616	16.0/2.0	18-0377	5.88	4.93	
CR2016	20.0/1.6	18-0486	4.42	3.52	
CR2032	20.0/3.2	18-0493	2.93	2.21	
CR2430	24.5/3.0	18-0374	6.29	4.89	

074895



Lithium Coin Cell Batteries

A wide range of popular, high quality, long life 3V lithium coin cell batteries from Renata, made in Switzerland.

Their type number generally denotes their physical size, for example, CR2032 has a diameter of 20mm and is 3.2mm thick.

- Nominal voltage 3V
- Chemical system Li/MnO2

Typical uses include:

- Watches & clocks
- Pocket organisers
- Calculators
- Remote control key-fobs
- Wireless security sensors
- Hand-held games

Type	Size (dia./height mm)	Order code	MOQ 5		
			5+	10+	25+
CR1025	10.0/2.5	18-5071	0.85	0.72	0.67
CR1220	12.5/2.0	18-5073	0.86	0.72	0.61
CR1225	12.5/2.5	18-5074	1.14	0.968	0.827
CR1616	16.0/1.6	18-5075	1.20	1.02	
CR1620	16.0/2.0	18-5076	1.20	1.02	
CR1632	16.0/3.2	18-5077	1.19	1.01	0.86
CR2025	20.0/2.5	18-5079	0.49	0.42	0.355
CR2032	20.0/3.2	18-5080	0.68	0.53	0.46
CR2320	23.0/2.0	18-5081	1.19	1.01	
CR2325	23.0/2.5	18-5082	1.32	1.14	
CR2450N	24.5/5.0	18-5084	1.88	1.60	
CR2477N	24.5/7.7	18-5029	2.24	1.99	1.90

50235



Trupower

CR2032 Lithium Coin Cell Battery

These CR2032 horizontal and vertical tagged lithium button cells, are commonly used in car security, organizers (backup battery for PDA), computer equipment (memory backup battery and so forth).

- Button cell PCB mounted lithium battery
- Tagged terminals
- Available in **horizontal and vertical options**

Type	Order code	1+	25+	100+
Horizontal tagged terminals	18-0461	1.11	0.864	0.681
Vertical tagged terminals	18-0467	1.12	0.87	0.682

51930

High Capacity Rechargeable NiMH Batteries



These rechargeable batteries have been designed to meet the most stringent needs of today's high drain applications, and are available in the most popular standard sizes.

- High capacity
- Higher capacities compared to nickel cadmium types
- Fast charge capability
- Up to 1000 recharge cycles
- Suitable for digital cameras; PDAs; CD/MD/MP3 players; toys and games
- Environmentally friendly
- No memory effect
- No special disposal requirements
- Available in **AAA, AA and PP3** sizes

Type	Capacity	Voltage	Order code	1+	20+	100+
AAA	970mAh	1.2	18-4031	2.79	2.63	2.28
AA	2600mAh	1.2	18-4037	3.61	3.34	2.56
PP3	170mAh	8.4	18-4025	4.99	4.42	3.87

074738

ReCyko+ Batteries

These **rechargeable batteries** from GP offer a greener choice than standard, disposable batteries. These nickel metal hydride batteries are excellent for digital cameras, flashlights, children's toys, remote controls and cordless phones, offering high capacity retention. They come pre-charged and are ready to use out of the pack.

- Available in a range of sizes



Pack size	Capacity (mAh)	Order code	1+
4 x AAA	400	18-4186	3.87
4 x AAA	650	18-4184	4.83
4 x AAA	800	18-4179	7.60
4 x AAA	950	18-4177	8.97
4 x AA	1000	18-4185	3.87
4 x AA	1300	18-4183	4.83
4 x AA	2000	18-4178	7.60
4 x AA	2600	18-4176	8.97
2 x C	3000	18-4180	4.17
2 x D	5700	18-4181	8.63
1 x 9	200	18-4182	5.75

561449

To see our full range of batteries visit www.rapidonline.com

Rechargeable Batteries



Duracell ActiveCharge is a rechargeable battery with improved consumer benefits. This low self-discharge battery comes "Ready Charged" and can immediately be used and stays charged longer than standard rechargeable batteries.

- Pre-charged and work straight from the pack
- Duracell rechargeable batteries offer you the quality and dependability
- Compatible with all battery chargers - up to 1000 charges
- Ideal for all your high drain devices
- Stays charged longer than standard rechargeable
- Charge 100's of times for thousands of photos
- Great for the environment
- Supplied in **packs of 4**

Type	Order code	1+	5+
AA 2400mAh	18-4700	10.26	9.40
AAA 800mAh	18-4701	10.26	9.40

123478

Rechargeable Supreme Batteries



Duracell Supreme rechargeable NiMH batteries offer you the quality and dependability you've come to trust from Duracell. They are ideal for use in digital cameras and high drain devices.

- Up to 1000 charges
- Compatible with all battery chargers
- Available in C, D and 9V (PP3) packs

Type	Order code	1+	5+
C cell 2200mAh	18-4722	9.38	8.60
D cell 2200mAh	18-4723	9.39	8.70
9V 150mAh	18-4724	7.96	7.29

123480

SPECIAL OFFER

AA **8+4**

GP Ultra ALKALINE BATTERY

Order code 18-2122

Ultra Alkaline AA Batteries

Pack of 8 + 4

RRP £4.99

Offer price

£2.40

Until 31/12/17

AAA **8+4**

GP Ultra ALKALINE BATTERY

Order code 18-2123

Ultra Alkaline AAA Batteries

Pack of 8 + 4

RRP £3.99

Offer price

£2.40

Until 31/12/17

Battery Chargers

PowerBank Charger

with 4 ReCyko+ Pro AA Batteries

This **U411 charger** from GP is ideal for charging 4 x AA/AAA NiMH batteries (1 battery per one channel). The USB charger has an LED indicator, displaying when charging is in progress, and comes with 4 x ReCyko+ 2000mAh AA batteries.

- Supplied with 4 x AA batteries
- USB input
- Input rating: DC5.0V 1.0A
- Output rating:
- 2 x AA - DC2.8V 300mA average
- 2 x AAA - DC2.8V 120mA average
- Operation temperature: 0 to 33°C
- Manufacturer's part **GPRHOU411033**



Order code
18-4173
£8.26

PowerBank Charger

with 4 ReCyko+ Pro AA Batteries

This **PB420 charger** from GP is ideal for charging 2 or 4 x AA/AAA NiMH batteries (1 battery per one channel). The charger has an LED indicator, displaying when charging is in progress, and comes with 4 x AA PRO batteries.

- Input voltage : 230V AC 50Hz (GS/BS) 120V AC 60Hz (US)
- Input power : 6W maximum
- Output voltage : 1.4V DC
- Manufacturer's part **GPRHPP42063**



Order code
18-4172
£10.80

ReCyko+ Pro NiMH Value Battery Pack

with PB420 Charger

This **value pack with PB420 charger** from GP is ideal for charging 2 or 4 x AA/AAA NiMH batteries (1 battery per one channel).

The charger has 2 x LED indicators, displaying when charging is in progress, and comes with 8 x AA PRO batteries and 4 x AAA PRO batteries. It is simple and convenient to use, just put in your batteries and leave it charging overnight.

- Overnight charger
- Manufacturer's part **GPRHOP42065**



Order code
18-4169
£18.86

CEF22 Universal Battery Charger

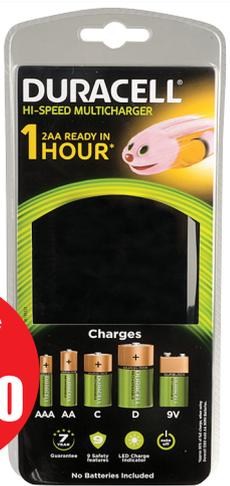
This battery charger is ideal for multiple NiMH batteries. It will charge AA, AAA, C, D and 9V batteries at the same time.

The charger is capable of charging up to 4 batteries at once. The charge time is around 6 to 8 hours depending how much power is left in the batteries. An LED indicator shows charging status, red for charging, turning green when your batteries are ready to use.

Charges up to 4 batteries in the following time:

- AA - 1300mAh - 2hr
- AA - 2500mAh - 3.5hr
- AAA - 750mAh - 1hr
- AAA - 850mAh - 1.5hr
- C cell - 3000mAh - 4hr
- D cell - 3000mAh - 4hr
- 9V - 170mAh - 5.5hr (can only charge single 9V battery)

Please note: Batteries not included.



Order code
18-4750
£29.50

Battery Charger with 2 FREE Batteries (2x AA)

The Duracell value charger provides good charging capability at an affordable price. Typically charges in 6 hours (varies based on brand and capacity of battery). Charges AA and AAA rechargeable batteries. The charger is supplied with 2x AA batteries.

- Typically charges in 6 hours
- Lasts up to 3x longer in digital cameras (compared to ordinary alkaline)
- Duracell rechargeable batteries help keep your devices running longer
- LED indicator to indicate status of charging process
- Supplied with 2x AA
- Charges AA and AAA rechargeable batteries



Order code
18-4751
£17.25



Compact SLA Battery Chargers

A compact multi-step battery charger with an auto shutdown feature when the battery is fully charged. This metal bodied compact charger will charge lead acid batteries at a fast, normal and trickle rate. It is supplied with crocodile clip connectors for ease of use.

- Multi step charger set-up and auto shutdown (tri step)
- Fast charge, normal charger, average charger
- Voltage with auto sensor battery
- Full charge with auto shut down
- Output short circuit protection
- Universal input voltage suitable for worldwide operation
- Anti-reverse voltage protect device
- Fast charge transferred into slow charge
- Over load protection
- LED status display
- Suitable for lead acid battery

Type	Order code	1+	3+
4A Battery charger	18-1463	£44.99	
5A Battery charger	18-1464	£44.73	£42.44
8A Battery charger	18-1465	£51.39	
10A Battery charger	18-1466	£48.18	£45.88



Order online

Activate your account for online ordering.

For further information:

www.rapidonline.com/activate



12V Sealed Lead Acid Battery Charger 15Ah

A two-stage charger designed specifically for 12V sealed lead acid (SLA) batteries with capacities up to 15Ah.

- Charges 12V SLA batteries with capacities of 1 to 15Ah
- Two-stage 12V charge: bulk charges to 90%, then automatically switches to float charging
- Rugged construction
- Incorporates reverse-polarity, short-circuit and over-voltage protection
- Two LEDs indicate the operational status of the charger
- Built-in mains lead fitted with 13A plug
- 1.8m of flying output lead with large colour-coded crocodile clips
- Dimensions: 130 x 92 x 70mm (L x W x D)

Type	Order code	1+	3+
12V	18-0745	£37.50	£34.99



Lead Acid Batteries



NP Series

Sealed Valve Regulated Lead Acid SLA Batteries 6V & 12V



A wide range of maintenance-free, rechargeable lead acid batteries.

- Offered in a wide variety of voltages and capacities
- Unique style of construction of batteries ensure no electrolyte leakage
- Connection is by tab terminals up to 12Ah
- Higher capacities have bolt terminals
- May be used in standby or cyclic applications
- 1200 charge/discharge cycles are achievable when employed in cyclic applications
- Uses include memory back-up systems, test equipment, fire and security alarms

Voltage	Capacity (Ah)	Order code	1+	5+	25+
6V	1.2	18-0505	11.62	9.93	
	2.8	18-0515	12.20	11.65	10.96
	4	18-0520	10.71	9.16	8.12
	10	18-0540	18.30	15.71	
	12	18-0545	22.17	19.16	
12V	1.2	18-0605	10.96	9.75	8.58
	2	18-0615	15.32	13.10	11.53
	2.1	18-0610	12.82	10.94	
	2.3	18-0618	14.25	12.19	11.53
	2.8	18-0620	14.25	12.19	
	3.2	18-0622	19.56	17.36	
	4	18-0625	16.91	14.38	12.69
	7	18-0635	14.41	12.35	11.86
	12	18-0640	33.84	29.00	25.86
	17	18-0642	50.16	44.11	

062268



HSC Series

Sealed 6 and 12V Lead Acid Batteries



A range of sealed 6 and 12V lead acid batteries that are completely maintenance free. This Haze HSC series is optimised for Security and Alarm Systems, CCTV, Emergency Energy Lighting Systems, Marine or Medical equipment. Capacity is quoted at the 20 hour rate @ +25°C down to 1.7V per cell.

- Completely maintenance free, sealed construction
- Increased durability and deep cycle ability for heavy demand applications
- Low impurity electrolyte
- Spill proof/leak proof
- Valve regulated: Max internal pressure 2.5psi
- Multi-position usage
- ABS Case and cover
- The 12V 7.5Ah version 18-1250 is V0 rated
- Low self discharge
- FAA and IATA approved as non-hazardous

Please Note: The batteries full Ah is not realised until the battery has been fully charged and discharged 5 times.

Mfrs. pt. no.	Voltage	Order code	1+	10+	20+	40+
HSC6-4.5	6V	18-1142	6.47	5.82	5.65	5.39
HSC12-5	12V	18-1157	13.99	12.94	12.62	12.39
HSC12-7.5_V0	12V	18-1250	16.70	16.36	15.57	14.56
HSC12-10	12V	18-1165	22.15	21.46	20.75	19.48
HSC12-12	12V	18-1167	29.10	27.42	25.81	24.18

530526

RAPIRO

Humanoid Robot

with Controller Board and 12 Servos

The Rapiro Humanoid Robot puts a cute shell over a fascinating technical challenge - building a two-legged robot. It comes complete with all the parts you need, the plastic body, 12 x servo-motors, RGB LEDs for the eyes, and an Arduino compatible controller board, just add batteries. Assembly is straightforward using the instructions online and a couple of small screwdrivers. Once it's all together and powered up you can connect it to a PC or laptop via USB cable (not supplied) to upload the robot's software using the free Arduino IDE.



Controlling the robot is very simple using its built in set of pre-programmed motions which include walking, waving, grasping etc. Each motion is accompanied by a dynamic eye colour change. Since the controller board is Arduino UNO compatible you can use the official software as a starting point for your own functions or start again from scratch to control Rapiro your own way.

Once you are comfortable working with Rapiro you can add a Raspberry Pi to throw open the doors to endless possibilities. Use the Pi to send commands to the controller, then add sensors, WiFi, Bluetooth, in fact, you can take your pick from the huge array of Pi modules to get exciting new functions. For example, drive the robot using a Playstation or Wii controller, via WiFi or using your Android or IOS smartphone. Add sound or speech, or add a Pi camera and give your robot vision with the free OpenCV software. Whilst Rapiro is compatible with the Pi B, if you want to add a Pi B+ or Pi 2 you'll need to make some modifications to the plastic body; there are detailed instructions online.

Rapiro was originally a very successful Kickstarter project and has a wealth of supporting material on the Internet as well as an active community. You can download the software and schematics, find the body models on Thingiverse for 3D printing, learn from and be inspired by the Wiki, or get support from fellow builders on the Rapiro forum. You can also preview the assembly instructions, which are online.

On the outside Rapiro is a cross between a Stormtrooper and an Ewok, and with so many servos controlled by an Arduino compatible board it's a real opportunity to explore robotics, electronics and coding. Add a Raspberry Pi to push the boundaries of your creativity.

- Arduino UNO compatible controller included
- 3 x servos in each arm
- 2 x servos in each leg
- Head and waist rotation (not 360°)
- Designed to be upgradeable with a Raspberry Pi (see main text)
- Forehead light can be replaced by a Raspberry Pi camera
- Self-assembly, just requires a couple of small screwdrivers
- Requires 5 x AA batteries and USB micro-B cable (not supplied)
- Measures (H x W x D) 257 x 196 x 159mm (10.1 x 7.7 x 6.3in)

Supplied in the kit: 30 x plastic parts, 12 x servo motors, screws, internal cables, Arduino compatible controller board, RGB LED board. There's also a very handy sheet of self-adhesive labels so that you can keep track of all those servos.

Not supplied: 5 x AA batteries, USB micro-B cable (to connect to a PC or laptop).

Order code 75-0620

£337.84



ARX-CH09 Robot Chassis

A self assembly kit which allows rapid prototyping of robotics projects using microcontrollers. The kit includes two motor and gear sets, wheels, rollerball rear wheel and 4x AAA battery box.



Order code
13-1196
£12.43

Incorporate your own choice of microcontroller such as GENIE or PICAXE and then add sensors such as microswitches or the popular SRF005 ultrasonic range finder (78-1085).

- 140 x 120 x 50mm
- Requires some assembly
- 40mm diameter wheels

RP-5 Robot Tank Track Chassis

The RP5 is a tank track style chassis, which is an ideal base for building mobile robots. The chassis has built-in motors and gearboxes which you can easily interface with PICAXE, GENIE, Arduino or any other microcontroller system, as well as radio control systems.



Order code
13-1194
£32.09

The RP5 tank track chassis is supplied ready assembled – just add your own control system and batteries!

- Dimensions: 175 x 135 x 60mm
- 2x 280 type motors
- 80:1 gear ratio
- Rubber tank tracks
- 6x AA Battery holder included

Magician Chassis

The Magician Chassis is a quick and easy way of using your preferred microcontroller system (such as PICAXE, GENIE, Arduino) in robotics applications. The self assembly kit comes complete with two high torque motors with built-in gearboxes, wheels, rollerball front wheel and 3x AA battery holder. The cleverly perforated chassis allows you to easily mount your PCBs using PCB pillars and screws.



Order code
13-1192
£17.60

- Overall dimensions 175 x 125 x 75mm
- Requires some simple assembly
- 65mm diameter wheels

PIMORONI Micro Metal Gearmotors with Extended Back Shaft

These **Micro Metal Gearmotors** from Pimoroni are ideal for small robot platforms or other light mechanical loads. They have a 3mm diameter D-shaped output shaft which is 9mm long and a 1mm diameter back shaft which is 4.5mm long. The back shaft is a great spot to install an encoder to track the motor's speed and position. All the motors in the range are the same size but with different gear ratios, allowing you to choose the one that's right for your next project.



- All metal gears
- Back shaft for an encoder

50:1 Order code 75-0638
298:1 Order code 75-0639
1006:1 Order code 75-0640
£4.62 each

Zumo Chassis Kit

The Pololu Zumo chassis kit is an easy to assemble kit that produces a small, high performance, tracked robot platform that is less than 100mm on each side - enabling it to qualify for Mini Sumo competitions.



Included in the kit are two silicone tracks, two drive and two idler sprockets, a 1/16in acrylic mounting plate, and mounting hardware.

- Composed of sturdy black ABS
- Features a compartment for 4x AA batteries
- Sockets for two micro metal gearmotors
- Acrylic plate for mounting hardware

Order code
75-0621
£13.93

Optical Encoder for Micro Metal Gearmotors

An optical encoder kit that allows the addition of quadrature encoders to an LP, MP, or HP micro metal gearmotor. The kit consists of 2x sensor boards, 2x 3-tooth encoder wheels and 2x 5-tooth encoder wheels. The assembled system does not exceed the 12 x 10mm cross section of the motors and extends only 5mm beyond the motor end cap. The 3-tooth wheel provides 12 counts per revolution and the 5-tooth wheel yields 20 counts per revolution.



Order code
75-0625
£7.78

- Supplied as a pair
- Reflective wheels for quadrature encoding
- 3.3V Operation

Note: Requires the extended back shaft version gearmotor.
Note: Motors not included.

Plastic Wheel Sets for 3mm D-Shafts



A range of plastic wheels with silicone tyres that securely press-fit onto the 3mm D-shafts of many types of motor, including micro metal gearmotors and mini plastic gearmotors. The wheels are the same as those used on the 3pi robot and they also work with 35:1 and 115:1 15.5D metal gearmotors.

- Sold in pairs

37x7mm black wheels
Order code 75-0631

£4.34

37x7mm white wheels
Order code 75-0632

£4.34

Pololu 1090 Wheels 42 x 19mm (Pair)

A set of white plastic wheels with rubber tyres. The wheels will press-fit onto the 3mm D-shafts on motors. Teeth on the hub optionally allow a reflectance sensor to be used for encoder feedback.



Order code
75-0622
£5.20

- Rugged wheels
- Sold in pairs

THESE ARE JUST A FEW OF THE MANY POLOLU ACCESSORIES CARRIED BY RAPID

Motor with Gearbox and Integrated Encoder

The EMG30 is a 12V motor and 30:1 reduction gearbox in a single unit giving a 1.5 to 200rpm output speed. It also has a built-in hall-effect motor encoder which gives precise control.

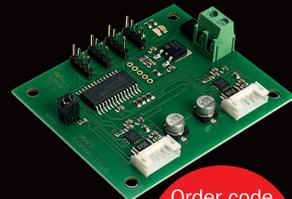


- Terminated with a 6-way JST connector for easy connection
- Mounting bracket available separately (70-6406)
- Can be controlled via I2C using the MD25 driver

Order code
70-6404
£24.66

Dual H-Bridge Driver

Designed to work with the EMG30 motors, the MDS25 can drive two motors and is controlled by serial or I2C making it compatible with most microcontroller platforms.

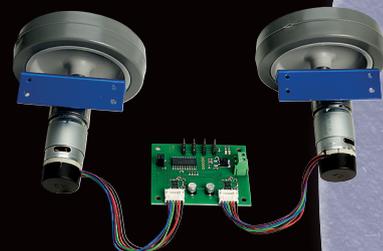


The board has two modes of operation which allow direct individual control of each motor or the ability to send a speed and turn command when using two motors. An onboard 5V regulator allows you to use the 12V batteries that will power your robot to also power your microcontroller or other electronics.

- 2x 6-way JST connectors for easy interface with EMG30 motors
- Can be controlled via serial or I2C connection
- Compatible with a wide range of microcontrollers including Arduino and PICAXE
- Returns 360 counts per revolution when used with the EMG30
- Up to 2.8A per motor
- On-board 5V 300mA regulator for powering your microcontroller

Order code
70-6405
£35.22

Robot Drive System



The RD02 is a complete drive system that is ready to integrate into your robot. The package includes two EMG30 motors and mounting brackets, two 100mm wheels and an MDS25 Dual H-Bridge Driver.

The on-board 5V regulator allows you to power your microcontroller or other electronics up to 300mA from the same 12V batteries that power your robot.

Kit includes:
2x EMG30 motor and gearbox with integrated encoders
1x MDS25 Dual H-Bridge Driver
2x 100mm wheels
2x motor mounting brackets

- Requires 12V battery power supply
- Easily interfaced with PICAXE, Arduino etc.
- Suitable for robots up to 5kg

Order code
70-6403
£99.00

2WD/4WD Arduino Compatible Robotics Platform

Including Motors & Mounts

The 4WD Robotics Platform from Seeed Studio has a high-strength aluminium alloy two-deck design. Add a controller such as an Arduino or Raspberry Pi with suitable motor drivers and your bot will be trundling around the floor in no time. The top deck is pre-drilled and slotted to accept a variety of additional hardware such as sensors, displays and controls. It even has a set of right angle brackets to mount front facing sensors. A short plate projects from the bottom deck, ideal for housing an ultrasonic distance sensor, line following sensors or bump sensors. The bottom deck houses the motors and is fully enclosed to prevent damage, neat slots allow the cables to reach the motor drivers. The bot is easy to assemble and very sturdy, just right if you intend your bot to go off-piste.

- All aluminium construction
- Motors require 3 to 12V DC
- Speed: 90cm/s
- Dimensions: 200 x 170 x 105mm



Order code 75-0403

£30.90



Order code 75-0404

£39.66



4WD Mecanum Wheel Robot Kit

Includes Motors, Mounts & Fixings

The 4WD Mecanum Wheel Robot Kit from Seeed Studio builds into a robot base that your microcontroller (MCU) can drive forwards, backwards, sideways and can rotate on the spot. Add an MCU and motor drivers then watch this wheeled robot drive sideways, 45 degrees or any other angle. By careful arrangement of the clever Mecanum wheels you get complete control of the direction of travel. The kit has two decks, you could hide the basic electronics and batteries on one and use the other for sensors, displays and controls.

This compact, rugged robot platform is even capable of carrying up to 10kg, definitely not a toy!

- Moves in any horizontal direction
- Motors are geared 1:35, 310rpm
- Dimensions 250 x 145 x 97mm

Order code 75-0402

£133.85

Initio 4WD Robot Platform including Motors, Gearboxes and Encoders

The Initio is an easy to build, and easy to use 4WD robot platform designed especially for use with Arduino and Raspberry Pi single-board computers. This extremely flexible platform features powerful, built-in 170-size motors with high quality gearboxes, and speed encoders on each side. Each wheel can be individually decoupled from the gearbox, so you can run the robot as a 1WD, 2WD or 3WD.

The main chassis is already built, with all wires connected so there is no soldering or gluing required - just add your control board and screw on the top plate. The base-plate will directly mount an Arduino (UNO, Mega2560 or Leonardo) or Raspberry Pi (not supplied). There is a 6-cell battery box with switch (batteries not supplied), charging socket and motor driver and board wiring already assembled. Additionally there are fixings for stepper motors (not included) so you can replace the DC Motors with stepper motors for greater accuracy.

Build instructions and example code can be found on the 4tronix website.

- Can be used for loads of projects
- Injection moulded from tough ABS
- Includes mountings for additional boards and sensors
- Wheel size ø55 x 28mm
- Chassis size 180 x 120 x 93mm
- Height of top plate with wheels attached 110mm

Note: Raspberry Pi/Arduino not included.
Note: Batteries not included.



Order code 75-0281

£32.00

Ultimate Initio 4WD Robot Platform for Raspberry Pi with RoboHAT

The Ultimate Initio is a 4WD robot platform that is ideal for use with Raspberry Pi single board computer. The platform is a doddle to assemble and easy to use and comes with the RoboHAT robotics board and an assembled 2DOF pan-tilt servo assembly, as well as a number of other sensors that make this platform extremely flexible and perfect for a wide range of projects.

The main chassis comes pre-built, with the wheels, motors, gearboxes, battery box, wheel sensors all in place. The powerful 170-size motor is coupled to a high-quality gearbox and there are built-in speed encoders on each side. Each wheel can be individually decoupled from the gearbox so you can run the robot in 1WD, 2WD or 3WD modes if you want.

Kit contents:

- Main Initio chassis (with wheels, motors, gearboxes, battery box, wheel sensors, screws and all mountings)
- RoboHAT Robotics Controller Board 75-0824
- Pan-Tilt 2DOF assembly with servos (ready assembled)
- 2x IR Obstacle sensors
- 2x IR Line sensors
- 1x Ultrasonic sensor
- All connecting cables as required for above items

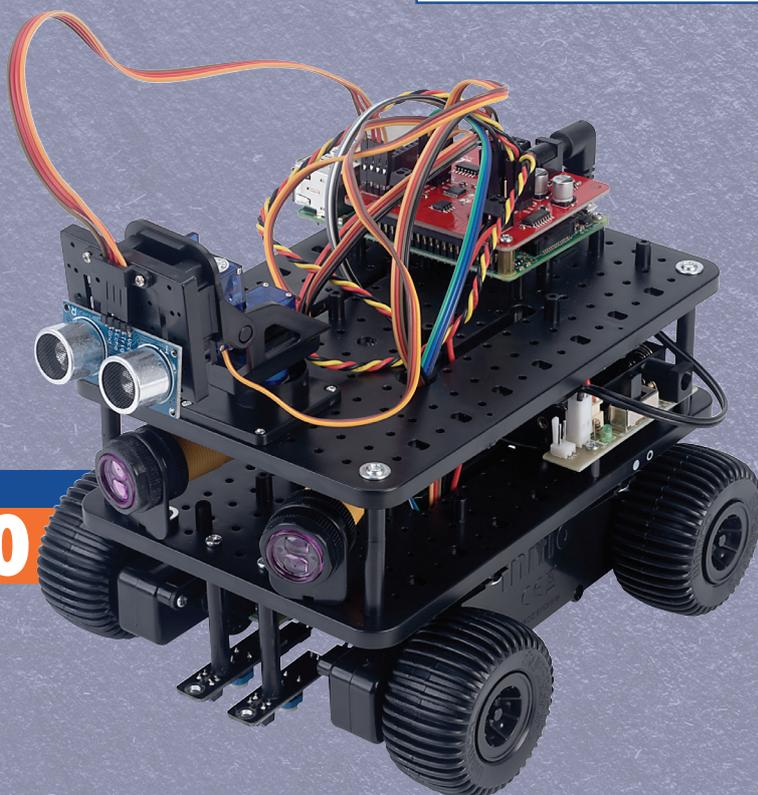
Build instructions and example code can be found on the 4tronix website.

- Ideal for line following projects
- 6-cell battery box with switch (batteries not supplied)
- No soldering or gluing required
- Wiring already assembled
- Fixings for replacement stepper motors (not included)
- Injection moulded from tough ABS
- Includes mountings for additional boards and sensors
- Wheel size ø55 x 28mm
- Chassis size 180 x 120 x 93mm
- Height of top plate with wheels attached 110mm

Note: Raspberry Pi not included. Note: Batteries not included.

Order code 75-0282

£95.00



Shake Hands With The Future



Meet Dobot Magician, the desktop robotic arm with incredible accuracy and repeatability.

Dobot can be controlled via a PC, remote control, gesture control or programmed to operate as a stand-alone unit.

Dobot Magician's control software is called DobotStudio. It has a wealth of integrated features which include Teaching and Playback mode (no coding required!), graphical programming via Blockly and text programming. Dobot can also be controlled via a Leap Motion gesture control unit, remote joystick and via Bluetooth or WiFi.

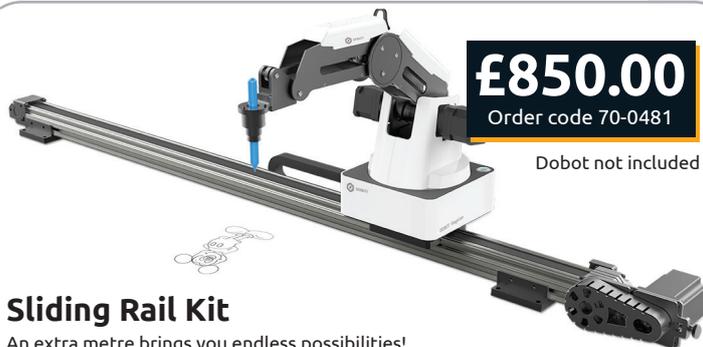
Because Dobot's movements are so accurate, it is an excellent way to learn about control, automation and how industrial robots work without the need for large machinery. Dobot comes at just a fraction of the size and cost of the industrial equivalent making it ideal for the classroom environment.

Dobot also offers a large amount of flexibility through its Extended Input and Output (EIO) ports which allow users to connect their own sensors, motors, servos or additional microcontrollers.

Our education package comes with absolutely everything you need to use Dobot:

- Dobot Magician robot arm
- Power supply
- 3 different end effectors:
 - Claw
 - Suction cup
 - Pen
- USB cable
- WiFi module
- Bluetooth module
- Joystick remote control
- Leap Motion gesture controller
- DobotStudio software

£995.00
Order code 70-0480



£850.00
Order code 70-0481

Dobot not included

Sliding Rail Kit

An extra metre brings you endless possibilities! As Dobot Magician's official accessory, the sliding rail kit expands its functional area to a whole new extent. With interchangeable tool heads and graphical programming environment, you'll design complicated workflows like a pro. From organizing objects, to writing a long letter, this simple accessory will make industry 4.0 approachable like never before. The rail is made from a single piece of steel using high precision CNC milling. And it runs like silk. The sliding rail is supplied with wire set, tool kit, attachments and assembly instructions.

Specifications

- Max. payload: 5kg
- Effective travel distance: 1000mm
- Maximum speed: 150mm/s
- Maximum acceleration: 150mm/s²
- Repeat positioning accuracy: 0.01mm
- Absolute positioning accuracy: 0.25mm
- Dimensions (L x W x H): 132 x 120 x 55mm
- Weight: 4.7kg

£325.00
Order code 70-0482

Dobot not included

Conveyor Kit

The simplest mini production line ever. The conveyor kit for the Dobot Magician gives you a complete production line simulation. The kit consists of a conveyor belt with adjustable speed, a distance sensor and a colour sensor. Combined with the powerful and programmable Dobot Magician, these are the ideal essentials for you to create a highly effective simulated production line, or even apply it to an actual factory scenario. The conveyor belt is supplied complete with 40 wooden cubes, a demonstration positioning board and user manual.

Conveyor belt

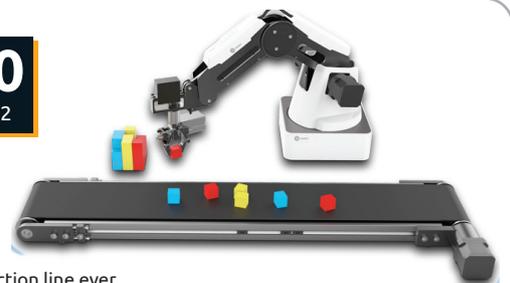
- Max. payload: 500g
- Effective delivering distance: 600mm
- Maximum speed: 120mm/s
- Maximum acceleration: 1100mm/s²
- Dimensions: 700 x 215 x 60mm
- Weight: 4.2kg

Distance measuring sensor unit

- Measurable range: 20 to 150mm
- Signal: analog output
- Input: 4.5 to 5.5V

Colour recognising sensor unit

- Input: 3 to 5V
- Detectable: non-glowing object
- White LED embedded, on/off controllable



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