ISSUE 38 4th Apr - 1st Jul 2022



Connect-magazine

KEEP PACE WITH An **Ever Changing Market**

Access the latest technologies with our extensive range from industry leading manufacturers

Order Now 0800 90 80 80 nz-sales@element14.com 09 Pico Technology

18 Demystifying AI and ML with embedded devices 26 Multicomp Pro Tri Rated Cable & Wire

> 29 Semiconductors

A MESSAGE FROM THE EDITORS

We're back with our latest version of Connect magazine. We are grateful to our customers who choose us as their partner and look forward to a long and successful relationship.

Please do take a moment to access Connect's online catalogue featuring more than 14,000 products with great savings of up to 50%. Our local sales and technical support team is always there to simplify product selection and ordering processes for you.

Visit our website nz.element14.com/ connect-magazine#register-with-us or subscribe to our marketing emails to receive updates online.

If you have any feedback on our products and services, please e-mail us at **nz-marketing@element14.com**



Brianna Benstead | Tess Turner Marketing Executives Australia & New Zealand



Product Categories

04	New Products
06	Test & Measure
09	Feature: Pico Technology
10	Tools & Production Supplies
13	Passives
14	Electromechanical



18

DEMYSTIFYING AI AND ML WITH EMBEDDED DEVICES

- 22 Interconnect
- 26 Feature: Multicomp Pro Tri Rated Cable & Wire
- 29 Semiconductors
- 30 SBC & Development Kits
- 32 Multicomp Pro



Scan the QR Code to explore Connect online



WELCOME TO THE 38th Edition of Connect Magazine!

At element14 we strive to deliver resolutions to our customers' everyday pain-points but also go beyond so that we can add value at every stage of the product life-cycle.

Our line card includes products, services and solutions that support the design journey, from prototype and test right through to production and maintenance. Our product teams actively identify and source innovative, niche products for today's most in-demand application areas. And, our technical team is always there to support you with component selection and a wealth of essential learning resources.

In this edition of Connect, we take a look at `Demystifying AI and ML with embedded devices'. The article details how through the deployment of innovative techniques, algorithms and robust workflows, machine learning can now be carried out directly on embedded devices.

Visit **nz.element14.com/connect-magazine** to go through our latest issue for unbeatable offers, insights and latest product offerings, including a couple of my favourites from Bak, Multicomp Pro, Pico Technology and BeagleBoard.

Luke Grigg

Regional Sales Director Australia & New Zealand

LUKE'S PICKS



The Publication is produced by element14, a trading name of element14 Pty Ltd, GST Reg No. 55-796 327, PO Box 74342, Greenlane, Auckland, 1546, New Zealand.

All products shown in Connect are subject to availability

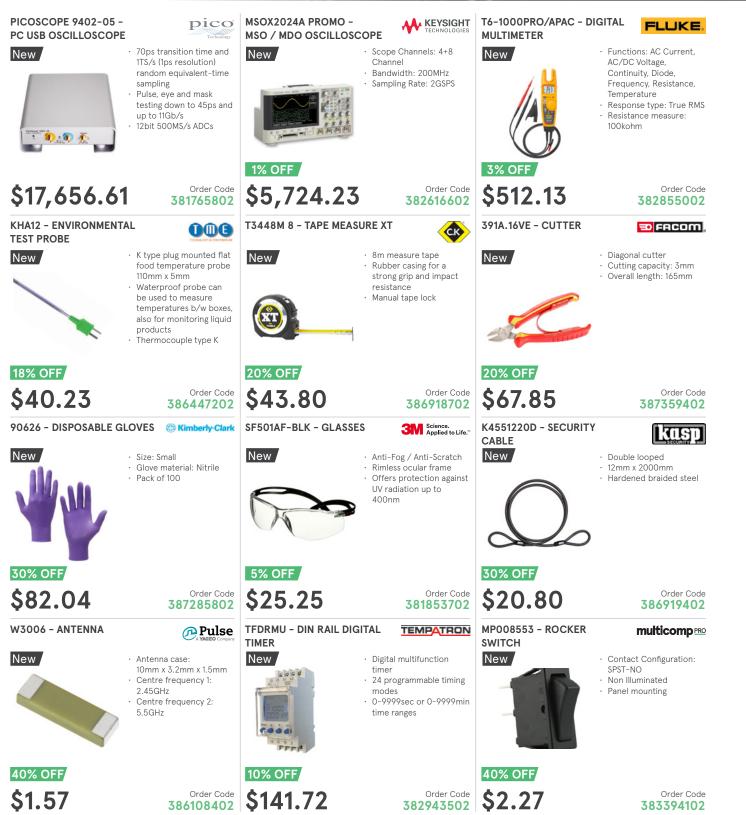
NEW PRODUCTS

Explore our recently added products from leading manufacturers for all your technological and design needs.

To view more products, scan the QR code or visit us online at: nz.element14.com/connect38_newproducts









NEW PRODUCTS





Enjoy free shipping on orders above \$50 | *All products shown in this issue of Connect are subject to availability *All savings shown are against the price on the element14 website as of February 2022

388588702

5

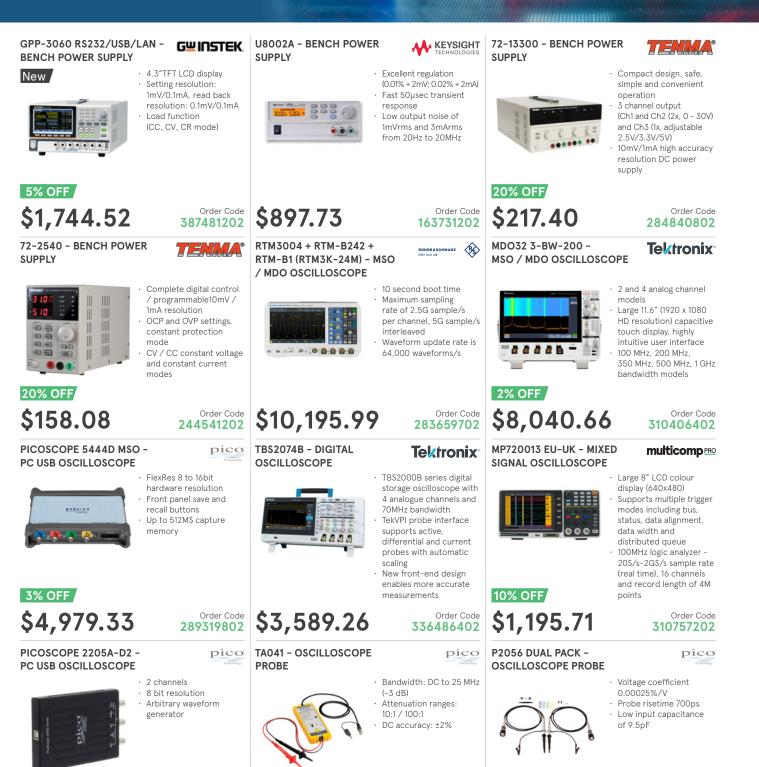
TEST & MEASURE

Explore our range of test and measurement equipment for your analysing requirements.

To view more products, scan the QR code or visit us online at nz.element14.com/connect38_TestandMeasure



33,004



3% OFF \$325.39

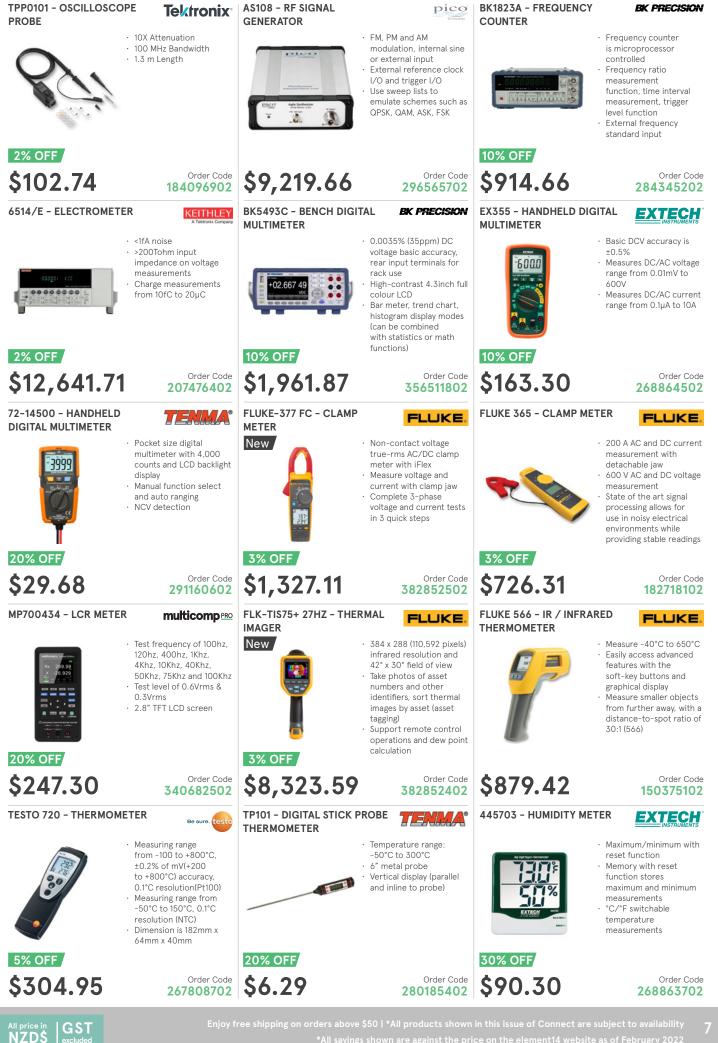






Enjoy free shipping on orders above \$50 | *All products shown in this issue of Connect are subject to availabilit *All savings shown are against the price on the element14 website as of February 2022 Order Code 336100002

All price in ALL price in SST





All price in All p



Oscilloscopes, data loggers and RF equipment for debug and test of complex designs

6 GHz and 8.5 GHz Vector Network Analysers

Real Time Oscilloscopes from 10 MHz to 1 GHz bandwidth Data logging software now with PicoLog Cloud

www.picotech.com/A1067

nz.element14.com/connect38-pico

TOOLS & PRODUCTION SUPPLIES

Check out our assortment of tools and production supplies to help you with your project or maintenance requirements.

nz.element14.com/connect38_ToolsandProduction



CREALITY

Creality DIY Ender-3

printing size with MK8

aluminium extrusion for

Resume printing while power off

Order Code

METCAL

294548902

More stable 40x40

the Y-axis base

PRO 3D printer of

220x220x250mm

mechanism

FILAMENT

5% OFF /

30% OFF

\$22.93

Order Code

288638102

\$131.96

ENDER-3 PRO - 3D PRINTER

STTC-136 - SOLDERING IRON

CREATOR 3 - 3D PRINTER



Creator 3 is a professional independent dual extruder 3D printer Maximum build volume

FLASHFORGE

- 300mm x 250mm x 200mm Flexible and removable
- heated build plate



Order Code

5% OFF \$346.67

Weller

TIP

322068702

7874B - DESOLDERING PUMP



ESD safe · Single handed operation Lockable spring loaded plunger



24-6337-8817 - SOLDER WIRF





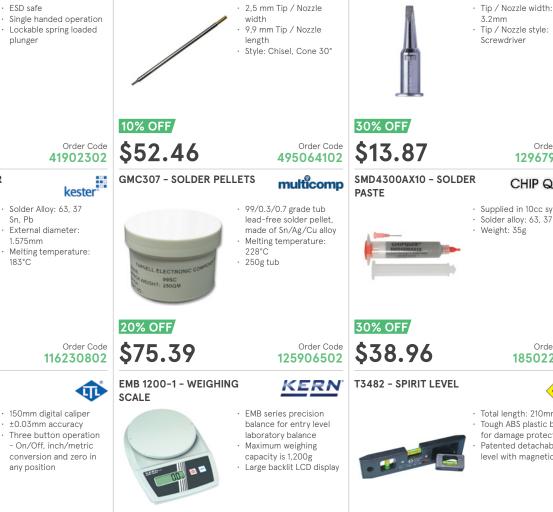
5% OFF

\$72.66

49-923-150 - DIGITAL CALIPER









2503180001 - 3D PRINTER COPPER 3D

- PLACTIVE AN1 PLA filament is a nanocomposite developed with high quality PLA &
- Nano-Copper additive Non-toxic product and environmentally friendly
- (biodegradable) · Clinically tested in prosthesis for amputees

with excellent results

Order Code 325131602





Order Code 129679902

- CHIP QUIK®
- Supplied in 10cc syringe Solder alloy: 63, 37 Sn, Pb
- Weight: 35g

Order Code



 Total length: 210mm Tough ABS plastic body for damage protection Patented detachable mini level with magnetic base



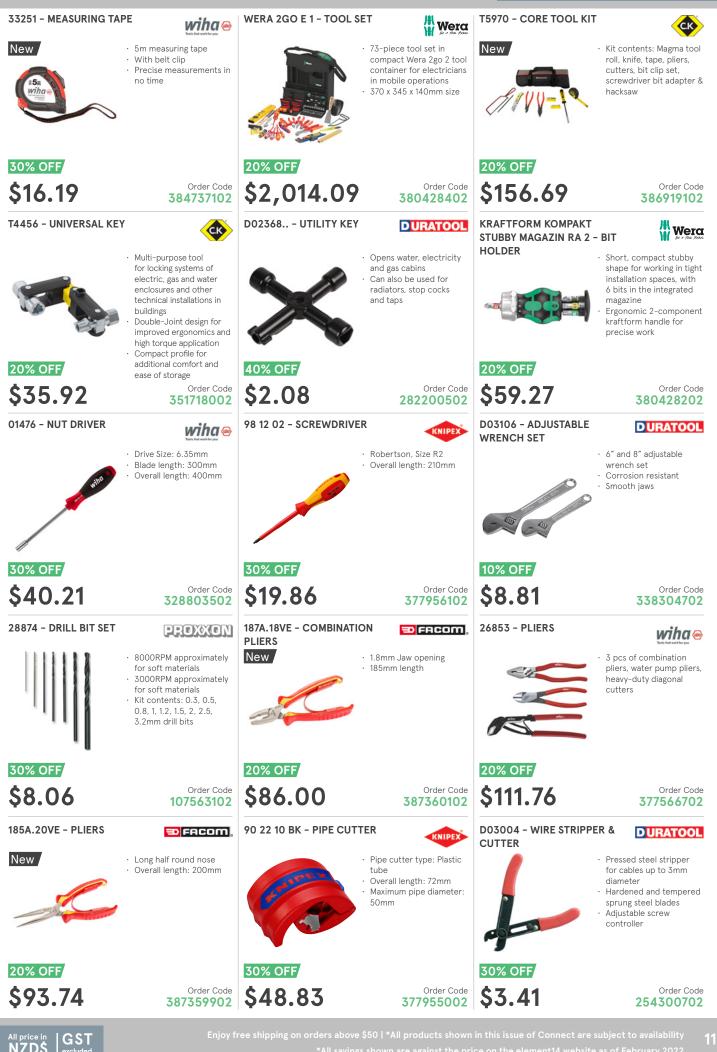
Order Code 137586302

20% OFF

\$140.66

All price in **NZDS**



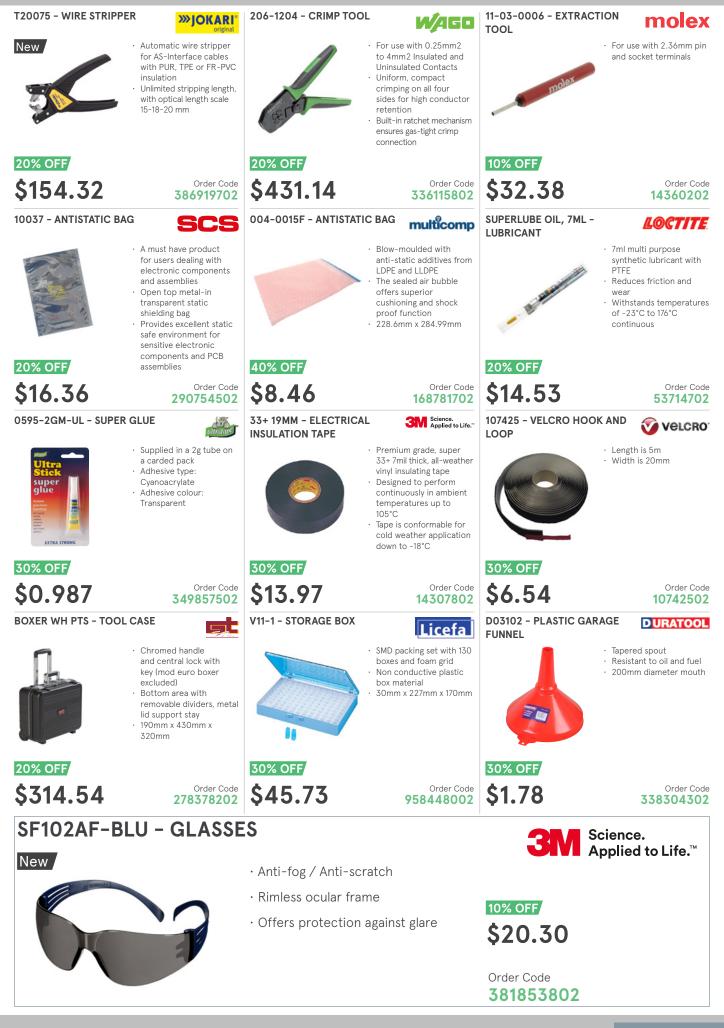


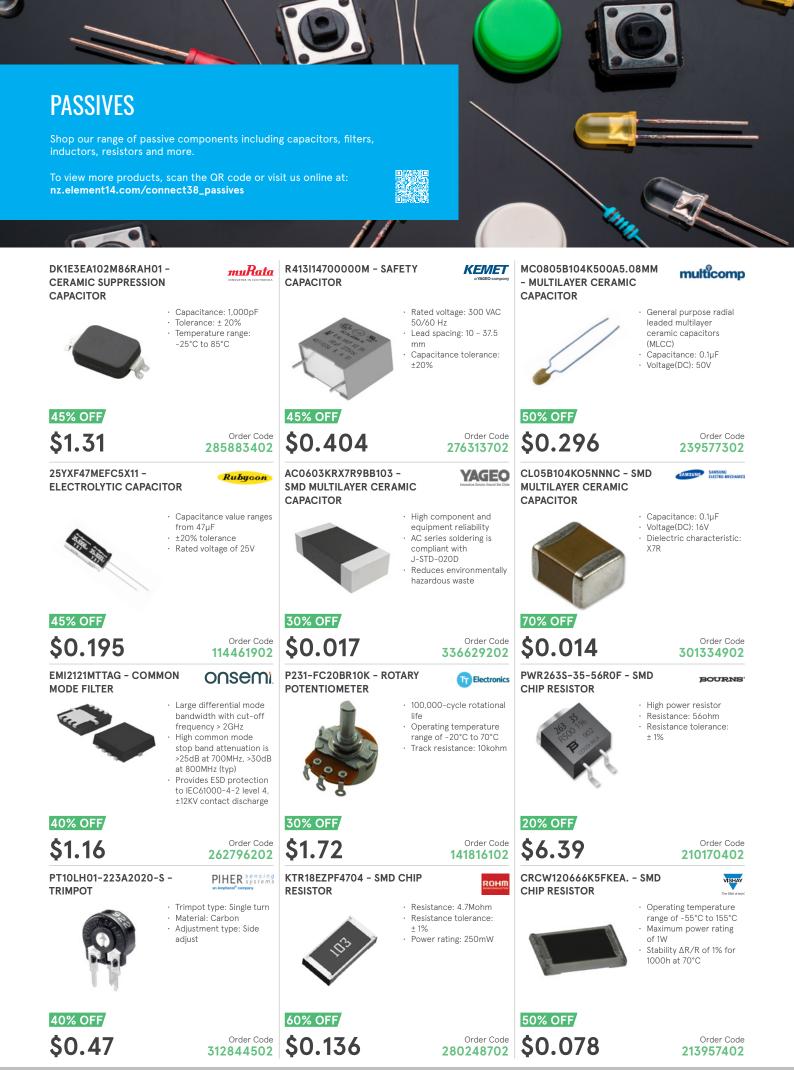
TOOLS & PRODUCTION SUPPLIES

Your trusted partner for sourcing your electrical & electronics needs

GST

N7DS







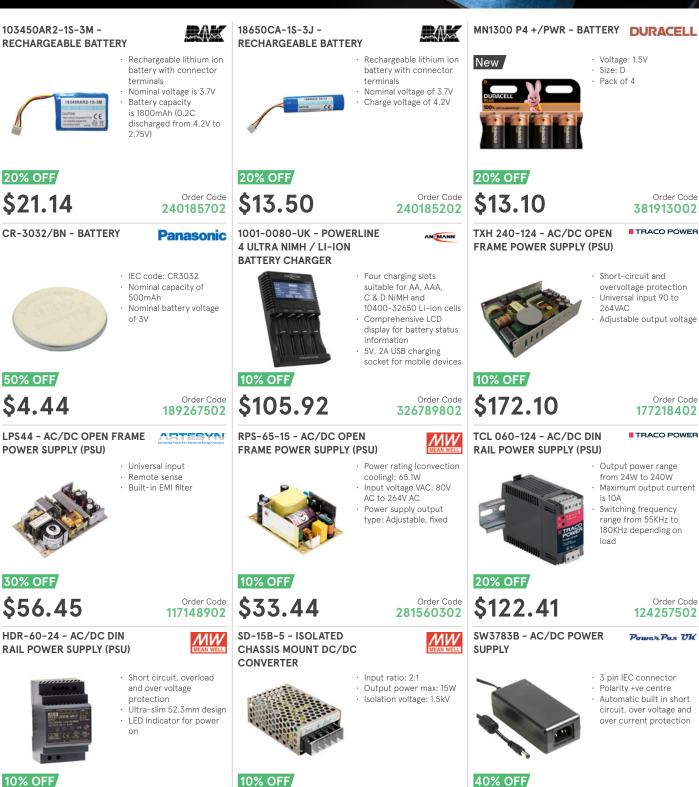
ijoy free shipping on orders above \$50 | *All products shown in this issue of Connect are subject to availability *All savings shown are against the price on the element14 website as of February 2022

13

Take a look at our vast range of electromechanical components from leading manufacturers.

To view more products, scan the QR code or visit us online at: nz.element14.com/connect38_electromechanical





Order Code

281615802

\$28.14

\$44.52

14 Enjoy free shipping on orders above \$50 | *All products shown in this issue of Connect are subject to availabilit *All savings shown are against the price on the element14 website as of February 2022

\$28.18

Order Code 281564302

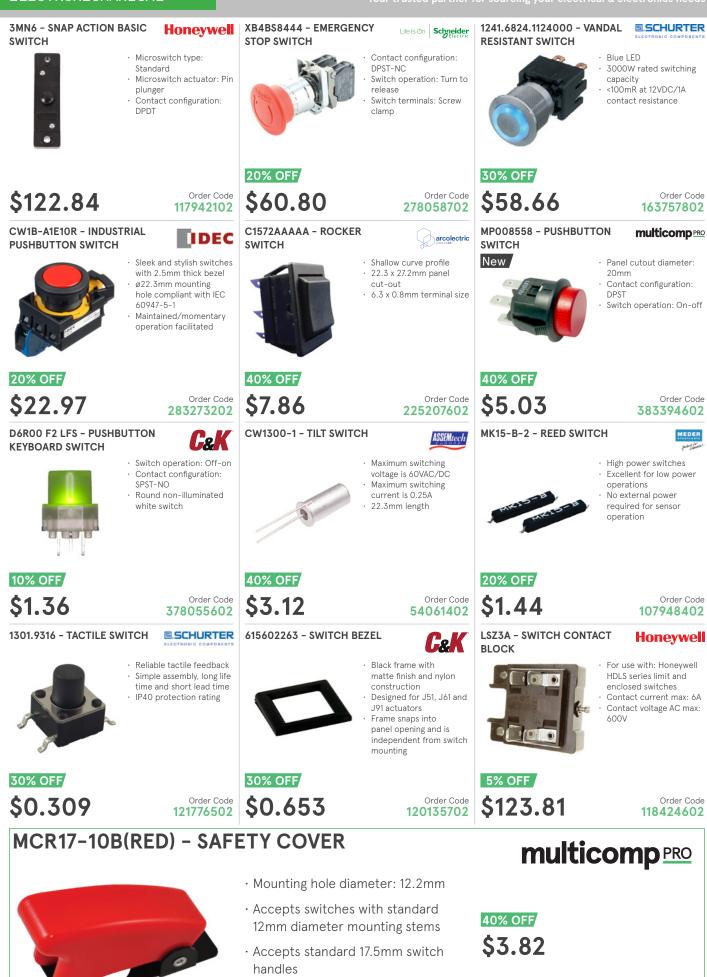


Order Code

280268802





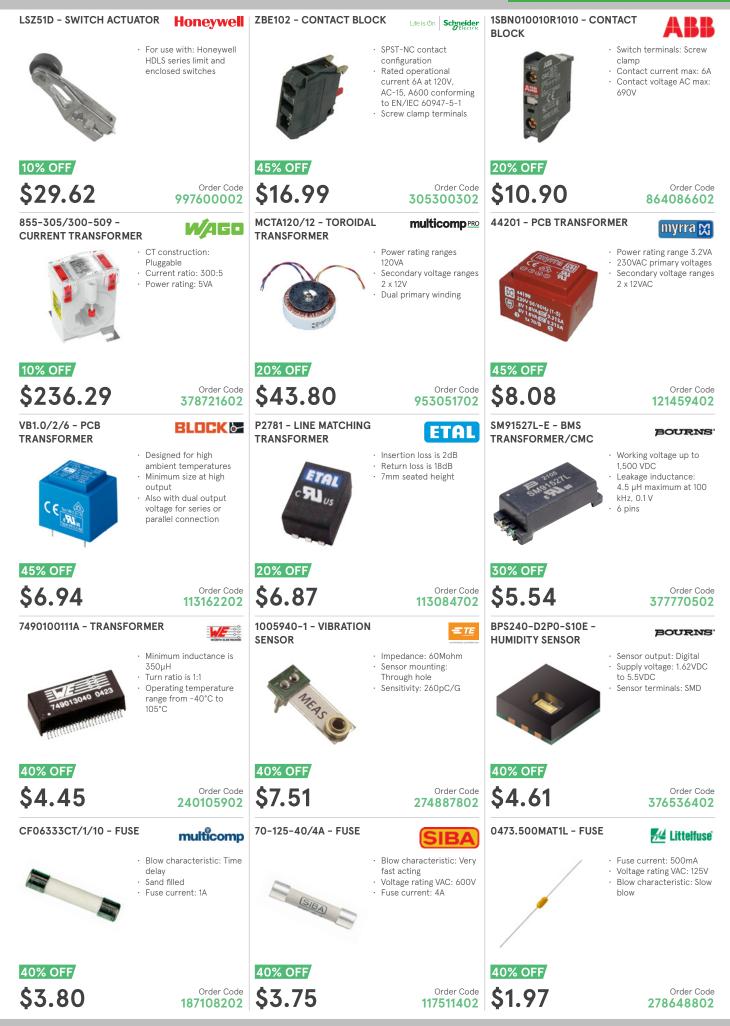


· Accepts standard 17.5mm switch handles

> Order Code 225112302

> > All price in NZD\$

GST





DEMYSTIFYING AI AND ML WITH EMBEDDED DEVICES

Machine learning (ML) enables electronic systems to learn from existing data and use their own knowledge to measure, predict, and make decisions. Since these types of applications normally require high computational power, they always run on PCs and cloud servers. Thanks to innovative techniques, algorithms and robust workflows, machine learning can now be carried out directly on embedded devices.

Benefits of ML on embedded devices for industries

ML on embedded devices has many advantages. It eliminates the need to transfer and store data on cloud servers, and reduces data loss and privacy leaks during data transfer. It also reduces the theft of intellectual property, personal information, and trade secrets. The use of embedded hardware running on ML-based models is also sustainable as it has a much smaller carbon footprint.

Continuous progress in industry 4.0, including sensors and smart devices that are connected via IoT, makes new applications for AI / ML algorithms. Machines are equipped with hardware and software components for data connection and manipulation. From the point of view of data science, this new model will extract knowledge from monitored assets due to the use of ML and automated improvement methods. One of the most important features of Al / ML in this field is an effective prediction of abnormal behaviour in industrial machinery, industrial tools, and processes. In addition, the integration of advanced sensors in artificial intelligence, IoT computational technologies, and cloud computing includes industrial robots, smart decisions, predictive skills, and maintenance with its advanced autonomous behaviour in improving production, help, and cooperation with employees and workers in carrying out their duties.

A recent Microsoft study found that American manufacturers using AI performed 11.5% better than those who did not. AI helps industry. Why? The applications are wide. And the statistics are fascinating. According to McKinsey, 50% of companies investing in AI over the next five to seven years will be able to double their cash flow.

According to a recent Forbes Insights for AI survey, 44% of automobiles and product developers believe AI will be key to manufacturing over the next five years, while nearly half (49%) said it would be essential to their success.



Al use case

The rapid emergence of Al-based technologies in predictive maintenance takes it to a new level. In the food industry and industrial automation, surveillance ratings have gotten "smarter" than ever in terms of the capabilities they can examine. Al-powered monitoring software can identify a faulty machine before a real problem or unforeseen event occurs. For example, in the factory, the combination of IIoT and technology training allows companies to work very well in the field of various changes such as heat, vibration, light, sound, and humidity of various types of machines.

The technology has been incorporated into asset management for a variety of applications over the years. Given the evolution of technology in the community, it is not surprising that new technologies and applications continue to appear in asset management. Modern technologies, including Al and ML, are based on existing processes and technologies.

We generally divide asset management technology into three main categories:

- User experience and interfaces
- Efficient performance
- Investment activities

In each of these areas, technology helps improve efficiency, risk management, and decision-making. Most importantly, all of these technologies have dedicated individuals and professionals involved in monitoring the results of the technologies and making more informed decisions.

Image and face recognition are classic applications for artificial intelligence and machine learning in production, where they can be used to secure employee access, track attendance and prevent fraud and theft. In another example, the Sony Technology Centre in the UK introduced image processing as part of a project that uses artificial intelligence to monitor product variety and quality on the factory floor. More than 150 high-quality Raspberry Pi SBC and Raspberry Pi cameras were used to evaluate processes such as the assembly of components on separate circuit boards to ensure compatibility.

The Embedded Machine Learning Environment

Industrial and Internet of Things (IoT) applications are now often based on Single Board Computers (SBCs), with some 50 per cent of engineers, surveyed by element14, using these development boards in their designs. Machine learning applications, embedded in a variety of embedded hardware and SBCs, are based on tools and techniques that enable the development and implementation of ML models on resource-constrained nodes. Therefore, the embedded machine learning system comprises hardware vendors, particularly original equipment manufacturers (OEMs), where ML models are deployed and implemented. In addition, it expands the global machine learning ecosystem to include tools and technologies for developing, deploying and implementing ML applications on embedded devices, including IoT devices. In the latter case, ML applications are rightly called AloT (IoT) devices.

There is now a comprehensive set of embedded hardware that can implement machine learning and deep learning programs. Many devices are inexpensive and can be used flexibly in various IoT applications, some are great for educational purposes. For example, IoT developers familiar with the Arduino ecosystem today can use the Arduino Nano 33 BLE Sense board based on Nordic Semiconductor's SoC to develop TinyML applications. The board has several built-in sensors, including a humidity sensor, temperature sensor, air pressure sensor and microphone, as well as motion sensors, proximity sensors, light colour and light intensity. As such, it is versatile and suitable for a wide variety of uses. Another example is the SparkFuns Edge Development Board, which supports in-depth learning programs like voice transcription and motion detection. The board is based on Ambig Micros' Apollo3 Blue microcontroller running TensorFlow Lite, one of the most popular environments for deep learning applications on embedded devices. Recently, Thunderboard Sense 2, an embedded development platform for developing IoT products, was also upgraded with integrated machine learning functions. The collaboration between SiLabs and Edge Impulse makes it possible to support the development of machine learning applications in various microcontrollers (MCUs), especially MCUs that support EFR32 / EFM32 communication. In this way, diverse business functions can be developed for different applications, such as machine monitoring and audio event analysis.

The development of machine learning models relies on popular data science libraries and tools, such as Python Machine Learning libraries, examples being Scikit-Learn and Keras over Tensorflow, as well as relevant tools such as Jupyter notebooks designed for data scientists and researchers. However, the built-in machine learning ecosystem also includes libraries specially designed to support inferences on devices with limited computing power. This is, for example, the case with TensorFlow Lite, which supports inference on the device. In addition, there are also TinyML-oriented libraries, which allow the deployment of models on devices with very few kilobytes of memory such as microcontrollers. For example, the TensorFlow Lite Micro core can hold 16 KB on an Arm Cortex-M3 and can run various machine learning and deep learning models.

Microsoft is an industry leader in the rollout of its Azure Sphere IoT platform, which also provides the Linux kernel operating system for embedded microcontrollers (MCUs) used in IoT terminals. Common uses include a Starbucks pilot program of integrated MCUs for Azure Sphere to collect telemetry from coffee machines in its stores. The company expects the data it collects to help identify potential problems before repairing coffee machines and other devices in the business. Azure MCUs are inexpensive, offer a variety of connectivity options, including cellular and Ethernet, and can be supported by a variety of development boards and start up kits.

SBCs for Al

element14 has a wide range of SBC to support embedded Al applications. This includes the most famous SBC, the Raspberry Pi 4 model B which is available with DDR4RAM up to 8 GB.

The Arduino Portenta is a powerful SBC. Asymmetric kernels can run high-level code such as protocol stacks, ML, or even interpreted languages like MicroPython or JavaScript at the same time.

CONCLUSION

In the near future, the convergence of artificial intelligence and embedded systems will lead to enormous advances in image and video recognition. Advances in embedded technology are helping us build imaging devices with higher processing power and smaller footprints. At the same time, Al offers much-needed algorithms for real-time image and video recognition. Implementing these intelligent public safety imaging devices is beneficial because it detects potentially dangerous behaviour. Such systems are also used to improve inventory management in factories, control transportation systems, and develop industrial automation.

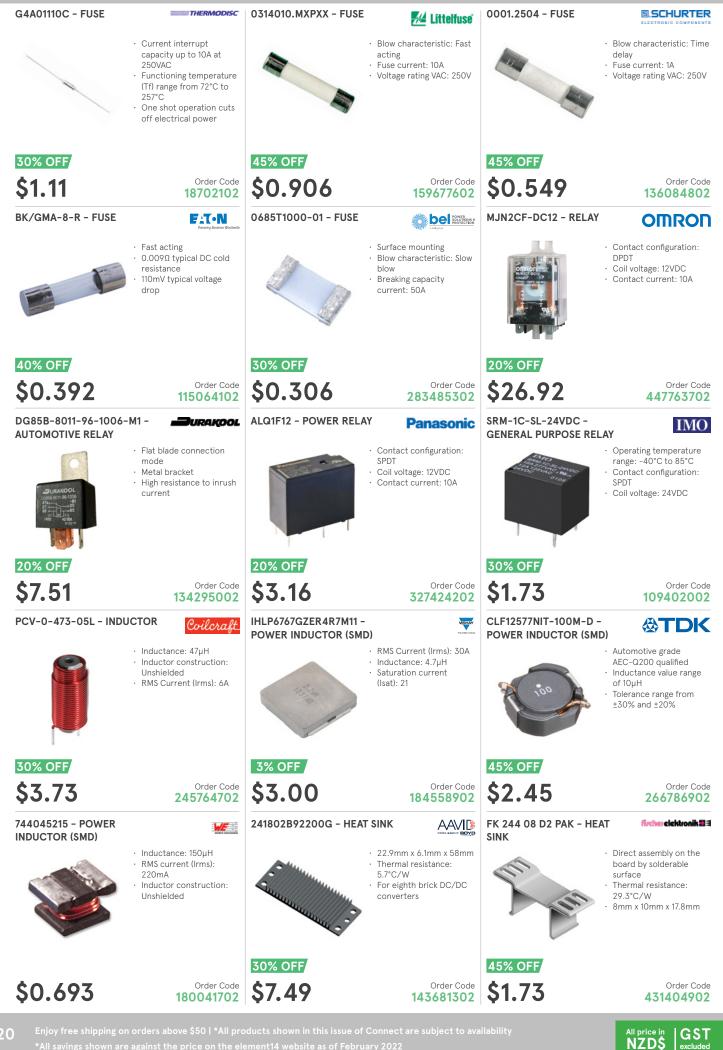
To explore more great content, visit the Technical Articles tab on

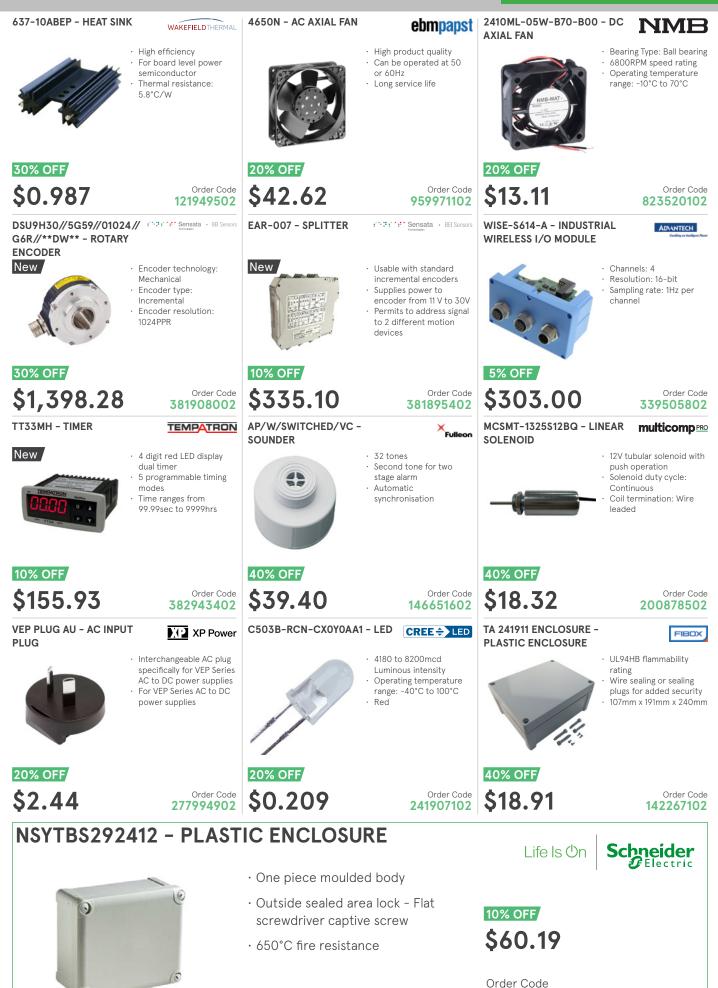
nz.element14.com/connect-magazine

or scan the QR code



GST







INTERCONNECT

Find your perfect connection with our selection of cables, wire, connectors, accessories, assemblies and more.

To view more products, scan the QR code or visit us online at: nz.element14.com/connect38 interconnect



D38999/20FJ61SN -CIRCULAR CONNECTOR



 High reliability, moisture and corrosion resistant Outstanding EMI, RFI

E TE

shielding protection 500 mating cycles

\$130.07

97-3102A-22-14P -CIRCULAR CONNECTOR



Amphenol[®] 100 mating cycles, IP67

Order Code

217328402

- environmental protection Six shell styles, single key/keyway polarization
- High reliability, moisture and corrosion resistant
- 10% OFF \$70.53

HR10A-10P-12S(73) -

30% OFF

CIRCULAR CONNECTOR

D38999/24FB35PN -

CIRCULAR CONNECTOR

corrosion and fluid resistant Metal to metal bottoming and superior contact stability

High reliability, moisture,

- Durability of 500 mating cycles and 48hr salt spray exposure
 - 5% OFF Order Code

\$67.76 349472702

UTG61619PN - CIRCULAR RS

- Plug shell type Current rating of 2A
- CONNECTOR

CONNECTOR CONTACT

40% OFF

\$0.47

CONNECTOR

71600-016LF - IDC

MS3101E16S-1S - CIRCULAR

CONNECTOR

Order Code 248275202

FAT-N • Minimum insulation

resistance of 5000Mohm Nickel plated bayonet

🔷 ітт

· 5 shell styles with 19 shell

Single key/keyway shell

. High reliability, moisture

and corrosion resistant

sizes

polarisation

connon

ring Moulded-in contact marking (standard version)

20% OFF \$46.33

MP007684 - CIRCULAR CONNECTOR

multicomp PRO

Order Code

15163402

- Female 90 degree Cable connector 3 contacts
- Threaded mating



\$9.50

GDM3011.BLACK -**RECTANGULAR POWER** CONNECTOR



30% OFF \$2.86



\$22.21

206708-1 - CIRCULAR CONNECTOR



Receptacle are available with square flange and free hanging mounting Standard and reverse connections





greater than or equal to 500 mating cycles Limiting temperature range from -40°C to 125°C

Rated current of 10A



Order Code 118830102

Amphenol ICC

Order Code

connen

10532102

🔷 ітт

Crimp contact for use

system

wires

with trident T2P contact

Brass contact body with

tin plating Accepts 18 to 16AWG

- · Gender: Female
- · Pitch spacing: 2.54mm
- Connector mounting: Cable mount

Order Code 110391902

Enjoy free shipping on orders above \$50 | *All products shown in this issue of Connect are subject to availability 22 *All savings shown are against the price on the element14 website as of February 2022





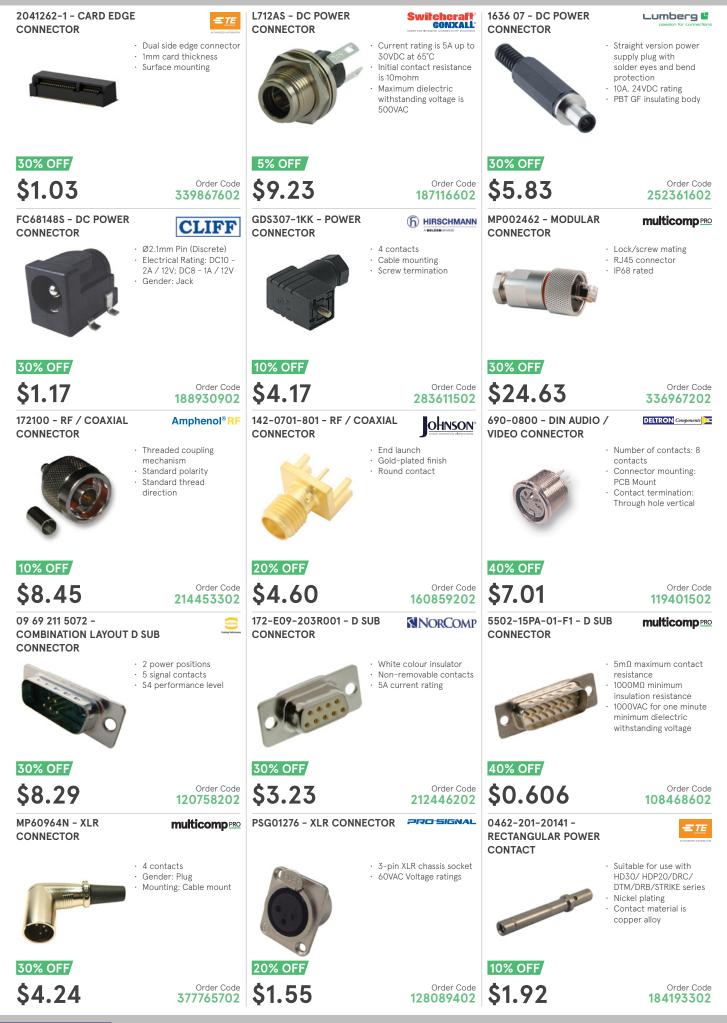


12 contacts

30% OFF Order Code \$17.38 182697602 192990-0060 - CIRCULAR

EXPLORE MORE: nz.element14.com/connect-magazine

INTERCONNECT



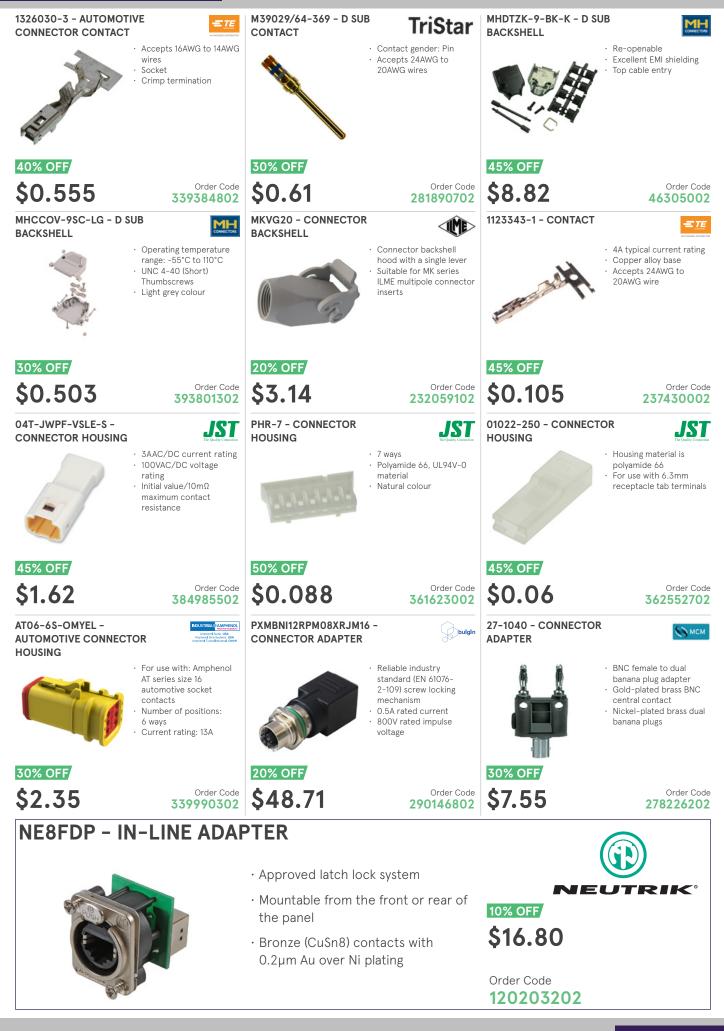


INTERCONNECT

Your trusted partner for sourcing your electrical & electronics needs

GST

All price in NZDS



EXPLORE MORE: nz.element14.com/connect-magazine

INTERCONNECT



All price in GST NZD\$ GST excluded

INTERCONNECT

Your trusted partner for sourcing your electrical & electronics needs



multicomp PRO

EXPLORE TRI-RATED CABLE AND WIRE

Multicomp Pro's high-temperature, flame retardant tri-rated wire is designed for use in electrical cabinets, switch control, relay and instrumentation panels of power switchgear, and for internal connections in rectifier equipment, motor starters and controllers.

Learn more: nz.element14.com/tri-rated-cable-and-wire

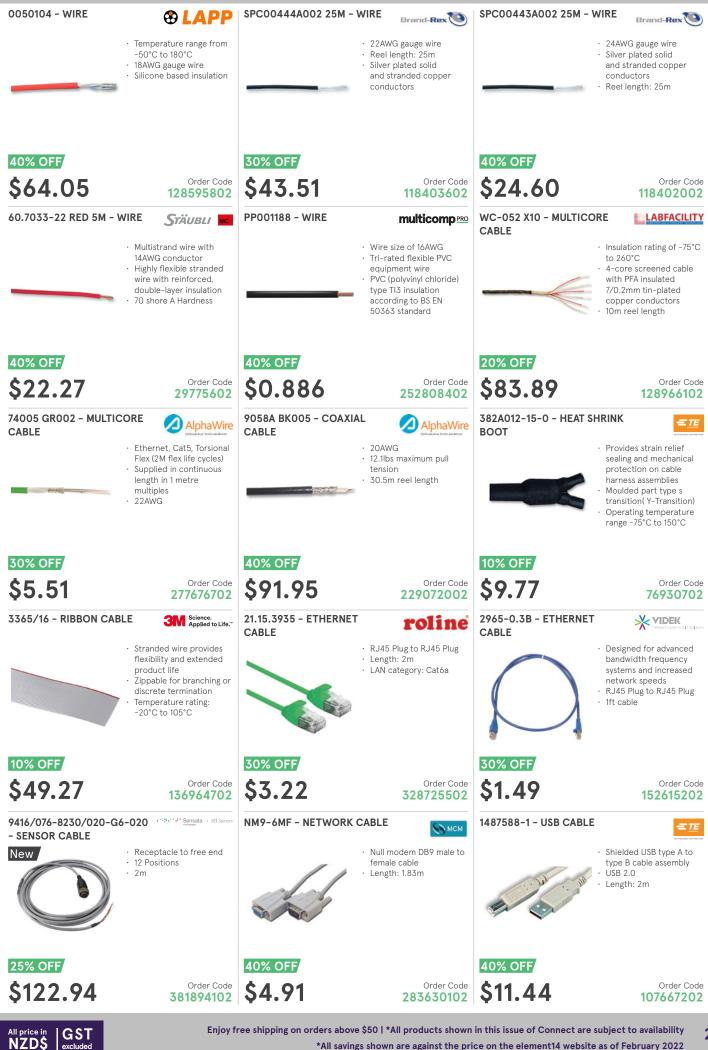
View featured Multicomp Pro products: nz.element14.com/connect38_multicomp_pro



All price in **NZD\$**

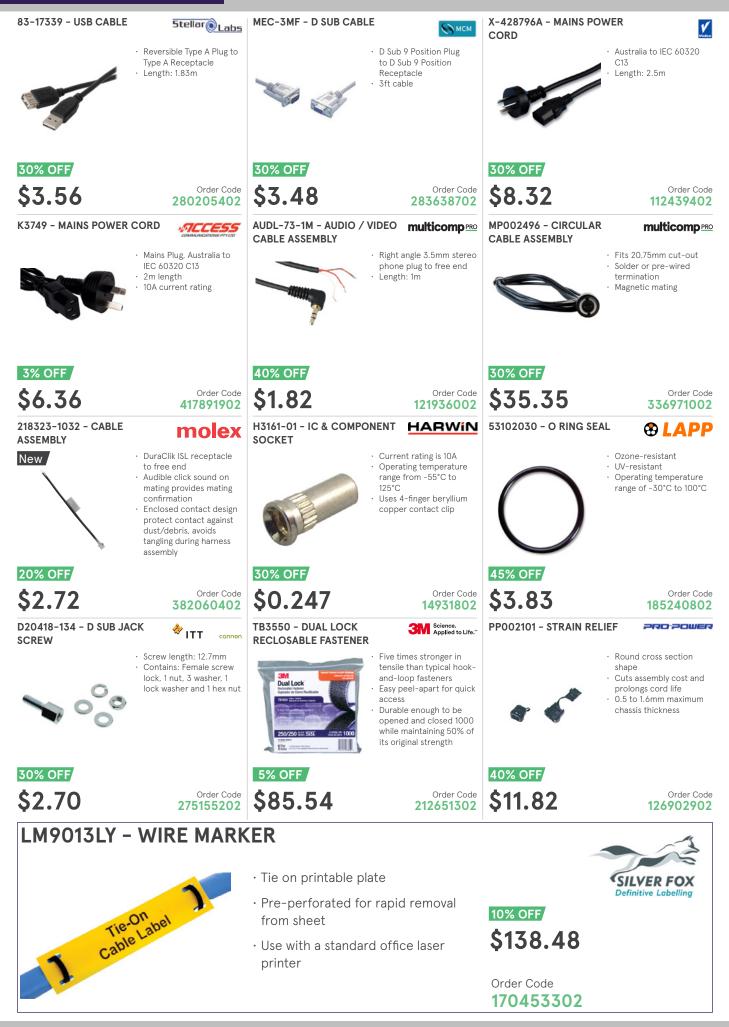
INTERCONNECT

27



GST

All price in **NZD\$**



SEMICONDUCTORS

Explore our range of semiconductors including, Integrated circuits (IC), discretes, transistors and more.

To view more products, scan the QR code or visit us online at: nz.element14.com/connect38_semiconductors

· ESD protection for

15kV (Air)

diode

high-speed data lines to

diodes with internal TVS

Order Code

SILICON LABS

Order Code

Order Code

379443702

onsemi

Order Code 352849802

Transistor polarity:

Drain source voltage

Transistor mounting

Surface mount

N channel

Vds: 150V

129153002

maxim integrated.

· Input voltage: 400mV

Output voltage: 1.8V

Output current: 200mA

to 5.5V

to 5V

145641502

IEC 61000-4-2 (ESD) ±

Array of surge rated

· Protects four I/O lines

8051-compatible

interface On-chip voltage comparator

microcontroller core

In-system, full-speed,

non-intrusive debug



10A

SRV05-4.TCT - ESD **PROTECTION DEVICE**



30% OFF \$1.28

C8051F410-GQ - 8 BIT MCU



10% OFF \$16.77

MAXM17225AMB+ - DC/DC POL CONVERTER

20% OFF

\$2.97

NTBLS4D0N15MC - POWER MOSFET





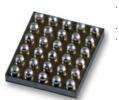
WNS20H100CBJ - SCHOTTKY SEMTECH RECTIFIER



45% OFF

\$0.866

MAX30001GCWV+ -**BIOPOTENTIAL AFE**



10% OFF \$11.26

TSC214IYCT - CURRENT SENSE AMPLIFIER



Input bias current: 28µA · Operating temperature: 40°C to 125°C

Bandwidth: 40kHz

40% OFF

\$1.96

MMBT2222A,215 - BIPOLAR (BJT) SINGLE TRANSISTOR



NPN switching transistor housed in a plastic package Suitable for use with the switching and linear amplification High current

45% OFF \$0.151



Order Code

Order Code

386462902

nexperia

Order Code 175793402

388973202

life.augmented

Order Code

290240002

maxim Integrated.

IC Function: Biopotential

(R-to-R detection) AFE

<u>age</u>

Forward current If(AV):

· Diode configuration: Dual

common cathode

Maximum operating

temperature: 150°C

DIODE New

45% OFF

New

\$0.242

LAN8671B1-E/U3B -

ETHERNET CONTROLLER

SMA6F26A-M3/H - TVS

· TVS polarity:

53.3V

Unidirectional

Reverse stand-off

Voltage Vrwm: 26V

· Data rate: 10Mbps • Ethernet type: IEEE

Supply voltage: 3.135V to

802.3

3.465V

Clamping voltage Vc max:

Order Code

381867702

Міскоснір

20% OFF \$4.64

45% OFF

\$1.74

45% OFF

\$0.089

BC337 - BIPOLAR (BJT)

SINGLE TRANSISTOR

PCA9670PW,118 - I/O **EXPANDER**

387279602

Order Code

Chip configuration: 8bit Bus frequency: 1MHz IC interface type: I2C

Order Code

289048302

multicomp PRO

- 200°C/W junction to ambient in free air thermal resistance
- Collector emitter voltage V(br)ceo: 45V DC collector current: 500mA

Order Code 157437902



SBC & DEVELOPMENT KITS

Meet your application needs with our latest range of Single Board Computers and Development Kits

To view more products, scan the QR code or visit us online at: nz.element14.com/connect38_SBC

pi-top

375495402

5V trigger relay module

Raspberry Pi

For use with Arduino and

MCM

Order Code

Order Code

۲

DFROBOT

Order Code

351793802

291756902

Built-in low power 32bit

CPU, can be used as an

application processor

TCP / IP stack built-in

3.3 to 5V operating

voltage, 3.3 to 5.5V

supply voltage

protocol

280141202



Multifactor device

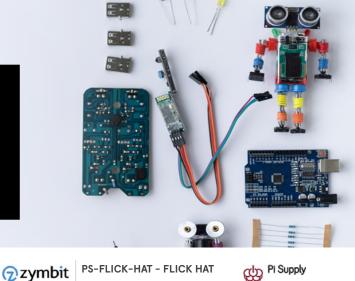
Data encryption and

Key generation and

identity and authentication

signing engine

secure storage



Compatible with

Raspberry Pi 3,

Raspberry Pi 2, Raspberry Pi B+ and

Raspberry Pi A+

up to 15cm

chip

Gesture sensing range of

technology via MGC3130

Arduino display module

uOLED-128-G2 display

module and an adaptor

pack made up of an

to easily connect an

For use with: Arduino

development boards

Arduino to the 4D

systems display

Order Code

268714402

Includes 3D tracking



and pi-top display cable 5hr battery, integrated heat sink, centrifugal fan, mini OLED, programmable buttons and speaker Order Code

3% OFF \$346.13

83-17990 - RELAY MODULE



30% OFF \$2.75

ABX00023 - DEVELOPMENT BOARD



3% OFF

\$63.17

TEL0118 - IOT MODULE



5% OFF \$14.96



ZYMKEY 4I - ZYMKEY 4I



\$63.49

UJA1161A-EVB - EVALUATION BOARD

New

10% OFF

BOARD

\$162.22



Evaluate NXP's UJA1161A self-supplied CAN transceiver with standby

- mode into your CAN network Facilitate testing, evaluation of UJA116xA prd features in variety of MCU
- IO interface environment Supporting Arduino connection with microcontroller board

Order Code 386893702

Order Code

294771602

 $\overline{\mathbf{OO}}$

Order Code

207538202



A000066 - EVALUATION

Microcontroller board based on the ATmega328 14 digital input/output pins (of which 6 can be used as PWM outputs) Can be powered via the USB connection or with an external power supply

\$31.12

1500 - DEVELOPMENT BOARD



Radafruit ATTINY85 on-board, 8K flash memory, 512 bytes of SRAM, 512 bytes of EEPROM 8MHz internal oscillator USB bootloader with a LED indicator

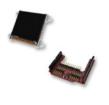




Flick

UOLED-128-G2-AR -

DAUGHTER BOARD KIT



\$69.44

NUCLEO-L476RG -DEVELOPMENT BOARD



5% OFF \$25.36

Order Code 249381602







volume knob External power port and ON/OFF switch



Enjoy free shipping on orders above \$50 | *All products shown in this issue of Connect are subject to availability 30 *All savings shown are against the price on the element14 website as of February 2022



USB VBUS or external source (3.3V, 5V, 7 to 12V) and power

point



management access

USB communication

(LD1), user LED (LD2),

. Two push buttons - USER

power LED (LD3)

and RESET

SBC & DEVELOPMENT KITS

BBORG-FAN - BEAGLEBOARD Peagleboard.org FAN CAPE



Power the BeagleBone Al via USB Type-C port and the fan will automatically start working This fan solution will keep BeagleBone AI board

below 38°C

5% OFF / \$37.61

CY8CKIT-062S4 - EMBEDDED **DEVELOPMENT KIT**

New



\$100.07

- · 512Mbits guad SPI nonvolatile flash provides high-performance, safe NOR flash memory solution Rich analogue including dual SAR ADCs DAC, Opamps and
- comparators Capable of operating in

385868202



 Evaluation platform based on BlueNRG-355MC system-on-chip Bluetooth low energy evaluation board based on the BlueNRG-LP Bluetooth low energy system-on-chip Associated BlueNRG-LP development kit SW package including firmware and documentation

> Order Code 352611302

ADI Trinamic

Order Code

282215402

Міскоснір

Order Code 232137702

Evaluation board with

Fully certified Bluetooth

2.1 + EDR/2.1/2.0/1.1

Low power (8mA to

30mÅ connected, 2mA

USB interface

module

idle)

on TMC2130

A4988

The driver boards

are compatible with StepStick and Pololu



TMCSILENTSTEPSTICK SPI -

3% OFF /

\$117.76

\$14.66

RN-42-EK - EVALUATION KIT







Order Code

329107702

(Infineon + COCYPRESS

- system deep sleep mode

Order Code \$417.91

PHNTRAYNOH -

5% OFF

\$1,673.27

PTN38003A-EVM -

EVALUATION BOARD

DEVELOPMENT BOARD

EV_ICM-42688-P -**EVALUATION BOARD** New



5% OFF \$56.07





AES-ACC-U96-JTAG -ADAPTER BOARD



3% OFF

\$69.06

2.0 connection Female UART header compatible with the Ultra96 UART male header Female JTAG header

High speed micro USB

compatible with the Ultra96 JTAG male header



MIKROE-798 -🔆 Particle **DEVELOPMENT KIT** P-zero Wi-Fi module

(802.11b/g/n Wi-Fi,

1MB flash, 128KB RAM)

On-board RGB status

advanced peripherals

PTN38003A USB 3.2 /

DisplayPort 1.4 linear

redriver evaluation board

Targeted for enterprise

access point, desktop

PC/notebooks/servers

and docking station Support USB 3.2 /

Thunderbolt 3 /USB4

Order Code

InvenSense

Order Code

Order Code

280275402

INVNET

386138302

EXILINX

386895202

DisplayPort 1.4 /

Evaluation board

accelerometer

for ICM-42688 high

precision 6-axis MEMS

motion tracking device

that combines a 3-axis

gyroscope and a 3-axis

interfaces

LED (ext. drive provided)

18 mixed-signal GPIO and

Order Code

288880302



4 digit 7-seg display and

- Piezo buzzer MikroBUS sockets and **USB** connection
- PORT headers, PORT buttons and PORT LEDs are next to each other, and grouped together

\$225.50

3% OFF /

New

\$159.65

EVM54504-BS-00A -

EVALUATION BOARD

ADM00924 - EVALUATION BOARD New



Міскоснір

228164602

Order Code

- 4 high voltage outputs (Up to 225V), single input voltage supply (VIN: 2.7V to 5.5V)
- Live data transmission (up to 22KS/s) Data file transmission
- (.csv and .way format supported)

Order Code 386984702

MPS

- 5A, 16V, 4ch O/P. step-down power module with internal auto-compensation evaluation board 0.6 to 5.5V output
- voltage Continuous output
 - current (IOUT) (4 channel output, 5A IOUT per channel)

Order Code 385893702

maxim Integrated.

- Easy evaluation of MAX22531 USB powered,
- no field-side supply required
- All input accessible

Order Code 389336202



- On board FT232RQ provides single chip USB to asynchronous serial
- data transfer interface Entire USB protocol handled by the
- Connect directly to a microcontroller UART or I/O pins







· Dual 80-bit DDR4 component memory RLDRAM3 (2x36-bit) memory

Dual QSFP28 interfaces

\$41.92

MAX22531EVKIT# -

EVALUATION KIT













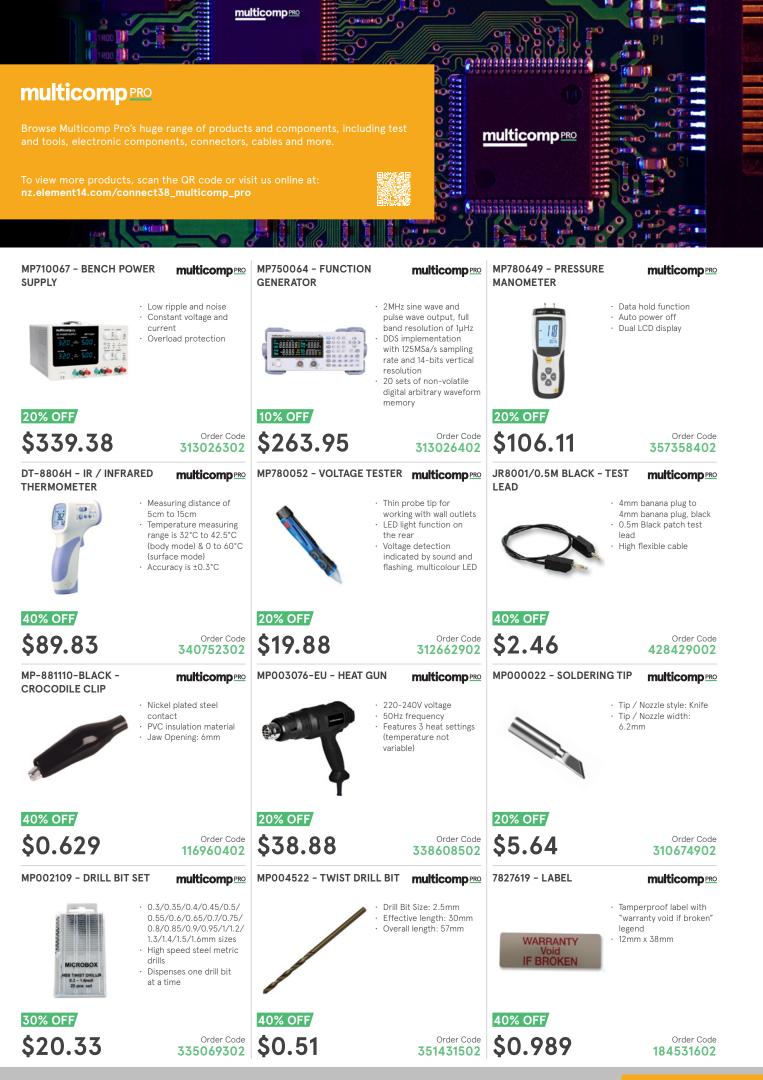
- electronics on the PCB







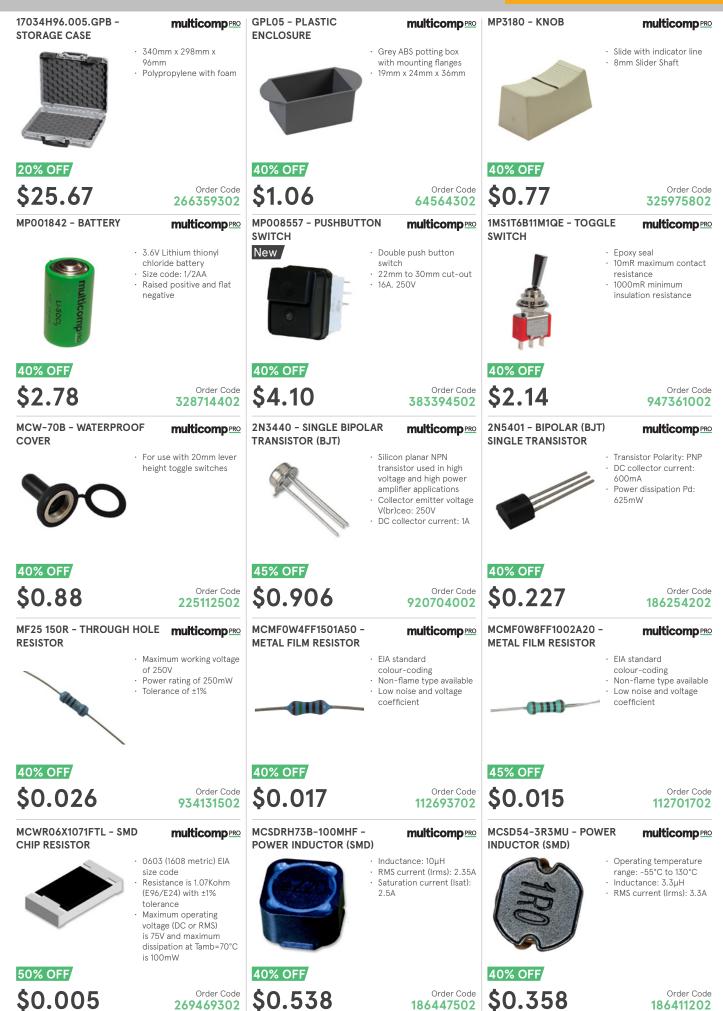
EK-U1-VCU118-G -**EVALUATION KIT**



32 Enjoy free shipping on orders above \$50 | *All products shown in this issue of Connect are subject to availabi *All savings shown are against the price on the element14 website as of February 2022

All price in **GST NZD\$** excluded

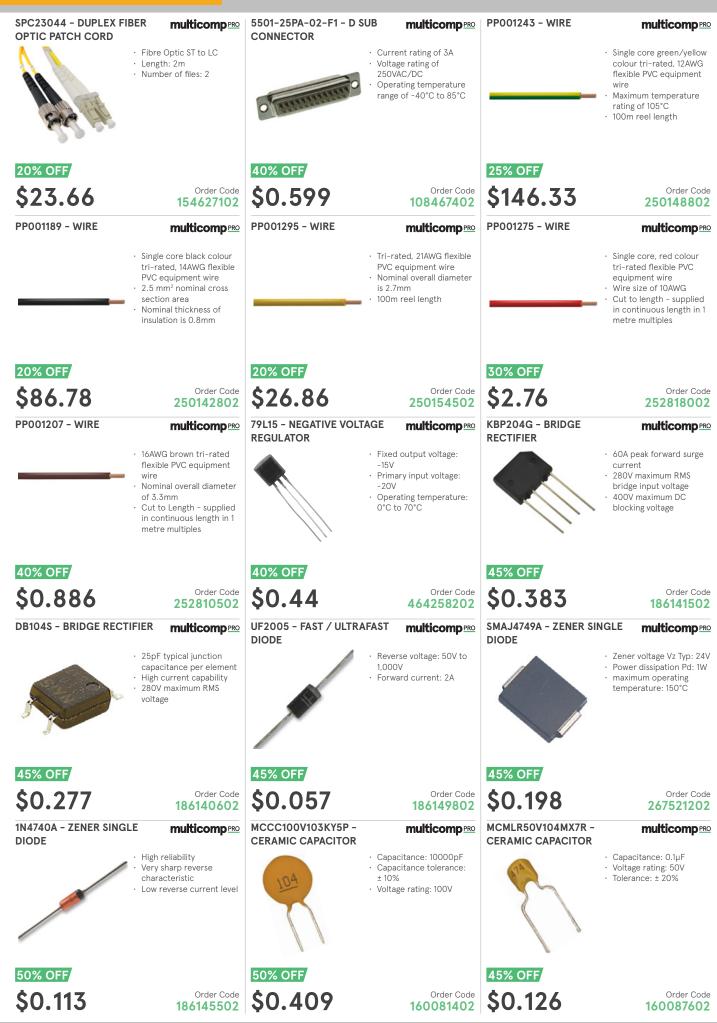






GST

NZDŚ





Customer Service 0800 90 80 80 Monday to Friday 10:00 AM - 8:00 PM (NZST) nz-sales@element14.com

Technical Support

For Account Customers Only 0800 90 80 83 Monday to Friday 10:00 AM - 8:30 PM (NZST) nz-technical@element14.com

Account Enquiries

0800 90 80 88 nz-finance@element14.com

Quote Requests

0800 90 80 86 Monday to Friday 10:00 AM - 8:00 PM (NZST) nz-sales@element14.com

OUR SERVICES

Take advantage of our local services



A global electronics distributor that provides you with local support In person, via phone or online



Dedicated account management Account holders will be assigned an individual account manager to help with your queries, product resourcing and orders



Quoting on volume requirements Dedicated team to assist in quoting you the best possible price



Not in catalogue sourcing When a product is not available in our range, our team can help you source it directly from the manufacturer



Contract pricing Special pricing is available for eligible customers



Flexible scheduled ordering Place an order now and opt to have it scheduled to be delivered at a later date



Exclusive buffer stock arrangements Reserve stock now for a future order, available for qualified customers

Our Guarantee

Call **0800 90 80 80**, email **nz-sales@element14.com** or visit our website and complete the online RMA request form. Upon authorisation, you will need to return the product in its original packaging to: The Returns Department, 300 Richmond Road Grey Lynn, Auckland 1021, New Zealand. Few conditions apply. Refer to the element14 `Standard Terms and Conditions of Sale' available at **nz.element14.com/terms-and-conditions**.

Terms & Conditions

- All products shown in this issue of Connect (the 'Publication') are subject to availability and all sales of these products are subject to the element14 Standard Terms and Conditions of Sale as set out on the element14 website. To obtain a copy, call **0800 90 80 80** or visit **nz.element14.com/terms-and-conditions**
- The Publication is valid from 4th April 1st July 2022.
- · All savings shown in the Publication are against the price on the element14 website (nz.element14.com) as of February 2022.
- Any further discount (special pricing, quote discounts, discount vouchers, etc.) is not applicable on Connect products.
- Prices in the Publication exclude delivery charges & GST. Prices are inclusive of any discounts referred to in the Publication.
- element14 reserves the right to withdraw any products from sale for legal or commercial reasons.
- Changes may be made to products by our suppliers.
- The products in the publication are meant for business customers and consumers. By ordering, the customers confirm that they wish to obtain the supplies for their business or personal purposes and not as a reseller.
- While every effort has been made to ensure the accuracy of information in the Publication, element14 does not warrant the accuracy or completeness of the information and accepts no liability for errors in, or omissions from the Publication, including those arising from our negligence.
 Standard 14 days Returns Policy does not apply to computers and peripherals, software, batteries, books and specially constructed items.
- Free next business day delivery for all orders over \$50 on locally stocked products.
- · Same day despatch available only for 'locally stocked' products. Orders must be placed before 6 PM. Excludes weekends and Public Holidays.

INDUSTRY LEADING BRANDS

Ready for next business day delivery from our Sydney distribution centre

