

**ISSUE 44**

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**element14**

AN AVNET COMPANY

# Connect

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**With our dedicated team,  
tools and resources**

**14 Industrial Automation & Control**

**18 The future of V2V communication**

**25 Tools & Production Supplies**

**32 Multicomp Pro**

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# A MESSAGE FROM THE EDITORS

## Welcome to the 44th edition of Connect!

We're excited to empower your electronics journey with insights, innovations, and resources at element14.

In this edition, we will explore a wide range of components, equipment, and supplies to bring your projects to life with ease, knowing that our dedicated team is here to assist you, every step of the way.

We take immense pride in serving you, our valued customers. We encourage you to register with us to ensure you don't miss out on future editions by simply visiting [au.element14.com/connect-magazine#register-with-us](https://au.element14.com/connect-magazine#register-with-us) to register or subscribe to our marketing emails.

Your feedback is incredibly valuable to us. Share your thoughts, suggestions and ideas with us at [au-marketing@element14.com](mailto:au-marketing@element14.com).

Together, let's embrace the possibilities that electronics offer and continue to create with confidence.



**Brianna Neander | Tess Turner**  
Marketing Team  
Australia & New Zealand



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# Welcome to the latest Connect magazine, issue 44. In this edition, we offer products and insights to help you take your projects to the next level.

Join us as we dive into the world of vehicle-to-vehicle communication with Sub-GHz technology. Our featured article explores various applications of this technology that could be used to improve safety, efficiency, and connectivity on the road and how it could transform the future of transportation.

On the product pages, we showcase our broadening range in industrial automation and control, and feature our Multicomp Pro passives offering.

Make sure to also check out the local services available and reach out to our dedicated customer service and technical teams who are ready to provide you with the support you need.

With these products, services, and resources at your disposal, you'll have the confidence to stay ahead of the curve and unlock endless possibilities for your projects.

We hope you enjoy this issue of Connect.

Thank you for choosing us as your go-to source for your requirements.

**Luke Grigg**  
Regional Sales Director  
Australia & New Zealand

## LUKE'S PICKS

### GPE-4323 - BENCH POWER SUPPLY

- 4.3" LCD display
- Setting & read back resolution 100mV/10mA
- Output on/off



**GW INSTEK**

Order Code  
**293035602**

**5% OFF \$577.43**

### SD-081G - SCREWDRIVER SET

- 4 piece TRI-wing precision screwdriver set
- Made of AISI 8660 chrome-molybdenum vanadium steel with satin finish
- Smooth rotational cap for easy screw/unscrew quickly without lifting the bits



**Pro'sKit®**

Order Code  
**291699802**

**30% OFF \$9.72**

### MEFV22S - SINGLE BOARD COMPUTER

- micro:bit V2
- Two programmable tactile buttons for user functions
- New notched edge connector makes it easier to connect things like crocodile clips and conductive thread



**micro:bit**

Order Code  
**384734102**

**5% OFF \$24.15**

### K3750 - MAINS POWER CORD

- Current rating: 10A
- Jacket colour: black
- Voltage rating: 250VAC



**ACCESS**  
COMMUNICATIONS PTY LTD

Order Code  
**417892002**

**3% OFF \$6.54**

### 33RH17.5X28.5X10.7 - FERRITE CORE

- Impedance: 160ohm
- Product length: 28.5mm
- Provides attenuation of EMI on power and data cables, without affecting data transmitted through the cable




**multicomp<sup>PRO</sup>**

Order Code  
**964054102**

**45% OFF \$1.60**

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# ELECTROMECHANICAL

Electrify your operations with our comprehensive electromechanical portfolio of switches, relays, power supplies, transformers and many more.



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[au.element14.com/Connect44Electromechanical](https://au.element14.com/Connect44Electromechanical)

## NDR-120-24 - AC/DC DIN RAIL POWER SUPPLY



- 100% full load burn-in test
- Input voltage range: 90VAC to 264VAC
- Working temperature range from -20°C to 70°C

10% OFF

**\$61.20**

Order Code  
**281564802**

## 25HK-AB-050A400-D56-1 - AC/DC POWER SUPPLY



- Plug in adaptor power supply unit
- Operating temperature range from 0°C to 40°C
- Desktop 3 pin IEC C14 inlet

10% OFF

**\$19.48**

Order Code  
**272568802**

## 787-1012 - AC/DC DIN RAIL POWER SUPPLY



New



- 24VDC output voltage, 2.5A output current
- Overhead mounting is possible with derating
- 1 x AC 100 to 240V nominal input voltage

20% OFF

**\$185.44**

Order Code  
**417135602**

## VTX-214-010-312 - AC/DC PCB MOUNT POWER SUPPLY



- Output current: 833mA
- Input voltage VAC: 90V AC to 305V AC
- Output current: 833mA

10% OFF

**\$32.29**

Order Code  
**356540102**

## PS3V-050AF24C - AC/DC ENCLOSED POWER SUPPLY



- Input voltage range from 100 to 240VAC, output voltage of 24VDC
- Output power is 50W
- Output current is 2.3A

10% OFF

**\$52.32**

Order Code  
**414406902**

## 2903159 - AC/DC DIN RAIL POWER SUPPLY



- Number of outputs: 1
- Output voltage: 48VDC

20% OFF

**\$311.42**

Order Code  
**277814802**

## RACM30-05SK/277/PMP - AC/DC ENCLOSED POWER SUPPLY



- Overvoltage, overcurrent and short circuit protection
- Output current is 6,000mA, efficiency is 86%
- Maximum load capacitance is 1,000µF

10% OFF

**\$39.20**

Order Code  
**414766902**

## ALM150PS12 - AC/DC POWER SUPPLY



- Energy efficiency level VI and EU CoC tier 2 compliant
- Less than 0.15W standby power
- Operation temperature: 0°C to 60°C

5% OFF

**\$122.00**

Order Code  
**305070302**

## FB1W-HW4B-Y202-R - EMERGENCY STOP SWITCH



- Tamperproof construction
- Easy to assemble
- IP rating: IP65

10% OFF

**\$101.22**

Order Code  
**163048402**

## MINI-BAT/24DC/1.3AH - POWER SUPPLY ACCESSORY



- Maintenance free lead gel rechargeable
- VRLA technology
- For use with UPS + PSU modules

20% OFF

**\$251.38**

Order Code  
**206841602**

## RAC10E-12SK/277 - AC/DC PCB MOUNT POWER SUPPLY



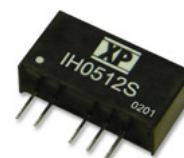
- Power supply applications: ITE and household
- Number of outputs: 1
- Output voltage: 12VDC

10% OFF

**\$13.37**

Order Code  
**392772002**

## IH0512S - ISOLATED THROUGH HOLE DC/DC CONVERTER



- 1kV DC isolation
- Input voltage is 5VDC
- Output voltage is ±12V

10% OFF

**\$11.45**

Order Code  
**872790202**



**PV USB-2 - PLUG IN DC/DC CONVERTER**

- Output voltage nominal: 5V
- Outputs: 1 output
- Apple and Android auto-detect

**10% OFF****\$26.35**Order Code  
**253062802****TRI 1-1211SM - ISOLATED SURFACE MOUNT DC****New**

- 3-year product warranty
- PD 2 pollution degree
- Protection against overvoltage and short circuit

**30% OFF****\$23.95**Order Code  
**417596402****FAZ-C10/1 - THERMAL MAGNETIC CIRCUIT BREAKER**

- Twin-purpose terminals
- Current rating: 10A
- Breaking capacity: 15kA

**20% OFF****\$39.08**Order Code  
**120543902****3-1423675-9 - THERMAL CIRCUIT BREAKER**

- Button extends for visual trip indication
- Push button to reset breaker
- 6.35mm straight quick connect tab termination

**30% OFF****\$5.33**Order Code  
**965919602****B5WC-VB2322-1 - COLOUR SENSOR**

- Sensing distance: 40mm
- Supply voltage: 4.75V to 5.25V
- Reflective sensing, miniature size, connector method

**5% OFF****\$172.47**Order Code  
**407783802****MYBSP0122BABFT - ISOLATED SURFACE MOUNT DC/DC CONVERTER**

- Isolated DC-DC converter for PoE PD
- Operating temperature range: -40°C to 85°C
- Input-output isolation: 2,250VDC

**10% OFF****\$29.48**Order Code  
**350174802****AF26-30-00-13 - CONTACTOR**

- Rated operational voltage of 690V for main circuit
- Rated frequency limits from 25Hz to 400Hz
- Rated operational current of 40A at 690V (AC-1), 26A at 380V/400V (AC-3)

**10% OFF****\$146.41**Order Code  
**184614402****HTC-15M - FUSEHOLDER**

- PCB mount
- Through hole termination
- Dimensions: 5mm x 20mm

**20% OFF****\$3.13**Order Code  
**255063202****T11-211-10 - THERMAL CIRCUIT BREAKER**

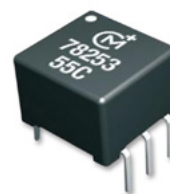
- Wide rated current range
- Immunity to inrush currents and line transients
- Ambient temperature range: -5°C to 60°C

**40% OFF****\$9.50**Order Code  
**165100102****G6RN-1A DC24 - GENERAL PURPOSE RELAY**

- Maximum switching capacity of 8A at 250VAC and 5A at 30VDC
- High sensitivity with 220mW power consumption
- SPST-NO, SPDT contact configurations

**45% OFF****\$4.16**Order Code  
**994998402**

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**78253/55VC - SMPS TRANSFORMER**

- 300°C for 10 seconds peak wave solder temperature
- Isolation voltage: 4kV
- Secondary voltages: 5V

**10% OFF****\$4.56**Order Code  
**136240702****S201-B10 - THERMAL MAGNETIC CIRCUIT BREAKER**

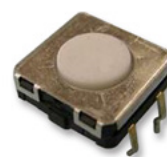
- Current rating: 10A
- Poles: 1 pole
- Voltage rating VAC: 277VAC

**20% OFF****\$35.70**Order Code  
**249275502****S506-4-R - FUSE CARTRIDGE**

- Low breaking capacity
- Rated voltage rating: 250VAC
- Time delay compatibility for inductive circuits

**45% OFF****\$0.218**Order Code  
**161515902****80.11.0.240.0000 - TIME DELAY RELAY**

- Width: 17.5mm
- Six time scales from 0.1s to 24h
- High input/output isolation

**30% OFF****\$57.51**Order Code  
**134423402****B3W-4000 - TACTILE SWITCH**

- Sealed structure for high reliability
- IP67 protection rating
- B32-series key tops mount to models with projected plungers

**30% OFF****\$0.938**Order Code  
**144815202**

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## 9AS3D12 - POWER RELAY

Life Is On | **Schneider Electric**

- Coil voltage: 12VDC
- Contact current: 30A
- Coil resistance: 155ohm

20% OFF

**\$13.32**Order Code  
**366569502**

## VB0.35/2/6 - PCB TRANSFORMER

**BLOCK**

- Designed for high ambient temperatures
- Minimum size at high output
- Inherently short-circuit proof

40% OFF

**\$13.19**Order Code  
**113160802**

## BAF147B002-00A0 - SENSOR

**Amphenol**  
Advanced Sensors

- Maximum supply voltage DC: 5V
- Easy to install
- RoHS compliance

**\$12.90**Order Code  
**378330702**

## HANI-C-2.0I-P-MA - CLAMP MOUNT TEMPERATURE SENSOR

**OMEGA**

- Mounts easier than a surface sensor
- 2.0" industrial plastic pipe
- Non-invasive and non-contact measurement

10% OFF

**\$930.24**Order Code  
**414500602**

## ZB4BZ101 - CONTACT BLOCK

Life Is On | **Schneider Electric**

- SPST-NO contact configuration
- Silver alloy contact material
- Screw clamp terminals

5% OFF

**\$11.68**Order Code  
**305297702**

## SM91534AL-E - PCB TRANSFORMER

**BOURNS**

New



- Transformer mounting: surface mount
- Isolation voltage: 6.4kV
- Winding type: single primary, single secondary

20% OFF

**\$7.88**Order Code  
**417738702**

## ZTP-148SR - THERMOPILE IR SENSOR

**Amphenol**  
Advanced Sensors

- Response time: 32ms
- Operating temperature: -20°C to 100°C
- Field of view: 85°

10% OFF

**\$2.18**Order Code  
**414139302**

## PRTXI-G1/2-1/4-4-IO - PROBE

**OMEGA**

New



- Operating voltage: 15 to 30VDC
- Designed for industrial applications
- IO-Link communication output

5% OFF

**\$351.18**Order Code  
**416850402**

## VOR1142B4 - MOSFET RELAY

**VISHAY**  
The DNA of tech

- Isolation test voltage 5300VRMS
- Typical RON 22ohm
- Load voltage 400V

20% OFF

**\$2.13**Order Code  
**288967202**

## BN-LG10Y250MYB - NTC THERMISTOR

**BOURNS**

New



- Zero power resistance at 25°C: 25ohm
- Disc size: 10mm
- Approvals: cURus, UL

10% OFF

**\$0.556**Order Code  
**420527002**

## PM2LH10 - PHOTOELECTRIC SENSOR

**Panasonic** INDUSTRY

- Stable detection by convergent reflective mode
- Dark object detectable
- Hardly affected by background

5% OFF

**\$65.92**Order Code  
**235795602**

## ZMX-3DE2500HF-Q7 - FILL LEVEL SENSOR

**BANNER**

New



- Container fill monitoring made easy
- Detect peak height or volume over a large sensing area
- One unit offers more reliability than multiple single-point sensors

6% OFF

**\$2,722.35**Order Code  
**417241702****element14**  
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Your trusted partner in electronics

SFC6000D-50SLM - MASS  
AIR FLOW SENSOR

SENSIRION



- 50 - 0.1slm flow range
- NIST traceable calibration
- Small form factor and low weight

5% OFF

\$660.24

Order Code  
414535402PTS820J25MSMTR LFS -  
TACTILE SWITCH

C&amp;K Littelfuse



- Illumination: non illuminated
- Maximum voltage: 12VDC
- Maximum current DC: 50mA

30% OFF

\$0.503

Order Code  
302321902

## CHS-01TA - DIP / SIP SWITCH

Nidec NIDEC COMPONENTS



- Switch actuator style: slide
- Contact configuration: SPST
- Reliable dip slide half-pitch

30% OFF

\$1.20

Order Code  
28547250245-2234.11H0.000 - SWITCH  
ACTUATOR

eao

New



- For use with: EAO 45 series illuminated pushbutton switches
- Product range: 45 series
- IP / NEMA rating: IP66, IP67, IP69K

10% OFF

\$26.42

Order Code  
417226902

## G4A01184C - FUSE

THERMIDISC



- One-shot operation cuts off electrical power
- Low resistance
- Current interrupt capacity up to 25A at 250VAC

30% OFF

\$1.12

Order Code  
47661402SFM6000D-50SLM - MASS  
AIR FLOW SENSOR

SENSIRION



- Disruptive concept combining plastic body and highly integrated electronics
- Exchangeable 6mm push-in and down mount connectors
- 50 - 0.1slm flow range

5% OFF

\$449.34

Order Code  
414535802TL3330AF130QG - TACTILE  
SWITCH

E-SWITCH



- SPST, 50mA, 12VDC
- Multiple grain force options
- Small profile works with many electronic applications

30% OFF

\$0.539

Order Code  
252227602RSF34W100RF - FLOAT  
SWITCH

Sensata



- High power side entry, internally fitted float switch
- Switch action may be reversed by rotating the device through 180°
- Output current: 30A

20% OFF

\$39.74

Order Code  
247998502

## 0679H9150-01 - FUSE

bel POWER SOLUTIONS &amp; PROTECTION



- Fuse current: 15A
- Breaking capacity current DC: 100A
- Voltage rating VDC: 72VDC

20% OFF

\$0.293

Order Code  
284856002

## MCASP-L-E 5A - FUSE

multicomp PRO



- Fuse current: 5A
- Voltage rating VDC: 32V
- Auto blade fuse size: 10.9mm x 3.8mm x 8.8mm

40% OFF

\$0.72

Order Code  
156916302

## 5637A - TOGGLE SWITCH

APEM



- 10mR initial contact resistance
- 1.25Nm maximum torque (applied to nut)
- Contact voltage DC nom: 30V

45% OFF

\$6.33

Order Code  
108230202

## EG1218 - SLIDE SWITCH

E-SWITCH



- 100MR minimum insulation resistance
- 10,000 cycles minimum life
- Universal fitting, compatible with T0820 and all reciprocating saws

30% OFF

\$0.749

Order Code  
278723202

## CSM40510F, - MICROSWITCH

CAMDENBOSS



- Maximum operating force: 0.25N
- Switch terminals: through hole
- Maximum contact current: 5A

40% OFF

\$1.21

Order Code  
379808602

## 0299030.TXN - FUSE

Littelfuse



- Fuse current: 30A
- Auto blade fuse size: 29.2mm x 8.9mm x 21.6mm
- Product range: MAXI 299 series

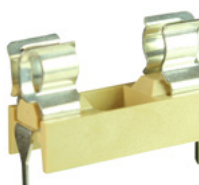
10% OFF

\$3.38

Order Code  
276203902

## MC000827 - FUSE CARRIER

multicomp PRO



- 22.6mm pitch PCB fuse holder
- Fuse current: 6.3A
- PCB hole size: 1.3mm

30% OFF

\$0.437

Order Code  
246115802



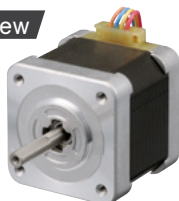
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THERMOCOUPLE

- Thermocouple type K to IEC 60584
- Tip temperature range from -75°C to 250°C
- Colour coded miniature plug

10% OFF

**\$12.99**Order Code  
**410074802**103H5208-5210 - STEPPER  
MOTOR

New



- Stepper motor type: dual shaft
- Motor size: 42mm
- Current rating: 1A

20% OFF

**\$57.61**Order Code  
**417244202**

## A.85.A.101111 - RF ANTENNA



New



- Gain: 4.5dBi
- Antenna mounting: SMA connector
- Maximum frequency: 1.605GHz

5% OFF

**\$140.82**Order Code  
**417276402**

## SW25-4 - HEAT SINK



- Solderable tabs 2.6mmØ on 25.4mm fixing centres
- Thermal resistance: 13°C/W
- Heat sink material: aluminium

10% OFF

**\$0.981**Order Code  
**121343602**

## DMB-4773 - DIN RAIL



- Removable terminal guards have snap-off tabs to match number of terminals used
- Snap-fit front cover is easily removable for machining or silk-screening
- UL94V-0 flammability rating applications

10% OFF

**\$12.86**Order Code  
**276245502**B84144A0036R000 - POWER  
LINE FILTER

New



- Number of phases: 3 phases
- Filter input terminals: terminal block
- Current rating: 36A

5% OFF

**\$608.83**Order Code  
**420025202**YL50/D50/R/RF/WR -  
BEACON

- Red flame enclosure
- Lens made from flame-retardant polycarbonate plastic
- Flame-retardant ABS plastic enclosure

30% OFF

**\$285.23**Order Code  
**240166202**

## G45.A.201111 - ANTENNA



- Antenna type: dome
- Frequency: 4.4GHz to 5GHz
- Gain: -6.2dB

5% OFF

**\$62.13**Order Code  
**393143102**

## 1590CFL - METAL ENCLOSURE



- Improved EMI/RFI shielding
- Low side wall draft angle (2 degrees or less) for easy P.C. board mounting
- Includes screws threaded into factory tapped holes

5% OFF

**\$17.59**Order Code  
**306192902**DC1604 P1 DU -  
RECHARGEABLE BATTERY

- Battery size code: 9V
- Battery voltage: 8.4V
- Battery IEC code: 6HR61

30% OFF

**\$28.78**Order Code  
**415518402**

## 12RDT4 - ANALOGUE TIMER



- Maximum supply voltage: 240VAC
- Wide time range: 0.3s to 30h
- Integrated dual voltage

30% OFF

**\$36.83**Order Code  
**281151802**

## 514F - DC AXIAL FAN

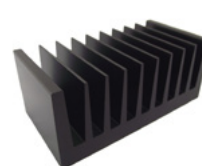


- IP20 protection rating
- Long service life
- Robust mechanical design

30% OFF

**\$22.32**Order Code  
**960020502**

## SK 92/50 SA - HEAT SINK



- 10mm plate thickness
- 100 x 40 x 50mm extruded heat sink
- Made of aluminium with black anodized surface

40% OFF

**\$13.75**Order Code  
**462156602**CAB PC 403018 G3B -  
PLASTIC ENCLOSURE

- Enclosure material: polycarbonate
- IP rating: IK08, IP65
- Product range: CAB SeriesV

20% OFF

**\$277.66**Order Code  
**393108202**

## 1001-0018-UK - CHARGER



- The powerline 5 PRO charger is a versatile desktop charging station
- Four charging programs: charge, discharge, refresh and capacity test (in mAh)
- Accommodates 1x PP3 and up to 4x AA/AAA/C/D batteries with NiCd or NiMH chemistry

20% OFF

**\$94.85**Order Code  
**405855402**



# INTERCONNECT

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[au.element14.com/Connect44Interconnect](https://au.element14.com/Connect44Interconnect)

## 776180-1 - AUTOMOTIVE CONNECTOR



- Right angle header
- 35 contacts
- PCB pin

5% OFF

**\$26.50**

Order Code  
**339387002**

## T4151120005-005 - SENSOR CORD



- M12 plug to free end
- Number of positions: 5
- Length: 5m

10% OFF

**\$29.69**

Order Code  
**367959402**

## 09370241301 - HEAVY DUTY CONNECTOR



- Type: bulkhead mounted housing
- Limiting temperature: -40°C to 125°C
- Locking type: double locking lever

3% OFF

**\$152.05**

Order Code  
**280064102**

## 09 45 600 0142 - MULTICORE CABLE



- Wire gauge: 22AWG
- Loop resistance: ≤120R/km
- Signal run time: ≤5.3ns/m

5% OFF

**\$204.15**

Order Code  
**116164602**

## 2345388-1 - AUTOMOTIVE HOUSING



- Gender: receptacle
- Number of positions: 2
- Voltage rating: 50V

30% OFF

**\$1.53**

Order Code  
**417124802**

## MXR-8P-8P(31) - CIRCULAR CONNECTOR



- Shell style: cable mount plug
- Number of contacts: 8
- Contact type: solder pin

20% OFF

**\$26.23**

Order Code  
**298602902**

## 09 20 003 0745 - RECTANGULAR POWER CONNECTOR



- Mounting: cable mount
- Number of contacts: 3
- Gender: socket

30% OFF

**\$46.44**

Order Code  
**413166602**

## UT06128PH - CIRCULAR CONNECTOR



- 5,000MR minimum resistance
- Enabling 500 mating-unmating without wear out
- Zinc alloy body and 12-8 insert arrangement

20% OFF

**\$35.95**

Order Code  
**100720602**

## 1-5050871-9 - IC & COMPONENT SOCKET



- Connector type: PCB socket
- Number of contacts: 1
- Contact material: beryllium copper

20% OFF

**\$1.28**

Order Code  
**339807102**

## HR10A-10P-12S(73) - CIRCULAR CONNECTOR



- Current rating of 2A
- Operating temperature range -25°C to 85°C
- Connector pin is located to avoid any damage which may be caused when blind mating

20% OFF

**\$24.53**

Order Code  
**182697602**

## 09195207824 - PCB RECEPTACLE



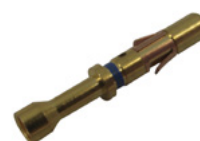
- Connector systems: board-to-board
- Pitch pacing: 2.54mm
- Mounting: through hole mount

30% OFF

**\$4.98**

Order Code  
**414195602**

## RC20M12K - CIRCULAR CONNECTOR CONTACT



- Wire size range from 22AWG to 20AWG
- Maximum wire diameter of 1.18mm
- High conductive copper alloy with gold over nickel plate finish

30% OFF

**\$1.36**

Order Code  
**365206302**

EXPLORE MORE: [au.element14.com/connect-magazine](https://au.element14.com/connect-magazine)**MCEGG00BC303KS - CIRCULAR CONNECTOR****multicomp<sup>PRO</sup>**

- Shell style: panel mount receptacle
- Number of contacts: 3
- Coupling style: push-pull

**30% OFF****\$17.51**Order Code  
**405763202****2182Y-0.5MMBLK - MULTICORE CABLE****multicomp<sup>PRO</sup>**

- Rated current: 3A
- Voltage rating: 300V
- Conductor area CSA: 0.5mm<sup>2</sup>

**40% OFF****\$0.936**Order Code  
**138766702****AHDP06-24-16PR-SRA - CIRCULAR CONNECTOR****INDUSTRIAL AMPHENOL**  
Amphenol Australasia Pty Ltd  
Amphenol Fine Systems, USA  
Amphenol Industrial Systems, Canada

- Size 24 plug, 16 positions, reduced diameter seal (blue)
- 3 key-way bayonet design ensures proper mating of connector
- High density signal and mixed power insert configurations

**20% OFF****\$18.36**Order Code  
**366581602****135103-01-24.00 - COAXIAL CABLE ASSEMBLY****Amphenol<sup>®</sup> RF**

- SMA plug to 90° SMA plug
- Cable type: RG316
- Length: 610mm

**20% OFF****\$27.13**Order Code  
**177678602****PX0834/B - MODULAR CONNECTOR****bulgin**

- Patch cords conform to Cat 5e standard
- Shielded RJ45 connectors to maintain screening
- Flex re-wireable and chassis body styles

**30% OFF****\$36.34**Order Code  
**966773302****MP010874 - SENSOR CABLE****multicomp<sup>PRO</sup>**

- M8 receptacle to free end
- Number of positions: 3
- Length: 2m

**30% OFF****\$8.67**Order Code  
**407644002****CA 3 GD - CIRCULAR CONNECTOR****HIRSCHMANN**  
A BULGIN COMPANY

- Operating current of 10A DC / 16A AC
- Maximum conductor cross section of 1.5mm<sup>2</sup>
- Operating voltage of 250VDC/400VAC

**30% OFF****\$8.26**Order Code  
**49468902****AT60-12-0144 - CIRCULAR CONTACT****INDUSTRIAL AMPHENOL**  
Amphenol Australasia Pty Ltd  
Amphenol Fine Systems, USA  
Amphenol Industrial Systems, Canada

- Wire size: 12AWG to 14AWG
- Gender: pin
- Termination type: crimp

**30% OFF****\$0.763**Order Code  
**349430302****1614 21 - DC POWER CONNECTOR****Lumberg**  
passion for connections

- Straight version power supply chassis socket for front side mounting
- 10A current rating
- 24VDC voltage rating

**40% OFF****\$8.72**Order Code  
**252361702****SA3350 - CIRCULAR CONNECTOR CONTACT****bulgin**

- Current rating: 8A
- 20AWG to 24AWG cable acceptance
- Crimp pin contact

**30% OFF****\$15.86**Order Code  
**384132702****MP010340 - CABLE GLAND KIT****multicomp<sup>PRO</sup>**

- Waterproof, dustproof and breathable cable gland with strain relief
- Cable range from 3 to 7mm
- Recommended opening size is Ø16.2mm (through hole)

**50% OFF****\$5.88**Order Code  
**405790502****GDSN 207 - RECTANGULAR POWER CONNECTOR****HIRSCHMANN**  
A BULGIN COMPANY

- Mounting: cable mount
- Termination type: screw
- Contact plating: tin plated contacts

**5% OFF****\$1.69**Order Code  
**290163802****10146997-12200LF - PIN HEADER****Amphenol**  
COMMUNICATIONS SOLUTIONS

- Connector systems: wire-to-board
- Pitch spacing: 5.7mm
- Termination type: through hole right angle

**20% OFF****\$4.80**Order Code  
**349741202****1501 05 - PHONE AUDIO CONNECTOR****Lumberg**  
passion for connections

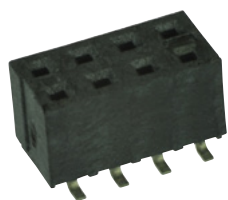
- Insertion force: 5N to 20N
- Withdrawal force: 4N to 20N
- Mating cycles: ≥5,000

**30% OFF****\$2.09**Order Code  
**121697802****PX0840/B/2M00 - USB CABLE****bulgin**

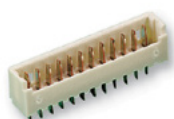
- Screw coupling, secure and proven locking system
- Type A plug to type B plug
- Plug-and-play capability

**30% OFF****\$26.07**Order Code  
**999739302**



**79109-1003 - BOARD-TO-BOARD CONNECTOR****molex**

- Number of rows: 2
- Pitch: 2mm
- Current: 10A

**10% OFF****\$3.12**Order Code  
**213640102****53047-1010 - PIN HEADER****molex**

- Friction lock
- Reliable terminal
- Polarised mating geometry

**20% OFF****\$0.713**Order Code  
**973308602****NBB75DFIB - RF / COAXIAL CONNECTOR****NEUTRIK**

- True 75ohm design meets the stringent HD requirements
- Greater than 1,000 mating cycles
- Front mounting

**20% OFF****\$15.41**Order Code  
**470957302****15-04-0292 - CONNECTOR ACCESSORY****molex****New**

- Accessory type: polarizing key
- For use with 2.54mm pitch C-Grid and SL connectors

**20% OFF****\$7.08**Order Code  
**420353902****CX3F001-4P - XLR FEMALE CONNECTOR****Stellar Labs**

- Number of contacts: 4
- Contact resistance:  $\leq 5m\Omega$
- Insulation resistance:  $> 1G\Omega$

**30% OFF****\$2.56**Order Code  
**280130702****NC5MAV-SW - XLR CONNECTOR****NEUTRIK**

- New designed fork type contacts with hard gold plating and polished contact areas
- Contact resistance is less than or equal to 6mohm
- Rated voltage is less than 50V

**30% OFF****\$13.72**Order Code  
**131009802****172063-1312 - CONTACT****molex**

- Gender: socket
- Maximum wire size AWG: 12AWG
- Termination type: crimp

**3% OFF****\$1.13**Order Code  
**304991602****HK-USB3.0AC01-1 - USB CABLE****Stellar Labs**

- Type A plug to type C plug
- Length: 914.4 mm

**30% OFF****\$5.96**Order Code  
**280144702****NTP3RC - PHONE AUDIO CONNECTOR****NEUTRIK**

- 3 pole right angled 3.5mm audio male plug
- Nickel housing and nickel contacts
- Slim design and space saving

**30% OFF****\$7.34**Order Code  
**500840202****element14**

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EXPLORE MORE: [au.element14.com/connect-magazine](https://au.element14.com/connect-magazine)**8309-8010 - D SUB CONNECTOR****4828-3004-CP - IC & COMPONENT SOCKET****304-40054-05 - DIN CONNECTOR****New**

- Connector type: standard
- Shell size: DE
- Mounting: panel mount

**30% OFF****\$6.34**Order Code  
**418016302****40% OFF****\$0.78**Order Code  
**267230602****40% OFF****\$3.86**Order Code  
**420439202****PTFIX 6/12X2,5 BK - PANEL MOUNT BARRIER TERMINAL BLOCK****PV-C4F-S 2,5-6 (+) - PHOTOVOLTAIC / SOLAR CONNECTOR****FMC 1,5/ 2-ST-3,81 - PLUGGABLE TERMINAL BLOCK**

- Number of connections: 13
- Nominal cross section: 2.5mm<sup>2</sup>
- Rated surge voltage: 6kV



- Connector type: female cable coupler
- Mounting: cable mount
- Current rating: 35A



- Rated voltage: 160V
- Maximum load current: 8A
- Polyamide (PA) insulating material

**15% OFF****\$7.51**Order Code  
**285027202****40% OFF****\$7.65**Order Code  
**367792302****20% OFF****\$3.15**Order Code  
**249372102****11 N-50-3-28/133NE - RF / COAXIAL CONNECTOR****CLB-JL73 - CONNECTOR ADAPTER****MKVG20 - CONNECTOR BACKSHELL**

- Contact material: beryllium copper
- Contact plating: gold plated contacts
- Connector mounting: cable mount



- BNC male to 2-pin terminal block connection
- Solder free adaptor
- Nickel-plated contacts



- Connector backshell hood with a single lever
- Suitable for MK series ILME multipole connector inserts

**20% OFF****\$23.79**Order Code  
**416323002****20% OFF****\$0.92**Order Code  
**238187702****30% OFF****\$2.91**Order Code  
**232059102****264-351 - DIN RAIL MOUNT TERMINAL BLOCK****029436 AKZ4 - DIN RAIL MOUNT TERMINAL BLOCK****1527540000 - CROSS CONNECTOR**

- Front entry wiring and horizontal design
- Rated voltage: 800V
- Rated current: 24A



- Suitable for wire size ranging from 26AWG to 12AWG
- Conductor area CSA: 4mm<sup>2</sup>
- Number of positions: 2



- 2 pole cross connector
- Rated current: 24A
- For use with Weidmüller feed-through terminal blocks

**30% OFF****\$1.72**Order Code  
**266713502****40% OFF****\$1.82**Order Code  
**113172602****20% OFF****\$0.438**Order Code  
**267451702****CTB922HD/2 - PLUGGABLE TERMINAL BLOCK****425-00-00-872 - RECTANGULAR POWER CONTACT****516-290-500 - RECTANGULAR POWER CONTACT**

- Rated voltage of 200V and rated current of 10A
- Working temperature range from -33°C to 120°C
- Polyamide (PA66) moulded material in green colour housing



- Female terminal made of high performance copper based alloy and tin finish
- 20GXL, 18TXL wire size
- Compatible with Cinch hand crimp tool, applicator, punch/ anvil kit



- 10mR maximum contact resistance
- Suitable for pre-wired or select position assembly
- Gold-plated phosphor bronze alloy contacts

**40% OFF****\$0.684**Order Code  
**249364602****40% OFF****\$0.354**Order Code  
**275165202****5% OFF****\$32.88**Order Code  
**14515602**

**LOM-51T-250 - QUICK  
DISCONNECT TERMINAL**

- Male quick disconnect terminal
- Accepts 20AWG to 14AWG wires
- Uninsulated

**20% OFF****\$0.062**Order Code  
**362545002****3021077-10 - USB CABLE**

- Type A plug to micro type B plug up-angled
- Length: 10ft

**40% OFF****\$6.56**Order Code  
**321960002****LCCA30014-FT2 - RF CABLE**

- SMA male to TNC male
- Maximum frequency: 18GHz
- Shielding effectivity: >95dB

**10% OFF****\$450.63**Order Code  
**347364602****R2651DTSY10SC85 - RIBBON  
CABLE**

- Wire gauge: 28AWG
- Conductor diameter: 0.381mm
- Tinned copper conductor

**45% OFF****\$0.869**Order Code  
**262836202****TFT20022 NA001 - SLEEVING****New**

- Sleeving material: PTFE (Polytetrafluoroethylene)
- Length: 305m
- Internal diameter: 0.813mm

**20% OFF****\$887.08**Order Code  
**420905502****02R-JWPF-VSLE-S -  
CONNECTOR HOUSING**

- Housing material is Polybutylene terephthalate (PBT)
- Suitable for wire to wire connector system
- Operating temperature range: -25°C to 85°C

**40% OFF****\$0.684**Order Code  
**384980602****703W-00/04 - POWER  
ENTRY**

- Current rating: 15A
- Voltage rating: 250VAC

**30% OFF****\$1.23**Order Code  
**271749902****TRD695SCR-BL-5 -  
ETHERNET CABLE****New**

- LAN category: Cat6
- Connector type: RJ45 plug to RJ45 plug
- Length: 1.52m

**20% OFF****\$33.04**Order Code  
**420432902****SPC00444A002 100M - WIRE**

- Wire gauge: 22AWG
- Silver plated solid and stranded copper conductors
- Voltage rating of 300Vrms

**30% OFF****\$144.26**Order Code  
**118403702****FIT2213/8 CL004 - HEAT  
SHRINK TUBING****New**

- Shrink ratio: 2:1
- Length: 61m
- Colour: transparent

**20% OFF****\$155.47**Order Code  
**420906802****Your trusted partner in electronics****B2B-EH-A(LF)(SN) - PIN  
HEADER**

- Current rating: 3.0AAC/DC
- Voltage: 250VAC/DC
- Insulation resistance: 1,000MR

**45% OFF****\$0.091**Order Code  
**239915902****2171H - MAINS POWER CORD**

- IEC 320 C14 to IEC 320 C13
- Current rating: 10A
- Length: 1m

**20% OFF****\$5.15**Order Code  
**257601702****PELO1055 - MULTICORE  
CABLE**

- Rating: 6A
- Plain annealed copper conductors
- Voltage classification: 300V

**10% OFF****\$69.13**Order Code  
**321408502****61.7605-21 - WIRE**

- Wire gauge: 20AWG
- Test voltage: 8,000VAC
- Rated current: 12A

**40% OFF****\$23.69**Order Code  
**432685402****6711 DB001 - WIRE****New**

- Wire gauge: 26AWG
- Conductor area CSA: 0.14mm<sup>2</sup>
- Conductor material: tinned copper

**20% OFF****\$145.66**Order Code  
**420914602**





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## CT5-Q31 - SIGNAL TOWER



- Supply voltage VDC: 24V
- Maximum operating temperature: 60°C
- Tones: 8 tone

30% OFF

**\$294.14**

Order Code  
**416323402**

## AP/W/SWITCHED/VC - SOUNDER



- 32 tones
- Second tone for two stage alarm
- Automatic synchronisation

10% OFF

**\$31.56**

Order Code  
**146651602**

## MY7001 - STEPPER MOTOR



- High torque in compact size
- Unipolar and bipolar operation
- Light weight

10% OFF

**\$37.13**

Order Code  
**842591402**

## 82344778 - GEARED MOTOR



- Single direction synchronous geared motor
- Direction of rotation controlled by long-life mechanical anti-return (>10' starts)
- Permanent magnet rotor

20% OFF

**\$136.17**

Order Code  
**309425002**

## 850514004 - BEACON



- Supply voltage VDC: 12V
- Product range: RDM series
- IP / NEMA rating: IP66

20% OFF

**\$248.30**

Order Code  
**416289602**

## FL60/C/D50/A/EU - VISUAL SIGNAL INDICATOR



- FL60 series explosion proof visual signal indicator
- 5Joule flash energy
- Rated operational voltage: 24VDC

**\$2,103.58**

Order Code  
**240167102**

## SW-505 - SWITCH



- Redundant power input for backup power
- Each Ethernet port is galvanically isolated
- Broadcast storm protection

5% OFF

**\$127.83**

Order Code  
**272386302**

## PX309-200A10V - PRESSURE SENSOR



- Voltage rating: 30VDC
- Maximum operating pressure: 200psi
- Supply current: 10mA

5% OFF

**\$534.95**

Order Code  
**414569202**

## 874170313 - SOUNDER



- IP / NEMA rating: IP66
- External depth: 94mm
- Resonant frequency: 2.9kHz

20% OFF

**\$225.18**

Order Code  
**416301802**

## 553-0112F - CIRCUIT BOARD INDICATOR



- Right angle viewing
- Cathode right polarity
- High efficiency LED

10% OFF

**\$1.70**

Order Code  
**146159102**

## SW-005 - SWITCH



- Auto MDI/MDI-X crossover support on all ports
- Magnetic isolation between LAN ports
- Simply plug and connect, no software needed

5% OFF

**\$74.36**

Order Code  
**238321302**

## SMPW-T-M - THERMOCOUPLE CONNECTOR



- Type T male connector with window
- Mini size flat 2 pin TC connectors
- Captive cover screws

10% OFF

**\$5.19**

Order Code  
**380563202**

**MSB4-1/4:C3:J1:F12-WP -  
AIR PREPARATION UNIT****FESTO**

- MSB4 service unit combination
- Actuator lock: rotary knob with detent can be closed with accessories
- Manually rotating condensate drain

**20% OFF****\$475.46**Order Code  
**343926802****153306 - PNEUMATIC FITTING****FESTO**

- QSM, mini series push-in fitting
- Miniature push-in fittings for maximum component density in confined spaces
- Male thread with external hex

**20% OFF****\$4.56**Order Code  
**343212802****MTL5546. - ISOLATING  
DRIVER****New**

- Signal conditioner: current
- Number of output channels: 1
- Working range: 4mA to 20mA

**10% OFF****\$940.70**Order Code  
**420861002****TCSMCNAM3M002P -  
CONNECTION CABLE**Life Is On | **Schneider Electric**

- USB to RJ45 programming cordset
- Plug-in mount
- Length: 2.5m

**20% OFF****\$120.66**Order Code  
**278731602****APM-PWR-APO. - POWER  
METER**

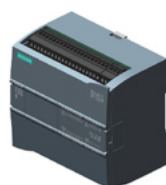
- Maximum supply voltage: 277 VAC
- Panel cutout height: 68mm
- Panel cutout width: 68mm

**30% OFF****\$391.64**Order Code  
**415328302****PUN-H-12X2-BL -  
PNEUMATIC TUBING****FESTO**

- PUN-H series hydrolysis-resistant plastic tubing
- Temperature dependent operating pressure -0.95 to +10bar
- Compressed air to ISO 8573-1:2010 operating medium

**20% OFF****\$231.03**Order Code  
**343250002****72.01.8.240.0000 - LIQUID  
LEVEL CONTROL RELAY**

- Adjustable sensitivity range from 5Kohm to 150Kohm
- 1 CO (SPDT) contact configuration
- Switch selectable delay time of 0.5s or 7s

**30% OFF****\$82.71**Order Code  
**134423102****6ES7214-1AG40-0XB0 - CPU****SIEMENS**

- 500mA current consumption
- 14 integrated digital inputs
- Number of analogue inputs: 2

**20% OFF****\$897.34**Order Code  
**248460702****HMIGTO4310 - TOUCH  
SCREEN**Life Is On | **Schneider Electric**

- PPT front and enclosure
- Natural convection cooling
- Green premium product

**5% OFF****\$4,215.83**Order Code  
**283542402****APM-MAX-M23-NU-4R -  
PANEL METER**

- Panel cutout height: 68mm
- Maximum operating temperature: 60°C
- Maximum supply voltage: 240VAC

**20% OFF****\$420.84**Order Code  
**415329902****Your trusted partner in electronics****KK-6 - MULTI-TUBE HOLDER****FESTO**

- KK series multi-tube holder
- For securing tubing
- Product weight: 17gms

**5% OFF****\$8.25**Order Code  
**343946502****67DDT0 - DIN RAIL DIGITAL  
TIMER**

- Precise time programming for daily/weekly/pulse switching
- 25 ON/OFF programs
- LED indication of relay status

**30% OFF****\$69.98**Order Code  
**281152102****ATV320U55N4B - VARIABLE  
SPEED DRIVER**Life Is On | **Schneider Electric**

- Control / drive type: variable speed drive
- Maximum output current: 14.3A
- Maximum supply voltage: 500VAC

**5% OFF****\$2,145.10**Order Code  
**283522902****LC2K0910B7 - CONTACTOR**Life Is On | **Schneider Electric**

- Mechanical interlocking
- >10MR insulation resistance for signalling circuit
- 5M cycles mechanical durability

**5% OFF****\$140.47**Order Code  
**283531802****APM-CT-APO. - CT METER**

- Dynamic backlight cover
- 40 segment bar graph display
- Large 4 digit display

**30% OFF****\$165.09**Order Code  
**415326902**

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## LT1122CCN8#PBF - OPERATIONAL AMPLIFIER



New



- Bandwidth: 14MHz
- Slew rate: 75V/μs
- Supply voltage range: ± 20V

30% OFF

**\$11.16**

Order Code  
**420809802**

## R7FA6T3BB3CFM#AA0 - ARM MCU



New



- ADC channels: 12
- Number of I/O's: 45
- Program memory size: 256KB

30% OFF

**\$5.92**

Order Code  
**417647302**

## IS43QR16512A-083TBLI - DRAM



New



- DRAM type: DDR4
- Maximum clock frequency: 1.2 GHz
- Mounting: surface mount

10% OFF

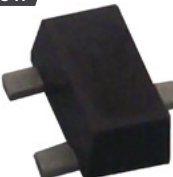
**\$31.62**

Order Code  
**417669202**

## RB706WM-40TL - SMALL SIGNAL SCHOTTKY DIODE



New



- Maximum operating temperature: 125°C
- Number of pins: 3
- Forward surge current: 200mA

45% OFF

**\$0.156**

Order Code  
**418026602**

## IL716E - DIGITAL ISOLATOR



- Number of channels: 4
- Maximum supply voltage: 5.5V
- Propagation delay: 12ns

30% OFF

**\$10.32**

Order Code  
**213214702**

## MPM3808GLE-AEC1-P - DC-DC SYNCHRONOUS BUCK REGULATOR



New



- Input voltage: 2.5V to 5.5V
- Output voltage: 600mV to 5V
- Output current: 3A

30% OFF

**\$4.67**

Order Code  
**420509902**

## PESD6V3S1ULYL - ESD PROTECTION DEVICE



New



- Number of pins: 2
- Maximum clamping voltage Vc: 13.4V
- Diode case style: SOD-882

45% OFF

**\$0.14**

Order Code  
**417713202**

## SS545L - SCHOTTKY RECTIFIER



- Forward surge current: 120A
- Maximum operating temperature: 150°C
- Diode mounting: SMD

50% OFF

**\$0.635**

Order Code  
**413216302**

## IPF015N10N5ATMA1 - POWER MOSFET



New



- Maximum operating temperature: 175°C
- Power dissipation: 375W
- Transistor mounting: surface mount

30% OFF

**\$9.67**

Order Code  
**417614302**

## LIS2DW12TR - MEMS ACCELEROMETER



- Independent IO supply
- Very low noise, down to 1.3mg RMS in lowpower mode
- Supply voltage: 1.62V to 3.6V

30% OFF

**\$3.04**

Order Code  
**284961502**

## UF4007 - FAST / ULTRAFAST DIODE



- Average forward current: 1A
- Diode configuration: single
- Repetitive peak reverse voltage: 1kV

45% OFF

**\$0.284**

Order Code  
**146750302**

## SMAJ26A - TVS DIODE



- Reverse standoff voltage: 26V
- Maximum operating temperature: 150°C
- Maximum clamping voltage: 42.1V

**\$0.224**

Order Code  
**276282002**



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[au.element14.com/Connect44Passives](https://au.element14.com/Connect44Passives)

## MC0805Y473M500A5.08MM - CERAMIC CAPACITOR

**multicomp**



- Capacitance: 47000pF
- Voltage(DC): 50V
- Capacitor terminals: PC pin

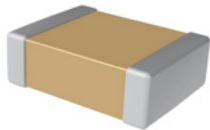
50% OFF

**\$0.149**

Order Code  
**169434602**

## C0805C103J5RACTU - SMD MULTILAYER CERAMIC CAPACITOR

**KEMET**  
a YAGEO company



- Operating temperature range: -55°C to 125°C
- DC voltage rating: 6.3V to 250V
- Capacitance range includes E24 decade values from 10pF to 47µF

40% OFF

**\$0.029**

Order Code  
**165086102**

## SRN6028C-6R8M - POWER INDUCTOR

**BOURNS**



- Inductance: 6.8µH
- Maximum DC resistance: 0.047ohm
- Inductor construction: semishielded

40% OFF

**\$0.397**

Order Code  
**417654002**

## RK73H2BTTD51R0F. - SMD CHIP RESISTOR

**KOA**



- Product width: 1.6mm
- Product range: RK73H series
- Maximum operating temperature: 155°C

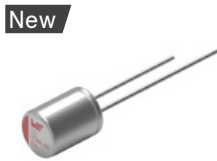
45% OFF

**\$0.025**

Order Code  
**354896402**

## 870585573001 - HYBRID ALUMINIUM ELECTROLYTIC CAPACITOR

**WE** WURTH ELEKTRONIK  
MORE THAN YOU EXPECT



New

- Capacitance: 68µF
- Minimum operating temperature: -55°C
- Voltage(DC): 25V

30% OFF

**\$1.79**

Order Code  
**417198002**

## VJ0402D4R7CCAAJ - SMD MULTILAYER CERAMIC CAPACITOR

**VISHAY**  
The Link of Tech



New

- Capacitance: 4.7pF
- Voltage (DC): 50V
- Product width: 0.51mm

45% OFF

**\$1.16**

Order Code  
**417675102**

## 0402HP-4N3XGLU - WIREWOUND INDUCTOR

**Coilcraft**



- Product height: 0.61mm
- Inductance: 4.3nH
- Product range: 0402HP series

30% OFF

**\$1.26**

Order Code  
**228576802**

## RC0402FR-07330KL - SMD CHIP RESISTOR

**YAGEO**



- High component and equipment reliability
- Tolerance: ±1%
- Operating temperature: -55°C to 155°C

45% OFF

**\$0.012**

Order Code  
**923953702**

## ECHU1C333GX5 - GENERAL PURPOSE FILM CAPACITOR

**Panasonic** INDUSTRY



- Suitable for reflow soldering
- Rated voltage: 16V
- Operating temperature: -55°C to 125°C

40% OFF

**\$0.465**

Order Code  
**969493502**

## 25ZLH330MEFC8X11.5 - ELECTROLYTIC CAPACITOR

**Rubycon**



- High ripple current
- Tolerance: ±20%
- Voltage (DC): 25V

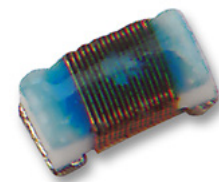
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**\$0.321**

Order Code  
**171257902**

## LQW18AN22NG00D - WIREWOUND INDUCTOR

**muRata**  
INNOVATOR IN ELECTRONICS



- Self resonant frequency: 4.6GHz
- Product width: 0.8mm
- Product length: 1.6mm

40% OFF

**\$0.108**

Order Code  
**952798202**

## BLM18HE102SN1D - FERRITE BEAD

**muRata**  
INNOVATOR IN ELECTRONICS



- Low DC resistance and a large rated current are suitable for noise suppression of the driver circuit
- Dimensions: 1.6mm x 0.8mm x 0.8mm
- Impedance: 1kohm

3% OFF

**\$0.036**

Order Code  
**244323602**



# THE FUTURE OF VEHICLE-TO-VEHICLE COMMUNICATION WITH SUB-GHz

## Introduction

As the world moves towards a more connected and automated future, the automotive industry focuses on vehicle-to-vehicle communication (V2V) as a key focus area. V2V allows cars to wirelessly exchange real-time information concerning the speed, heading, and location of surrounding vehicles. Safety is a priority concern. Law enforcement officials also use V2V to track the location of vehicles, divert traffic, adapt traffic light programs, and tackle speed limits. For drivers, V2V communication helps them avoid traffic congestion and maintain a proper distance from other vehicles. It also allows drivers to park safely. V2V is used in modern fleet management.

V2V communication is particularly challenging in urban environments, where several obstacles, such as buildings, trees, and other vehicles, may interfere with communication signals. The Sub-GHz wireless communication technology uses low-frequency signals, typically below 1 GHz, to transmit data between vehicles, allowing them to communicate and exchange critical information.

## What is Sub-GHz wireless communication?

Sub-GHz wireless communication is an approach to V2V communication that operates at frequencies below 1 GHz. Wireless communication refers to the transmission of data in space using electromagnetic waves such as radio waves and infrared wavelengths. For some applications, the Sub-1GHz unlicensed industrial, scientific, and medical (ISM) bands of 315, 433, and 902 to 928 MHz are ideal. With a given power level, receiver sensitivity, and antenna gain, lower frequencies inherently have longer-range transmission than higher frequencies.

It has several advantages over other wireless technologies, such as Bluetooth and Wi-Fi that operate at higher frequencies.

- It can penetrate obstacles and walls more efficiently, allowing for longer communication ranges and better coverage.
- Sub-GHz wireless communication is less susceptible to interference from other wireless devices and electromagnetic noise, which can degrade the quality of the communication signal. This makes Sub-GHz wireless communication a good choice for applications that require reliable and robust wireless connections.
- It requires less power than higher-frequency signals, which can be critical in battery-powered devices such as electric vehicles. This lower power requirement also helps reduce interference and improve communication reliability.

## Why Sub-1GHz RF technology?

### Long Range

- Radio range, up to several kilometers
- New technology from TI makes it more reliable

### Co-existence

- Rapidly growing number of RF devices requires good co-existence properties

### License Free Radio Communication

ISM (Industrial, Scientific and Medical)

- License free RF bands
- Available worldwide
- No need for subscription or fees

### Battery life

- On small Lithium cells, designed to last up to 15 years

## Why Sub-1GHz RF technology?

V2V communication is crucial in developing autonomous vehicles and intelligent transportation systems. It enables vehicles to mutually communicate with roadside infrastructure, such as traffic lights and signs, to share information about road conditions, traffic flow, and other critical data. This information can improve safety, reduce congestion, and enhance the driving experience.

The V2V mechanism is one of the main components in the Vehicular Ad Hoc Network (VANET). The United States is using a predefined band of 5.9 GHz. IEEE 802.11p is used as a standard component in United States Vehicle to Vehicle current production implementation. VANET is considered a Mobile Ad Hoc Network (MANET) with some differences, like considering the vehicle as a node in the network. Also, the VANET network can include Dedicated Short-Range Communications (DSRC) used for the V2V mechanism.

The essential technical requirements for V2V communication in terms of the frequency range, power requirements, and communication protocols are as follows:

- **Frequency range:** V2V communication systems operate in the 5.9 GHz frequency band, allocated by the Federal Communications Commission (FCC) for use in Intelligent Transportation Systems (ITS) applications. This frequency range is divided into vehicle-to-vehicle (V2V) communication and vehicle-to-infrastructure (V2I) communication channels.
- **Power requirements:** V2V communication systems consume minimum power and extend the battery life of vehicles. The power requirements for V2V communication are typically in the range of milliwatts. They do not interfere with other wireless devices.
- **Communication protocols:** The communication protocol used for V2V communication is IEEE 802.11p, a variant of the Wi-Fi protocol explicitly designed for use in vehicular environments. The IEEE 802.11p protocol uses a different modulation scheme and channel access mechanism than standard Wi-Fi to accommodate the high mobility and low latency requirements of V2V communication.

## Working and its applications of Sub-GHz wireless communication in V2V

Sub-GHz wireless communication works in V2V communication by using radio frequency (RF) signals to transmit data between vehicles. The process involves encoding data into an RF signal using a radio transceiver, which is then wirelessly transmitted to another vehicle with a compatible receiver.

When a vehicle with a Sub-GHz wireless communication system receives an RF signal from another vehicle, it decodes the data. The system then informs either the driver or the vehicle's control system. The transmitted data can include information on traffic conditions, road hazards, nearby vehicle positions, speeds, and directions.

The utilisation of a specific communication protocol known as Dedicated Short-Range Communication (DSRC) is a crucial aspect of Sub-GHz wireless communication in V2V communication. DSRC is a wireless communication standard for V2V and vehicle-to-infrastructure (V2I) communication. It operates in the 5.9 GHz band while employing a variety of Sub-GHz frequencies for various communication modes.

In DSRC, communication transpires via a sequence of basic safety messages (BSMs) swapped between vehicles. These messages include essential data such as the vehicle's position, speed, direction, and other significant details such as braking status and hazard warnings, as indicated in the accompanying diagram. The BSMs are transmitted at regular intervals and can be obtained and processed by other nearby vehicles.

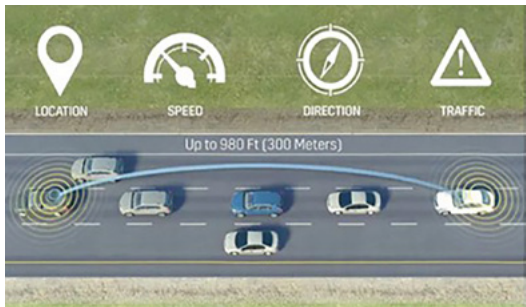


Figure: V2V Communication

Communication Technologies	Communication Protocols	Range	Characteristics
DSRC	IEEE802.11p	1,000m	High data transfer rate, reliable for large networks
Infrared	IEEE802.11	10m	Reliable, mature and easy to master
Bluetooth	IEEE802.15.1	10m	Low power, good communication security
Wi-Fi	IEEE802.11a/b/g	76~305m	High data transfer rate
UWB	IEEE802.15.3a	10m	Strong anti-interference ability
Zigbee	IEEE802.15.4	100m	Low cost, low power
MmWave	IEEE802.11ad/ IEEE802.15.3c	10m	High transmission quality

Table: V2V communication technologies



To continue reading about V2V Communication scan the QR code, or visit the Technical Articles section on:  
[au.element14.com/connect-magazine](http://au.element14.com/connect-magazine)



# TEST & MEASURE

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## LD400 – DC ELECTRONIC LOAD



- Versatile solution for testing DC power sources
- Constant current, resistance, conductance, voltage and power modes
- Wide voltage and current range, 0-80V and 0-80A

5% OFF

**\$2,218.63**

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## GPP-3323 – BENCH POWER SUPPLY



- 4.3" TFT LCD display
- Supports setting value, measurement value and output waveform display
- Load function (CC, CV, CR mode)

5% OFF

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## 3458A – BENCH DIGITAL MULTIMETER



- 100,000 readings per second at 4 1/2 digits
- 0.05 ppm Vdc transfer accuracy
- Superior AC voltage measurements

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## U1253B – DATA LOGGING HANDHELD DIGITAL MULTIMETER



- Organic LED display
- 160° viewing angle
- 2000:1 contrast ratio

**\$1,037.00**

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## SMU4001 – SOURCE METER UNIT



- Maximum voltage is  $\pm 21V$ , voltage ranges from 20mV to 20V
- Powerflex technology achieves full instrument output power across the majority of the voltage range
- 0.015% basic accuracy with 6 1/2 digit resolution

**\$4,959.00**

Order Code  
**403684902**

## GDM-8351 – BENCH DIGITAL MULTIMETER



- Dual measurement/dual display
- Basic precision of DC voltage of 0.012%
- Selectable measurement speeds, the maximum of 320 readings/s

9% OFF

**\$748.96**

Order Code  
**274850402**

## E3634A – BENCH POWER SUPPLY



- Low noise and excellent regulation
- Dual range output
- Remote sensing

**\$3,944.00**

Order Code  
**121449002**

## N2140A – OSCILLOSCOPE PROBE



- Input capacitance for 1:1 is 100pf, 10:1 is 15pf
- Maximum input voltage 1:1 is 150Vrms CAT II, 10:1 is 300Vrms CAT II
- Current rating is 0.15mA

**\$148.00**

Order Code  
**270657102**

## IPOBER 520 – CURRENT PROBE



- Current measurement from isolated probing of conductor
- Dynamic range of 10mA to 20A peak to peak
- Wide bandwidth of DC to 5MHz

10% OFF

**\$1,454.99**

Order Code  
**190814802**

## GDM-8341 – BENCH DIGITAL MULTIMETER



- 50,000 counts, VFD display
- Dual measurement/dual display
- Auto/manual ranging

2% OFF

**\$645.22**

Order Code  
**246024802**

## EDUX1052G – DIGITAL OSCILLOSCOPE



- 7inch TFT LCD WVGA display
- 1GSa/s maximum sample rate
- 200,000 points (all channels) maximum memory depth

**\$1,264.00**

Order Code  
**338060302**

## U1781A – TEST LEAD SET



- For use with handheld capacitance and LCR meters
- Contains one pair of alligator clip leads

**\$77.19**

Order Code  
**171093202**

## 410-395 – BENCH POWER SUPPLY



New



- 3 channel variable DC programmable power supply
- Driven by the free waveforms software
- 1V to 15V / 10mA to 500mA output

5% OFF

**\$907.16**Order Code  
**417729502**

## R&amp;S HMP4040 – BENCH POWER SUPPLY



- Maximum output voltage of 32V per channel, higher voltages possible in serial operation
- 384W total output power
- Linear post regulation for low residual ripple

2% OFF

**\$4,354.00**Order Code  
**285010202**

## RTB2K-COM4 BUNDLE (RTB2004+B243+B1+PK1) – MSO / MDO OSCILLOSCOPE



- Optimised parallel button operation, 16 digital channels
- Maintain fast sampling rates of 1.25Gs/s at all times
- Math functions such as +, -, \*, /, FFT (128Kpoints), autoset functions

**\$6,610.17**Order Code  
**272315302**

## 72-14110 – FUNCTION GENERATOR



CLEARANCE



- Sine wave output of 20MHz/10MHz/5MHz, full frequency range resolution is 1µHz
- Square wave/pulse waveform of 5MHz, rising, falling and duty cycle time are adjustable
- Using DDS implementation method, with 125M/s sampling rate and 14bits vertical resolution

3% OFF

**\$269.18**Order Code  
**283054802**

## PICOSCOPE 4224A – PC USB OSCILLOSCOPE



- 10,000 segment waveform buffer
- 14bit resolution AWG
- Low-cost and portable

**\$1,219.53**Order Code  
**362539802**

## BK9111 – BENCH POWER SUPPLY



- Power supply output type: adjustable
- Maximum output current: 8A
- Power rating: 180W

6% OFF

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**278800602**

## NGU201COM – SOURCE MEASURE UNIT



- Ideal for powering battery-operated devices
- Minimum residual ripple and low noise
- Galvanically isolated, floating channels

2% OFF

**\$13,007.76**Order Code  
**362526702**

## EA-PS 10360-30 2U – DC POWER SUPPLY



- Wide range input, 208VAC – 480VAC +10 % 3ph
- Active power factor correction, typical 0.99
- Power range from 0 – 3,000W

10% OFF

**\$10,522.77**Order Code  
**412602702**

## 72-13430 – HANDHELD DIGITAL MULTIMETER



- Clear LCD Display
- Equipped with comfortable protective cover, test probe holder
- 2m drop test, precision protection

30% OFF

**\$28.27**Order Code  
**288738502**

## TA041 – OSCILLOSCOPE PROBE



- Bandwidth: DC to 25 MHz (-3 dB)
- Attenuation ranges: 10:1 / 100:1
- DC accuracy: ±2%

**\$606.10**Order Code  
**166734302**

## BK880 – LCR METER



- 40,000 counts resolution on primary and 10,000 counts resolution on secondary display
- L, C, R, and Z primary measurements
- Automatic calculation of secondary parameters D, Q, Theta, ESR (Theta/ESR for 879B & 880 only), and DCR (BK880 only)

5% OFF

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**277032202**

## FPC-COM2 – SPECTRUM ANALYSER



- Two USB 2.0 ports for storage media and connecting accessories, headphone jack, audio speaker, RF input
- Tracking generator and independent CW signal generator
- 10.1" WXGA (1366 × 768 pixel) display – largest and highest resolution in class

3% OFF

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## 72-2940 – BENCH POWER SUPPLY



- Number of outputs: 1
- Power rating: 300W
- Maximum output voltage: 60V

20% OFF

**\$308.95**Order Code  
**254306702**

## 21-2235 – STACKABLE BANANA PLUG SET



- Lead length: 914mm
- 2x 4mm stackable banana plug
- Lead colour: red, black

20% OFF

**\$7.54**Order Code  
**278348502**

## TA386 – OSCILLOSCOPE PROBE



- Passive switchable oscilloscope probe with bandwidth of 200MHz
- 1:1/10:1 switchable voltage probe
- 1.2m nominal total length

3% OFF

**\$60.82**Order Code  
**289320202**

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- 4 analogue & 16 digital channels, 2.5GS/s sample rate (half channel interleaved), 10Mpts record length
- 8-bit ADC vertical resolution
- Remotely view and control the oscilloscope over a network connection through remote VNC

**2% OFF****\$5,196.61**Order Code  
**395827102****P2220 – OSCILLOSCOPE PROBE****Tektronix**

- 10:1 and 1:1 selectable attenuation ratio
- 1.5m probe length
- Compensation range from 15pF to 25pF

**2% OFF****\$301.40**Order Code  
**798421902****MP730889 – BENCH DIGITAL MULTIMETER****multicomp PRO**

- 3.5-inch high-resolution LCD, providing a clear display
- Display max 55,000 counts, DC voltage accuracy up to 0.05%
- Multiple measurement functions

**10% OFF****\$168.83**Order Code  
**397219802****MP780904 – SOUND LEVEL METER****multicomp PRO**

- Provides 1.4dB accuracy
- Max hold and data hold function
- Ranges from 30dB to 130dB at frequencies between 31.5Hz and 8kHz

**20% OFF****\$91.61**Order Code  
**401626002****EX355 – HANDHELD DIGITAL MULTIMETER****EXTECH**  
INSTRUMENTS

- Basic DCV accuracy is  $\pm 0.5\%$
- Measures DC/AC voltage range from 0.01mV to 600V
- Measures DC/AC current range from 0.1 $\mu$ A to 10A

**10% OFF****\$184.10**Order Code  
**268864502****TBS1072C – DIGITAL OSCILLOSCOPE****Tektronix**

- Digital storage oscilloscope with 70MHz bandwidth and 2 channels
- 7inch WVGA colour display with 15 horizontal divisions that show 50% more signal
- 32 automated measurements, small footprint and light weight

**2% OFF****\$1,196.71**Order Code  
**346344402****2450 – SOURCE MEASURE UNIT****KEITHLEY**  
A Tektronix Company

- Capabilities of analysers, curve tracers, and I-V systems at a fraction of their cost
- Five-inch, high resolution capacitive touchscreen GUI
- 0.012% basic measure accuracy with 6 $\frac{1}{2}$ -digit resolution

**2% OFF****\$10,912.88**Order Code  
**277004202****MP780969 – GAS LEAK DETECTOR****multicomp PRO**

- Auto power off
- Highly sensitive and reliable
- Pinpoint small leaks; detects all combustible gas leaks, even tiny leaks

**20% OFF****\$137.45**Order Code  
**407359602****MP770264 – TEST LEAD****multicomp PRO**

- Alligator clip to 4mm banana plug
- Length: 2ft
- Current rating: 5A

**40% OFF****\$3.05**Order Code  
**329011302****CT20 – CABLE CONTINUITY TESTER****EXTECH**  
INSTRUMENTS

- One person operation for wire and cable testing
- Bright flashing LED & loud pulsating beeper indicate local continuity
- Remote continuity with the use of the remote probe

**20% OFF****\$53.78**Order Code  
**283670802****AFG31101 – SIGNAL GENERATOR****Tektronix**

- Programmable waveform sequencing for generating long, complex waveforms up to 256 steps
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- Patented InstaView technology enables engineers to see the actual waveform at the device under test in real time

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**291618102****MM450 – DIGITAL MULTIMETER****KLEIN TOOLS**  
For Professionals... Since 1957

- Measures up to 600V AC/DC voltage, 10A AC/DC current, 50Mohms resistance, 400 $\mu$ F capacitance
- Temperature range: -40° to 1,000°C
- 4,000 count LCD display

**10% OFF****\$219.47**Order Code  
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- Unit and sign display for easy reading
- High accuracy and rapid response
- Data HOLD function to hold measurement values

**20% OFF****\$55.44**Order Code  
**406247702****LT300 – LIGHT/LUX METER****EXTECH**  
INSTRUMENTS

- Remote light sensor on 12" coiled cable – expandable to 24"
- Utilises precision photo diode and color correction filter
- Relative mode indicates change in light levels

**10% OFF****\$341.30**Order Code  
**283671702****DV25 – VOLTAGE TESTER****EXTECH**  
INSTRUMENTS

- CAT IV 600V
- CAT IV 1,000V safety rating
- For use on 50/60Hz circuits

**20% OFF****\$28.25**Order Code  
**268864202**



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**D03124 - AUTO RANGING DIGITAL MULTIMETER****DURATOOL**

- 3½ digit, 2,000 count LCD display with backlight
- AC/DC voltage, AC/DC current, resistance and frequency measurement
- Diode and continuity test functions

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- 3½ digit, 1,999 count display
- AC/DC voltage measurement
- DC current

**10% OFF****\$6.26**Order Code  
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- Accurate results in milliseconds
- Battery life analysis vehicle and scooters
- Large easy to read LCD display

**5% OFF****\$94.61**Order Code  
**361767702****D03129 - THERMOMETER****DURATOOL**

- Measures in °C and °F
- 3½ digit, 2,000 count LCD display
- Data hold function

**10% OFF****\$15.01**Order Code  
**321263602****P06232009Z - AC CLAMP METER****Multimetrix®****New**

- 4,000 count backlit digital display
- Auto range selection
- Torch function / lighting of the point of measurement

**5% OFF****\$189.70**Order Code  
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- 10,000cts display resolution
- Measures T° (°C / °F)
- Resistance/audible continuity

**5% OFF****\$984.46**Order Code  
**421612602****EL-MOTE-TH - DATA LOGGER****LASCAR**

- Battery life of up to 2 years
- Suitable for indoor and outdoor use
- Set up alarm options for temperature zone breaches

**20% OFF****\$196.62**Order Code  
**290719402****EL-GFX-2 - DATA LOGGER****LASCAR**

- Stores over 250,000 readings
- Micro USB interface for PC based set-up and data download
- Logging rates between 10 seconds and 1 hour

**10% OFF****\$197.68**Order Code  
**232484802****EL-SIE-2 - DATA LOGGER****LASCAR**

- Status and alarm indicators
- Data can be uploaded to the EasyLog Cloud
- 0 to 100%RH humidity measurement range

**30% OFF****\$150.76**Order Code  
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- Single-pole non-contact volt detector
- Compatible for use in all sockets
- Integrated high-luminescence LED flashlight

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**335786002****608-H2 - HUMIDITY METER****Be sure. testo**

- With dew point calculation td and max/min display
- Humidity sensor is not affected by water
- LED alarm, warns if limits are exceeded

**8% OFF****\$188.73**Order Code  
**369580302****TESTO 830-T1 - IR / INFRARED THERMOMETER****Be sure. testo**

- Measuring range from -30°C to 400°C
- ABS housing
- Infrared resolution is 0.1°C, measuring rate is 0.5s

**10% OFF****\$108.00**Order Code  
**267808202****FLUKE 1507 - INSULATION TESTER**

- Auto-discharge of capacitive voltage for added user protection
- AC/DC voltage: 0.1V to 600V
- Continuity: 200 mA

**FLUKE****\$1,238.00**Order Code  
**101836102**

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## FIT0507 - THERMOMETER



- Temperature measurement range from -50°C to 110°C
- Temperature measurement error is  $\pm 1^\circ\text{C}$
- Resolution is 0.1°C

20% OFF

**\$2.46**Order Code  
**376992902**

## 530-312 - VERNIER CALIPER



- Maximum measuring range: 150mm
- Graduations: 0.02mm
- Clamping screw atop the slider

20% OFF

**\$134.84**Order Code  
**715608002**

## 105-0853-001 - TEST JACK



- Insulated vertical test jack with silver beryllium copper machined contacts
- For use with 2mm standard tip plug
- Mount through 0.052" hole

30% OFF

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**170443502**

## 932146101 - CROCODILE CLIP



- Unsprung socket 4mm
- Crocodile clips
- Screw terminal

40% OFF

**\$23.05**Order Code  
**81049602**

## BU-00287 - TEST LEAD SET



- Handsfree testing
- Lead length: 546.1mm
- Current rating: 7A

40% OFF

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**283405802**

## 5.07.01 FLASHER ARM - FLASH PROGRAMMER



- Stand alone JTAG/SWD programmer
- Ethernet interface
- Supports internal and external flash devices

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## 101-45 - DIGITAL CALIPER



- Caliper with ON, OFF and ZERO button
- Maximum measuring range of 150mm
- 0.01mm resolution

20% OFF

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**393291602**

## 66.9407-100-25 - BANANA TEST LEAD



- 4mm stackable banana plugs
- 600V, CAT II/32A rated voltage, current values
- Lead length: 100cm

30% OFF

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## 934058100 - TEST LEAD



- 4mm system
- Measuring leads
- 30 VAC / 60 VDC rated voltage

40% OFF

**\$7.11**Order Code  
**52369002**

## AL-B-12-2 - TEST LEAD



- Red insulator
- Maximum handheld testing voltage: 30VAC/60VDC
- Maximum operating temperature: 50°C

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**240609002**

## 8.19.28 J-LINK PLUS COMPACT - DEBUGGER



- Hi-speed USB 2.0 driven debug probe
- Compact form factor, up to 1MByte/sec download speed
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- J-Link unlimited flash breakpoints

1% OFF

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**310658202**

## QTC 55 0.9-55NM 035220 - TORQUE TESTER



- Robust accurate analyser ideal for rapid hand tool testing
- Calibrated range from 0.9Nm to 55Nm with 0.01Nm resolution (ISO)
- Calibrated range from 0.7lbf.ft to 40lbf.ft with 0.01lbf.ft resolution (imperial)

4% OFF

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**249613702**

## 66.9755-21 - CROCODILE CLIP



- For testing up to 1,000V and 32A
- Opening width: 20mm
- Plug system: 4mm

30% OFF

**\$8.77**Order Code  
**235331902**

## 931467100 - CONTACT



- 2mm system
- Clamp-type test probe
- Solder connection

40% OFF

**\$4.10**Order Code  
**52353702**

## EMB 500-1 - WEIGHING SCALE



- Optional rechargeable battery
- Maximum weighing capacity is 500g
- Large backlit LCD display

20% OFF

**\$109.86**Order Code  
**238246202**

# TOOLS & PRODUCTION SUPPLIES

Unlock engineering excellence with our vast range of quality tools and production supplies like hand help tools, soldering stations, 3D printers, chemicals, fasteners and more.



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[au.element14.com/Connect44ToolsandProduction](http://au.element14.com/Connect44ToolsandProduction)

## WT 1010H - SOLDERING STATION

**Weller**



- 1-channel soldering station supplied with WP 120 soldering iron and WSR 201 safety rest
- Quick-change heating element for use with a wide range of soldering tips
- Front-mounted mains switch

10% OFF

**\$762.53**

Order Code  
**258118902**

## ZD-193/87-8131 - DESOLDERING PUMP

**DURATOOL**



- Aluminium desoldering pump with PTFE nozzle
- Length: 194mm
- Tip diameter: 3.2mm

40% OFF

**\$3.08**

Order Code  
**254290902**

## DT000234 - ANTISTATIC STORAGE

**DURATOOL**



- External size: 70mm x 98mm x 160mm
- Weight: 0.106Kg

40% OFF

**\$3.44**

Order Code  
**282236902**

## MF 300S 5L FR - SOLDER FLUX

**Multicore**



- Boiling point: 100°C
- Vapour pressure: 2.3kPa
- Volume: 5l

30% OFF

**\$140.64**

Order Code  
**111547102**

## T0051321199 - SOLDERING & DESOLDERING TWEEZER

**Weller**

New



- Adjustability functions with an allen key: 1.5mm possible if needed ( $\pm 80^\circ$  rotation angle adjustment + vertical length adjustment of  $\pm 1.2$ mm)
- Extremely short heat-up time of 5 seconds
- Unique 2-in-1 desoldering tweezers

10% OFF

**\$297.85**

Order Code  
**417655502**

## D03444 - SCREWDRIVER SET

**DURATOOL**



- Two colour handle with high torque and an ergonomic comfortable grip
- High impact and oil resistant plastic handle
- Contains: 2.5mm x 100mm, 3mm x 100mm, 4mm x 100mm, 5mm x 100mm, 6mm x 100mm, 8mm x 100mm hex screwdrivers

5% OFF

**\$16.44**

Order Code  
**361770502**

## 21-10158 - SOLDERING IRON TIP

**TENMA**



- 0.3 $\mu$ m alloy iron coating thickness
- 0.2 $\mu$ m chrome and nickel coating thickness
- Suitable for use with 21-10115, 21-10120, 21-10130 and 21-21310 soldering stations

3% OFF

**\$29.84**

Order Code  
**238186302**

## C 502 99C 5C 0.5MM G 250G - SOLDER WIRE

**Multicore**



- Halide-free version
- Heat stable, low spitting
- Good spread on copper, brass and nickel

30% OFF

**\$52.80**

Order Code  
**509102002**

## T0051388299 - SOLDER WIRE

**Weller**



- Diameter: 0.5mm
- Alloy: Sn96.5Ag3.0Cu0.5
- Temperature range: 217°C to 221°C

3% OFF

**\$42.33**

Order Code  
**234464702**

## MC23783 - ESD HEEL GROUNDING

**DURATOOL**



- Resistance: 1Mohm
- Strap material: rubber
- Fastening type: hook and loop

40% OFF

**\$12.04**

Order Code  
**165147102**

## CBB019822 - HEATING ELEMENT

**TENMA**



- 50W replacement heating element
- 4-wire connection
- Suitable for use with AT8502D soldering stations

30% OFF

**\$9.37**

Order Code  
**211392502**

## 63/37AP - SOLDER PELLETS

**Multicore**



- Solder alloy: 63, 37, Sn, Pb
- Melting temperature: 183°C
- Size: 250g

20% OFF

**\$32.78**

Order Code  
**45461802**

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\*All savings shown are against the price on the element14 website as of August 2023 and are valid until 29<sup>th</sup> December 2023



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## 63NC257-2-J250 - SOLDER PASTE



- Lead-free no clean solder paste
- Tack time: 12-14 hour
- Melting temperature: 183°C

10% OFF

**\$85.96**

Order Code  
**182745702**

229630 - HAND LOTION



- 235ml ESD hand lotion
- Improves reliability of path to ground when using wrist straps, ESD gloves or ESD footwear
- Absorbs quickly

20% OFF

**\$21.34**

Order Code  
**236115802**

240/12/300 - ADHESIVE



- Synthetic polymer based hotmelt
- Excellent adhesion to wood, ceramics, light gauge metals and many plastics, such as rigid PVC, polystyrene, ABS and acrylic
- Length: 300mm

5% OFF

**\$37.30**

Order Code  
**704811702**

T4874X - SCREWDRIVER SET



- Ergonomically designed handle with hollow rotating cap for ease of use & precise control
- Contains: 1x hexagon, sizes: 0.7 x 50, 0.9 x 50, 1.3 x 50, 1.5 x 50, 2.0 x 50, 2.5 x 60 & 3.0 x 60mm

10% OFF

**\$79.76**

Order Code  
**139100602**

T3659A 175 - PLIERS



New



- 175mm heavy duty water pump plier
- Special alloy steel, drop forged, hardened & tempered for exceptional strength & durability
- Slim head & jaws for access to confined spaces

20% OFF

**\$46.84**

Order Code  
**420026102**

## 4902P-15G - SOLDER PASTE



- Low temperature solder paste
- Good wettability
- Excellent fine pitch printing capability

10% OFF

**\$20.41**

Order Code  
**301841702**

10446 - SURFACE CLEANER



- ESD surface and mat cleaner
- 950ml

30% OFF

**\$20.59**

Order Code  
**299157602**

UR5041RP250G - POLYURETHANE RESIN



- Two-part black encapsulation and potting compound
- Properties retained at temperatures down to -60°C
- Good adhesion to most substrates

20% OFF

**\$29.41**

Order Code  
**10878602**

T3224 - QUICK CHANGE ARBOR SET



- Chuck style arbor with adapters to securely fit holesaw sizes 14-210mm
- Allows for quicker interchange of holesaws
- Includes 1x large adapter and 1x small adapter

20% OFF

**\$50.30**

Order Code  
**416764602**

AV00010 - COLLAPSIBLE STOOL



- Seat height adjustment: 6cm to 46cm - 12 positions
- Weight capacity: 440lb
- Seat type: polypropylene

20% OFF

**\$32.78**

Order Code  
**416767502**

## 835-100ML - SOLDER FLUX



- For leaded and lead-free solder
- Fast wetting
- Non-corrosive

30% OFF

**\$14.83**

Order Code  
**290390902**

PCL100 - CLEANER



- 100ml pump bottle
- Platenclene cleaner effectively dissolves ink stains and removes oil and grease
- Suitable for fax machines and printers

20% OFF

**\$8.09**

Order Code  
**22431502**

ASA250ML - CLEANER



- Designed to eliminate dust and prevent the build up of static
- Prevents damage to voltage sensitive components and circuits
- Supplied in pump action bottle for use in hazardous working environments

10% OFF

**\$11.47**

Order Code  
**31753602**

T1290 - CABLE STRIPPER



- Recessed blade with protection mechanism reduces injuries
- For use with flat and round cables
- Stripping capacity: 4mm to 70mm

10% OFF

**\$90.65**

Order Code  
**416766602**

MA2610 - ORGANISER



- Convenient interior segmentation with an A5 portrait pad, business card compartments and dual pen holder
- Dimensions: 200mm x 50mm x 255mm

20% OFF

**\$29.26**

Order Code  
**416764502**

## SD-081G - SCREWDRIVER SET **Pro'sKit®**



- 4 screwdrivers with rotational caps for TRI-wing screws
- Smooth rotational cap for easy and quick operation without lifting the screwdriver
- Ergonomic non-slip handle made of TPR and nylon

3% OFF

**\$8.48**

Order Code  
**298850902**

## 0-84-114 - PLIERS SET



- Chrome-nickel steel for tough, durable, hardened cutting edge
- Set contains: 6" slip joint plier, 6" diagonal plier and a 6" long nose plier

10% OFF

**\$28.49**

Order Code  
**399649402**

## 05018110001 - SCREWDRIVER COMPACT SET



- Reversible functions: impact wrench and screwdriver
- Specially hardened and extra tough bits with 1/4" external hexagon drive

10% OFF

**\$162.56**

Order Code  
**406962102**

## 05020153001 - SPANNER



- The adjustable Joker 6004 VDE covers all metric and imperial dimensions in the respective field of application
- Individually tested tools with insulated handles for safe working up to 1,000 volts

20% OFF

**\$135.70**

Order Code  
**406961302**

## 90 55 280 - CUTTER



- Sheet metal nibbler
- For cutting iron, copper or aluminium sheet metal up to max. 1.2 mm thickness, plastic up to max. 2.0 mm thickness
- Cutting width: 2.7 mm

30% OFF

**\$114.22**

Order Code  
**353740802**

## 22-14670 - TOOL KIT



- Includes: crimp frame, die set, universal solar cable stripper, cable cutter, open-end spanner and unlocking tool, pro-soft screwdriver, zipper bag

20% OFF

**\$145.55**

Order Code  
**281832802**

## 45289 - TOOL BAG



- 23pcs tool set wall box installation including multifunctional bag
- Kit contents: 3x screwdrivers, key, strip tool, cutter, nose plier, extension, setting tool, adapter, 12x bits, bag
- Each tool individually tested at 10,000V AC and approved for 1,000V AC

20% OFF

**\$497.94**

Order Code  
**397633902**

## KRAFTFORM KOMPAKT MICRO/11 - MICRO SCREWDRIVING KIT



- 10x 44mm bits, pouch
- Handle/interchangeable blade system for rapid exchange of the blade
- Multi-component Kraftform micro handle with anti-roll feature and swivel cap

30% OFF

**\$90.70**

Order Code  
**249378502**

## 08 22 185 - COMBINATION PLIER



New



- Powerful combination pliers with pointed jaws
- For all common installation and repair work
- Handy use when working in confined areas thanks to slim head design and pointed jaws (anti-twist)

10% OFF

**\$51.06**

Order Code  
**417717802**

## 12 21 180 - INSULATION STRIPPER



- With replaceable blades for 4 (adapted to diameters) or 6 (adapted to cross-sections) different conductor cross-sections
- Aluminium body
- Stripping capacity: 20AWG to 10AWG

30% OFF

**\$117.78**

Order Code  
**413191502**

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## 22-3745 - WIRE CUTTER



- Micro cutting plier
- 90mm

30% OFF

**\$6.34**

Order Code  
**278518602**

## 45296 - SCREWDRIVER SET



- Contains: 41159 slotted, 34583 PH1 & 34584 PH2 phillips, 34590 PZ2 pozidrive screwdrivers

30% OFF

**\$65.32**

Order Code  
**397633702**

## 05008101001 - ACTUATION TOOL



New



- Actuation tool for spring terminals
- Curved blade
- Suitable for spring terminals with a conductor cross-section of up to 1.5mm²

10% OFF

**\$16.27**

Order Code  
**418039502**

## 97 62 145 A - CRIMP TOOL



- For crimping wire ferrules 24AWG to 14AWG
- Vanadium electric steel- forged, oil-hardened
- Multi-component grips

10% OFF

**\$50.48**

Order Code  
**916850802**

## 00 50 51 T LE - TOOL BAG



New



- Volume: 17 litres
- Outer dimensions: 470mm x 250mm x 150mm
- Plastic-reinforced base plate with five rubber feet

20% OFF

**\$170.66**

Order Code  
**417717302**

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#### D210-6C - PLIER



- Trims plastic or printed circuit boards
- Spring-loaded for self-opening action
- Short jaws and beveled cutting edges permit close cutting of wire

**\$85.66**

Order Code  
**288597302**

#### H80816 - HAMMER CLAW



- Straight-claw hammer with a tether hole for hanging
- 330mm overall length
- 16-ounce forged steel head weight

**10% OFF**

**\$58.43**

Order Code  
**407016502**

#### 450-900 - HOOK & LOOP DISPENSER



- Built in cutter
- Attach to belt with heavy-duty clip for portability
- Integrated keyholes for versatile screw mounting to non-magnetic surfaces

**10% OFF**

**\$96.00**

Order Code  
**407016702**

#### MP010969 - FIBRE OPTIC STRIPPER



- For use with 2-3mm & 2.8-3mm outer jacket, 2-3mm loose tube fibre, 900um buffer insulation/250um acrylate cables
- Handle lock for better safety and easier storage
- Ergonomic and angle tool frame

**20% OFF**

**\$22.71**

Order Code  
**412557302**

#### MP010944 - SOCKET BIT SET



- 37 pieces 1/4"DR drive socket and bit set
- Socket material is chrome vanadium steel
- Contains: 4x philips & pozi, 3x slotted, 5x hex, 7x star bits, ratchet, bit holder, extension bar, bit adaptor

**20% OFF**

**\$41.42**

Order Code  
**407782302**

#### PVC TAPE 1920Y - ELECTRICAL INSULATION TAPE



- General purpose non-migratory plasticised PVC insulation tape
- Thickness: 0.15mm
- Roll length: 20m

**45% OFF**

**\$2.04**

Order Code  
**15234802**

#### 8141CO - CUTTER



- Overall length: 110mm
- High performance alloy steel
- Exacting induction hardened cutting edges 63-65 HRC

**10% OFF**

**\$82.07**

Order Code  
**290855702**

#### E.516ST-30PB - WRENCH



- Fixed ratcheting head
- Data collection and recording
- Torque range: 6N-m to 30N-m

**5% OFF**

**\$1,152.41**

Order Code  
**399607202**

#### R.161B - RATCHET



- Drive size: 0.25"
- Length: 121.2mm

**5% OFF**

**\$75.66**

Order Code  
**399605202**

#### 74"Z-0-0-321 - TORQUE WRENCH



- Torque: 1Nm
- Width across flats: 19 mm
- For N connectors

**10% OFF**

**\$411.36**

Order Code  
**358051502**

#### 259048RO - CNC MACHINE TAP DRILL SET



**New**



- Contains: 14 pieces set of M3/M4/M5/M6/M8/M10/M12 machine taps & 2.5/3.3/4.2/5/6.8/8.5/10.2MM twist drills

**10% OFF**

**\$131.13**

Order Code  
**417706102**

#### 231-040 - HAND TAP



- Suitable for through threads in unalloyed or low-alloyed steels up to 800N/mm<sup>2</sup> strength, malleable cast iron and non-ferrous metals
- Right-hand cutting
- Type-B, 4 to 5 threads with progressive tap chamfer

**20% OFF**

**\$8.27**

Order Code  
**37507002**

## CORE25 - SMART METER CLIPS & COLLAR



**New**



- Strips the cable safely to a pre-defined length
- For cable diameter of 25mm<sup>2</sup>
- Ergonomic design

**5% OFF**

**\$121.12**

Order Code  
**420812402**



Your trusted partner in electronics

## A15 - ARBOR EXTENSION BAR

**Starrett**

New



- 300mm hole saw arbor extension bar
- Extension for A1, A1E, A10, A10E, A10, A10E, A17-38, A17-38E
- Suitable for use with any arbor with a 9.5mm shank size

20% OFF

**\$53.20**

Order Code  
**418018802**

## A2 - PILOT DRILL

**Starrett**

New



- Hole saw arbor supplied with 6.35mm pilot drill
- Shank size is 11mm, screw thread 5/8"-18
- Fits hole saws from 32mm to 210mm diameter

20% OFF

**\$36.67**

Order Code  
**418018702**

## 15024 - ANTISTATIC BAG

**SCS**



- 50.8mm x 101.6mm
- Open top metal-out transparent static shielding bag
- Provides excellent static safe environment for sensitive electronic components and PCB assemblies

**\$12.49**

Order Code  
**290762002**

## GMG-345 - ELECTRICAL TAPE

**MCM**



- Resistant to abrasion, UV rays, weather, solvents, alkalies and many acids
- Includes black, red, yellow, green and blue rolls
- Size: 18mm x 30ft

40% OFF

**\$5.12**

Order Code  
**280116002**

## 1000364 - WIRELESS MESH ROUTER

**W**



- Small, rugged wireless mesh router
- 360mAh LiPo rechargeable battery
- Micro-B USB interface

**\$765.97**

Order Code  
**372716402**

## FCH0418 - HOLE SAW

**Starrett**

New



- 105mm saw diameter
- Ideal for stainless and mild steel sheet and tubes with a wall thickness of up to 3mm
- New 5.5 TPI/25mm tooth form provides a smoother, faster cut in all materials

20% OFF

**\$47.87**

Order Code  
**418021002**

## M4 20 SO12CS Z100 - SOCKET SCREW

**T Fastenings**



- Thread size: M4
- Fastener plating: bright zinc
- Head style: hex socket

5% OFF

**\$8.21**

Order Code  
**141992602**

## 8835+ - RESPIRATOR

**3M**



- Particulate respirator
- Pack of 5

10% OFF

**\$159.42**

Order Code  
**280297902**

## PPC221 - KAPTON TAPE

**PRO-POWER**



- High-temperature tolerance and electrical isolation ability
- American dow corning silicone adhesive
- 4KV voltage resistance

45% OFF

**\$3.14**

Order Code  
**206130002**

## 700972400 - SNAP RIVET

**WE WURTH ELEKTRONIK MORE THAN YOU EXPECT**



- Mounting hole: 3mm
- External diameter: 6.3mm
- Grip range: 4mm to 5mm

3% OFF

**\$0.199**

Order Code  
**298745102**

## CSC25 - HOLE SAW

**Starrett**

New



- 25mm saw diameter
- Ideal for cutting stainless steel, mild steel sheeting plus plasterboards, wood and thin plastics
- Safety stop at the base of the hole saw prevents drilling beyond the maximum cutting depth

20% OFF

**\$37.62**

Order Code  
**418019002**

## 91-PC2-US-01H - AIR BLOWER IONIZER

**SIMCO ION**  
An ITH Company



- Discharge time of <2 seconds at 1 foot
- Lightweight, compact and quiet for nonobtrusive use
- ±10V self-balancing ("micropulse") technology

20% OFF

**\$1,698.76**

Order Code  
**339733402**

## 410 (3"X1000FT) - DETECTABLE BURIED BARRICADE

**3M**



- 5-mil tapes, constructed of a solid aluminium foil backing with a clear film laminate
- The aluminium backing helps make underground assets easier to locate when using a non-ferrous locator
- Tape length: 1,000ft

20% OFF

**\$192.07**

Order Code  
**252597002**

## RLC-50-30/90-10 - LABEL

**OMEGA**



- Label legend: temperature indicator
- Type: self adhesive
- Pack quantity: 10

5% OFF

**\$24.94**

Order Code  
**379465202**

## PRIMUS 75 - MACHINE VICE

**PROXXON**



- Flat-milled working surface
- Spindles with rolled trapezoid thread for ease of operation even during high axial load
- Jaw width of 75mm, opening to 65mm

20% OFF

**\$108.90**

Order Code  
**107550602**



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[au.element14.com/Connect44SBC](https://au.element14.com/Connect44SBC)

## ABX00042 - ARDUINO PORTENTA H7



- Features two processors in one to run parallel tasks in different languages
- Choose between two vendors for the crypto-chip that better suits your case
- Power the board, connect it to a display or get it to work in OTG mode

3% OFF

**\$159.03**

Order Code  
**340469802**

## TEM2022C-EN-1 - EDUCATION DEVELOPMENT KIT



New



- Cost-effective and environmental-friendly
- Application-specific peripherals
- Easy to get started

3% OFF

**\$134.79**

Order Code  
**417294802**

## FIT0647 - DEVELOPMENT BOARD ENCLOSURE



- Silicone sleeve for HUSKYLENS board
- Small in size, cute in shape
- Has a smooth feel which brings a better experience

3% OFF

**\$5.23**

Order Code  
**351786502**

## FRDM-STBA-A8964 - DEVELOPMENT BOARD



- Compatible with Arduino and most NXP freedom development boards
- Supports I2C and SPI communication interface with host MCU
- Enables embedded sensor project development using IoT sensing SDK

3% OFF

**\$140.51**

Order Code  
**406246402**

## EK-S7-SP701-G - EVALUATION KIT



- Video interfaces including MIPI CSI, DSI, and HDMI
- Expandable I/O via Pmods and FPGA Mezzanine Card (FMC) interfaces
- Dual Ethernet for industrial networking

**\$1,539.40**

Order Code  
**322520902**

## FIT0730 - RASPBERRY PI MODULE



- 2 megapixels USB night camera with microphone
- Operating current: 160mA(VGA)
- Operating temperature range: -20°C to 70°C

3% OFF

**\$74.54**

Order Code  
**376990002**

## AES-ULTRA96-V2-G - SINGLE BOARD COMPUTER



- Xilinx Zynq UltraScale+ MPSoC ZU3EG A484
- Micron 2GB (512M x32) LPDDR4 memory
- Delkin 16GB microSD card and adapter

3% OFF

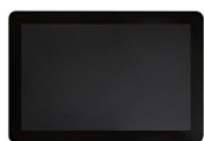
**\$557.07**

Order Code  
**305048102**

## DY1212W-4856 - LVDS PANEL



New



- Touch points: 10
- Display colours: 16.7M (6bit +Hi-FRC)
- Contrast ratio: 1,200typ/1,000min

**\$605.37**

Order Code  
**417694902**

## SK-KR260-G - ROBOTICS STARTER KIT



- Multi-camera supports up to 8 interfaces
- HDMI, Displayport outputs
- 1Gb Ethernet, USB 3.0 / 2.0 connectivity

**\$663.71**

Order Code  
**397645902**

## SEN0098-V2 - SENSOR BREAKOUT BOARD



New



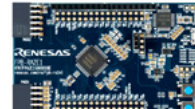
- For use with Arduino IO expansion shield
- Compatible with T-shaped plug of aeromodelling
- Capable of measuring AC and DC currents

3% OFF

**\$22.26**

Order Code  
**417294502**

## RTK7FPA2E1S00001BE - EVALUATION BOARD



- Equipped with an RA2E1 32-bit microcontroller 64-pin, ROM: 128KB, RAM: 16KB
- Arduino Uno and Pmod interfaces come standard
- Through-holes with access to all of the pins of the microcontroller

5% OFF

**\$33.01**

Order Code  
**386899102**

## RPI-CAM-MIPI - MIPI CAMERA CARD



New



- 22-pin / 0.5mm FPC/FFC connector interface to motherboard
- Pin definition compatible with Raspberry Pi camera interface
- ONSEMI IAS 34-pin board to board connector for image sensor

**\$202.96**

Order Code  
**417694802**

## MEFV22C - SINGLE BOARD COMPUTER



- micro:bit V2 club
- Contents: 10x micro:bit V2 board, 10x USB cable, 10x battery holder, 20x batteries
- Nordic nRF52833 processor with 512KB flash and 128KB RAM

5% OFF

**\$256.06**Order Code  
**384734402**

## REFICC80QSG84W2BPAT-OBO1 - REFERENCE DESIGN BOARD



New



- Secondary-side regulation with adjustable CC output set-point from 0.2A to 2A
- Supports wide output load range from 6V to 42V
- Full-power efficiency more than 91% at 230VRMS-AC input

3% OFF

**\$126.78**Order Code  
**418036002**

## MIKROE-1197 - CLICK BOARD



- MikroBUS form factor enables easy integration
- Cold junction compensation
- 14bit, 0.25°C resolution

3% OFF

**\$43.59**Order Code  
**243144302**

## MAX34427SHLD# - EVALUATION KIT



New



- 2.7V to 3.6V single-supply operation
- Proven PCB layout
- Fully assembled and tested

**\$216.85**Order Code  
**419972602**

## MEFV22G - SINGLE BOARD COMPUTER



- micro:bit GO V2
- Contents: micro:bit V2 board, USB cable, battery holder, batteries
- 5x5 LED display matrix; 25 red LEDs with 255 step intensity control

5% OFF

**\$26.33**Order Code  
**384734202**

## S2GORADARBG60LTR11T-OBO1 - EVALUATION BOARD



New



- Kit application type: sensor
- Application sub type: radar sensor
- Silicon core number: BGT60LTR11AIP

**\$55.27**Order Code  
**421635702**

## MIKROE-3246 - ADD-ON BOARD



New



- Pressure 7 click features an integrated digital barometric pressure and temperature sensor
- Supply voltage: 3.3V or 5V
- Click board size: 42.9 x 25.4mm

3% OFF

**\$74.64**Order Code  
**417260202**

## MAX17554CEVKIT# - EVALUATION KIT



New



- Internal loop compensation
- 0.8ms (typ) internal soft-start time
- Hiccup-mode overcurrent and overtemperature protection

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- ARM Cortex A9 MPCore 2x CPU processor at 1GHz
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- HD class 1080p encode/decode video engine

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## XVN-090D-1B-SK - VISION NAVIGATOR STARTER KIT



New



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## X-NUCLEO-IDB05A2 - BLUETOOTH EXPANSION BOARD



- Small form factor of 11.5mm x 13.5mm
- On-board chip antenna
- Equipped with Arduino UNO R3 connector

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- Board for higher speed
- Selectable transimpedance gain
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## MP001993 - AC/DC POWER SUPPLY

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- Universal input
- IEC-320-C14 input connector
- Input voltage range from 90V AC to 264V AC

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## R13-502A-05-B - PUSHBUTTON SWITCH

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- Current rating of 3A at 125V and 1.5A at 250VAC
- Insulation resistance of 100Mohm min at DC 500V
- Dielectric strength of 1,000VAC

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## PBL3 - PLASTIC ENCLOSURE

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- Enclosure type: multipurpose
- Dimensions: 84mm x 64mm x 46mm
- Black ABS

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## MP002648 - CIRCULAR CONNECTOR

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- Fits 13mm cut-out
- Solder termination
- Bayonet mating

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## MPE1212S-1W - ISOLATED THROUGH HOLE DC/DC CONVERTER

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- Number of outputs: 2
- Input voltage: 12VDC
- Output voltage: 12VDC

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## MP001903 - FUSE

multicomp<sup>PRO</sup>



- 20A ceramic cartridge power fuse
- Specialised for use in photovoltaic systems and installations
- Each element has a reduced cross section that quickly melts in response to overcurrent events

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## MP010352 - ENCLOSURE ACCESSORY

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- For use with Multicomp metal ventilation plugs
- Accessory type: nut

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## 5501-15PA-02-F1 - D SUB CONNECTOR

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- Current rating: 3A AC/DC
- Voltage rating: 250VAC/DC
- Operating temperature range: -55°C to 105°C

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## MCDM(R)-04-T - DIP / SIP SWITCH

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- Low profile DIP switch
- Gold contact for high reliability
- Top tape sealed and recessed actuator

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## ABT-414-RC - TRANSDUCER

multicomp<sup>PRO</sup>



- Electromechanical audio transducer with PCB pins
- Noryl housing
- Minimum supply voltage: 3V

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## MCEGG0BC307KS - CIRCULAR CONNECTOR

multicomp<sup>PRO</sup>



- Contact type: solder socket
- Coupling style: push-pull
- Number of contacts: 7

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## MP010324 - CABLE GLAND KIT

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- Waterproof, dustproof and breathable cable gland
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- EPDM gasket, PA lock nut

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## MP010873 – SENSOR CABLE

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- M12 plug to free end
- Number of positions: 8
- Length: 2m

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## MP710771 – DC ELECTRONIC LOAD

multicomp PRO



- Dynamic mode: up to 10kHz
- Resolution of voltage and current: 0.1mV/0.1mA
- Waveform display function of voltage and current

20% OFF

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## MP780051 – CLAMP METER

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- Shielded transformer jaw opens up to 30mm
- Provides a wide current measuring range
- Data hold, max./min. and low battery indication

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\$103.46

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## MP002197 – BANANA TEST LEAD

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- 4mm banana plug, shrouded
- Length: 1.5m
- Current rating: 10A

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## HT-230C/HT-236C – CRIMP TOOL

multicomp PRO



- Wire size range from 20AWG to 10AWG (0.5mm<sup>2</sup> to 6mm<sup>2</sup>)
- Length: 220mm

30% OFF

\$30.97

Order Code  
312634102

## TCW20 500G – TINNED COPPER WIRE

multicomp PRO



- Soft tinned copper wire
- Resistance: 27.04Ω/km
- Yield: 5.78kg/1,000m

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## MP780002 – CALIBRATOR

multicomp PRO



- Up to 0.05% output accuracy
- 6-digit display
- Output functions: DC voltage, resistance, thermocouple and thermal resistance

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## MP780522 – TACHOMETER

multicomp PRO



- Two test modes – rotate speed mode (RPM) and count mode (REV)
- Wide measurement range and high resolution
- High visible digital 5-digit LCD and backlight display

30% OFF

\$64.65

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## MP740097 – SOLDERING IRON

multicomp PRO



- 80W soldering iron with mica heater
- Tip is fixed by a screw, easy to replace
- Temperature range: 500°C to 550°C

10% OFF

\$8.82

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322802802

## HT-236H – CRIMP TOOL

multicomp PRO



- Middle carbon steel frame and black oxide finish
- Crimping range: 22AWG to 18AWG
- Length: 220mm

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312635302

## MC000762 – LUG TERMINAL

multicomp PRO



- 5/16-inch stud non-insulated
- Made of copper with a tin plated finish
- Accepts 8AWG wires

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## MP780905 – SOUND LEVEL METER

multicomp PRO



- Max / Min measurements
- Overrange display
- Memory for 32,700 readings

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## MP770217 – OSCILLOSCOPE PROBE

multicomp PRO



- Supplied with ground lead and spring hook contact
- Maximum input voltage: 5kV
- Bandwidth: 300MHz

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## MP740207 – SOLDER WIRE

multicomp PRO



- Flux type: no clean
- Solder alloy: 60, 40 Sn, Pb
- Melting temperature: 183°C

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## MP003933 – HEX KEY

multicomp PRO

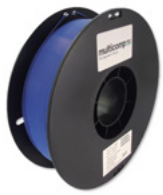


- Size: 3mm
- Dimensions: 93mm x 75mm
- Material: Vanadium CR-V + chamfer

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- Extruder temperature: 210°C to 230°C, recommended temperature is 215°C
- Filament material: PLA (Polylactide)

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- Radial leaded aluminium electrolytic capacitor
- Lead spacing: 7.5mm
- Ripple current: 1.61A

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- Thick film general purpose chip resistor
- Maximum operation voltage: 75V
- Maximum dissipation: 1/10W

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- Features 3.3V and 5V power pins
- Keyed IDC header shroud

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- Drain source voltage Vds: 40V
- Continuous drain current Id: 2.3A
- Power dissipation: 750mW

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- RMS current (Irms): 640mA
- Inductor construction: unshielded
- Inductance: 220μH

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- Maximum working voltage: 250V
- Power rating: 250mW
- Tolerance: ±1%

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- Padlock compatible for additional security

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- Capacitive multi-finger support with pinch, zoom and rotate functions
- High definition 1280x800 resolution, 450cd/m² brightness
- IPS panel for wide viewing angles

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- Power dissipation: 500mW
- Reverse voltage: 75V
- Capacitance: 4pF

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**230636102****MCMF0W4FF2201A50 - METAL FILM RESISTOR****multicomp** PRO

- Resistor type: precision
- Operating temperature: -55°C to 155°C
- Rated power: 0.25W at 70°C

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**112695402****MCF 1W 100R - THROUGH HOLE RESISTOR****multicomp** PRO

- Maximum working voltage: 500VDC
- Power rating: 1W
- Resistor type: general purpose

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