



**TechRentals**

Smart Solutions. Excellent Results.

# RENTAL SOLUTIONS GUIDE 2024



## MESSAGE FROM THE CEO



TechRentals continues to succeed and progress as a quality provider of test and measurement solutions, delivering products with flexible rental solutions that include industry-leading brands. In 2024, we will celebrate a significant milestone—our company’s 50th anniversary. This golden jubilee shows our commitment to providing our customers with exceptional products and services.

Customer satisfaction is important to us, and we continuously strive to keep our clients at the forefront of our business focus. Our dedication to excellence is evident in the continuous improvement of our extensive inventory, ensuring that your rental experience exceeds expectations. Our team of skilled technicians work hard to match your specific testing needs, offering expert guidance and support throughout the entirety of your rental period.

As we navigate through 2024, anticipate exciting new developments on the horizon. This year promises to reveal a series of innovative changes that will further elevate our business and redefine your experience with TechRentals.

Yours Sincerely,

*David*

David Gallagher, CEO



## LEGEND

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## 11 Reasons Why You Should Rent

### 1 Stretch Your Budget

Test equipment is often used just some of the time. Rental allows you to pay for it only when you use it, as well as stretching your budget by accessing more equipment than you could if you purchased it outright.

### 2 Utilise Operating Expense

Test equipment is expensive often sitting on a shelf collecting dust – not an effective use of your valuable business capital. Rental allows you to free up cash for other parts of the business where it can be used to generate additional profits.

### 3 Conduct Product Research Before Purchasing

It is not always clear immediately which make and model will fulfil your requirements best. Trialling it on casual rental gives you hands-on experience to guide purchase decisions.

### 4 Recover Costs Quickly

Generally rental payments are fully tax deductible and the expense can be recovered far more quickly than the tax allowances for ongoing asset depreciation.†

### 5 Eliminate Running Costs

The expense of maintaining, calibrating and warehousing your test and measurement equipment can be high. With rental you avoid these costs, as well as freeing up storage space within your premises.

### 6 Cost Allocation is Simplified

Rental payments are easy to track and account for in your business, making it easy to allocate appropriate costs to departments, clients or specific projects.

### 7 Respond to Sudden Demands

At peak periods, for unexpected projects, or when essential equipment breaks down, rental can put the necessary equipment in your hands ensuring seamless operations.

### 8 Apply New Technologies and Avoid Obsolescence

Rental allows you to update your equipment in line with other businesses and take advantage of new technologies. It also avoids the potential cost of owning equipment that can be quickly superseded.

### 9 Preserve Credit

Renting avoids the potential cost of utilising credit facilities such as an overdraft or credit cards, which are often used for equipment purchases.

### 10 Technical Support

When you rent from TechRentals you'll have the support of an experienced team of product experts, who'll help you get the most from your equipment. And in the unlikely event of equipment failure we will do our utmost to rectify the issues as soon as possible.

### 11 Reduce Carbon Footprint

Rental is an inherently more environmentally friendly business model compared to ownership, as the sunk carbon footprint of an asset can be optimised across many users and throughout time.

†Please ensure you obtain independent professional taxation advice.

## TechRentals Australia

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Blackburn North, Victoria 3130

### Sydney

41 Enterprise Circuit  
Prestons, New South Wales 2170

### Darwin

Unit 6, 143 Coonawarra Road  
Winnellie, Northern Territory 0820

### Adelaide

169 South Road  
Ridleyton, South Australia 5008

### Brisbane

72 Donaldson Road  
Rocklea, Queensland 4106

### Perth

122 Kewdale Road  
Kewdale, Western Australia 6105

### Newcastle

Unit 2, 1 Hartley Drive  
Thornton, New South Wales 2322

### Townsville

Unit 10, 72-78 Crocodile Crescent  
Mount St John, Queensland 4818

## TR Calibration

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### Brisbane

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### Sydney

41 Enterprise Circuit  
Prestons, New South Wales 2170

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Bizlink Center #06-10.  
Singapore 408938



# Electronics

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## Multimeters & Electrometers

→ See also Data Loggers on pages 101-105



### Fluke 233 Digital Multimeter with Remote Display **FLU,233 (1224) AU**

The removable display has a range of 10 meters and allows the user flexibility when the meter and the display need to be in separate places. Features temperature, True-RMS AC voltage and current for accurate measurements on non-linear signals, can measure up to 1000VAC and DC, up to 10A (20A for 30seconds), and features a capacitance range of 10,000 $\mu$ F.



### Fluke 28II EX Intrinsic Safe True-RMS Multimeter **FLU,28II-EX (1239) AU • MY • SG**

Intrinsic Safe Multimeter is a completely sealed IP67 rated case. For use inside and outside of hazardous zones. Measures up to 1000V, 10A AC and DC with true-RMS for accurate measurement on non-linear signals. Frequency measurements to 200kHz, resistance, conductance, diode test, capacitance, and temperature. Results are displayed on the bright, 4-1/2 digit LCD (20,000 counts).



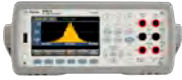
### Fluke 87-5 Industrial True-RMS Multimeter with Thermometer **FLU,87-5 (1205) MY • SG**

Unique function for accurate voltage and frequency measurements on adjustable speed True-rms AC voltage and current for accurate measurements on non-linear signals. Built-in thermometer. Measures up to 1000VAC and DC. Measures up to 10A (20A for 30 seconds). 10,000uF capacitance range. Frequency to 200kHz and % duty cycle. Peak capture to record transients as fast as 250 $\mu$ s. 4½ digit mode.

## Multimeters & Electrometers (cont'd)

### Keysight 34461A Digital Multimeter 6½ Digit Truevolt

**KEY,34461A MY • SG**



Precision 6.5 digit multimeter. 100% drop-in 34401A compatibility, graphical views of your measurement results, long-term trends and measurement histograms for a statistical view. Control, capture and view your DMM's data on your PC. Measures noise and injected current, input bias current, AC RMS (3Hz to 300kHz), DC and AC V (100mV to 1000V), resistance (100Ω to 100MΩ), frequency, period, continuity, diode (5V), current and temperature. Using TrueVolt technology the analogue to digital converter displays results on a clear 11cm hi-res display.

### Simco-Ion FMX-004 Electrostatic Fieldmeter

**SIM,FMX-004 (1245) AU**



Compact electrostatic fieldmeter used for locating and measuring static charges. Its pocket size and 3-button operation makes it convenient and easy to use. Auto range switching up to 30kV, digital and bar graph display with ± indicators, with audible alarm.

### Vermason 222541 Electrostatic Meter

**VER,222ES NZ**



Precision field meter is designed to measure electrostatic voltage potentials over selected distances from 1 to 20cm. Ideally suited to periodic audits of facilities, monitoring packaging, materials, machines and other electrostatic generative equipment or processes. Range at the standard distance of 2cm is 20kV. Range: 1 to 20cm. Display: 2 range, 3 digits in V or kV.



## Function Generators

→ See also RF Signal & Sweep Generators on page 17.



### Keysight 33612A 80MHz 2 Channel Waveform Generator KEY,33612A (1612) AU

80MHz, 2 channel waveform generator, sine, square, pulse, ramp, triangle, Gaussian noise, PRBS and arbitrary waveforms. Capable of modulation, sweep, burst, waveform summing and combining. Maximum output into  $50\Omega$ , 1mVpp to 10Vpp. Up to 120MHz sine and Gaussian noise at  $\leq 4$  Vpp. Memory is 4M Samples deep.

## Digital Storage Oscilloscopes



### Keysight DSOX3024A Oscilloscope 200MHz 4 Channels KEY,DSOX3024A (1350) AU

4 channel 200MHz digital storage oscilloscope. Sampling rate 2G/s (4G/s half-channel interleaved mode). 2Mpts memory depth, waveform update rate 1 million waveforms/s, sensitivity 1mV/div to 5V/div. Pass/fail masks can be automatically created based on an input reference waveform or on a PC then imported via USB, also store and remove waveforms via USB.



### Keysight MSO6104A 1GHz Digital Oscilloscope with Logic KEY,MSO6104A (1320) AU

1GHz 4 + 16 channel mixed signal oscilloscope (MSO). 4Gsa/s. XGA Colour display updates 100,000 waveforms/s with 256 levels intensity. 4 analogue channels & 16 logic channels. Deep memory. 8 digit frequency counter function. Triggering includes video, HDTV, I2C, SPI, LIN, CAN, & USB. FFT analysis included. LAN, USB, GPIB, & XGA interfaces standard. NATA Certified.

## Digital Storage Oscilloscopes (cont'd)



Fluke 200MHz 4 Channel ScopeMeter 190-204/S  
**FLU,SCOPEMETER 204 (1361) AU • MY • SG**

200MHz 2.5GS/s (1.25GS/s 4ch), 4 channel digital oscilloscope. Features Persistence mode, Connect-and-View triggering for intelligent, automatic triggering on fast slow and complex signals. 10,000 points per trace waveform capture (scope mode), USB host port for direct data storage, automatic capture and replay of 100 screens. Roll mode gives 30,000 points per channel for low frequency signal analysis, TrendPlot paperless recorder. Isolated inputs and safety rating CAT III 1000V/CAT IV 600V.



Fluke 190-504 500 MHz 4 Channel Scopemeter  
**FLU,190-504 NZ**

500MHz bandwidth, 4 channel colour oscilloscope with DMM feature. Digital display persistence giving analog oscilloscope-like waveform decay. Sampling rate: 5 GS/s. Sensitivity: 2 mV-100 V/div plus variable attenuation. Trigger types: Connect-and-View™, Free Run, Single Shot, Edge, Delay, Dual Slope, Selectable pulse width, N-Cycle. Glitch capture: 8ns. Measures electrical power properties VDC, VAC rms, VAC + DC rms, Current (through clamp or shunt). Independently floating isolated inputs up to 1000 V CAT III/600 V CAT IV between inputs, references and ground. 30,000 data points stored per channel. Captures intermittents and fast glitches. Software supplied. Battery powered.

## Probes and Accessories



Fluke 80i-110s AC/DC Current Probe  
**FLU,I-PROBE (1460) AU • NZ**

Current clamp for oscilloscopes which uses a Hall effect cell for the measurement of DC or AC current. Measures currents from 0.05 to 100A peak. A thumbwheel can be used to reset zero for adaption to the measurement environment. The clamp can be used with any measurement instrument which has a BNC input and an impedance of  $1M\Omega$ ,  $<100pF$ . Maximum conductor diameter, 11.8mm.



Follow [@TechRentals on LinkedIn](#) and stay up-to-date on Test and Measurement news, application notes, and case studies.

## LCR Meters



Hioki 3532-50 5MHz LCR Meter  
HIO,LCR 3532-50 (1290) AU

Frequency range 42Hz to 5MHz. 5ms high speed measurements. Basic accuracy of  $\pm 0.08\%$ . Memory for 30 sets of measurement conditions, including comparator values. Includes correlation correction function, interactive touch panel operation and enlarged display function. Applications include laboratory use for evaluation of operating characteristics, production line use or R&D. Measurement data captured by a personal computer can be displayed graphically by using standard spreadsheet software.

# Need to validate your data centre infrastructure and measure its performance?



TechRentals has the right equipment to help you test the power quality and cabling infrastructure.

Contact us to rent the right test and measurement equipment to help you monitor the overall performance of the network at our Data Centre today.

**SCAN FOR MORE  
INFORMATION!**



## DC Power Supplies & Loads

NEW!



**BK MR 160V, 120A 3KW DC Power Supply**  
**BK,MR 160-120 (8122) AU**

Multi-ranging DC power supply allowing any combination of the rated 160V and 120A up to the maximum output power of 3000W.



**BK MR 600V 8.5A 3kW DC Power Supply**  
**BK,PVS 600-8.5 MR (8120) AU**

Multi-ranging DC power supply allowing any combination of the rated 600V and 8.5A up to the maximum output power of 3kW.



**Keysight N6702A Low Profile Modular Power System Mainframe**  
**KEY,N6702A MY • SG**

Modular power system mainframe comes with 2 x N6762A precision DC power modules(100W), 1U high. Each modules capable of 0 to 50V, 0 to 3A. GPIB, LAN, and USB, interfaces standard, and LXI compliance.



**Kikusui PLZ1003W Electronic Load**  
**KIK,PLZ1003W (8110) AU**

1000 watt electronic load. Voltage range 1.5 to 120V. Current range 0 to 200A. Provides constant current, resistance, voltage, and power modes (CC/CV/CR/CP). A multiple number of setting conditions can be stored in memory. Sequence function allows setting conditions to be changed automatically. Applications include characteristic or lifetime tests of a variety of DC voltage sources such as switching power supplies, primary and secondary batteries or as burn in loads.



**Sorensen DCS 150V, 20A DC Power Supply**  
**SOR,DCS150-20E (8130) AU**

0-150V, 20A, 3kW. Applications range from manufacturing test and burn-in of automotive components, avionics electronics, telecommunications and consumer products to beam steering, process control, laboratory R&D use. Remote control via LAN or RS232.

## DC Power Supplies & Loads (cont'd)



Sorensen DCS60-50, 60V 50A Power Supply  
**SOR,DCS60-50 (8140) AU**

60V 50A DC 60V 50A DC supply provides 3kW of DC power for test and measurement applications. Ideal for research, product development, production test, Automated Test Equipment (ATE), electroplating, burn-in, and other bulk power applications. Provides the user the ability to operate multiple units in series or parallel and is subject to regulatory approvals CE, CSA. Has protection features such as over voltage protection, current limit, and over temperature protection. Features: Constant voltage with automatic crossover and mode indication. Constant current. Remote sense, 1V line loss compensation. Isolated analogue programming.



BK 1902B DC Power Supply  
**BK,1902B MY • SG**

Multi-ranging laboratory grade DC Power Supply. Voltage 1-60 V and Current 0 - 15A. USB interface with PC software for remote control and external timed programming. Maximum output power of 900W.

New items are being added to the inventory constantly, so if you don't see what you're looking for, please call us on...

TechRentals Australia: 1800 632 652

TR Calibration: 1300 790 480

TechRentals New Zealand: 0800 832 473

TechRentals Malaysia: 1800 88 7368

TechRentals Singapore: +65 6950 7360

**NEW!**

## Electronic Calibrators

→ See also Industrial Process Calibrators on pages 91-98.



Fluke 5500A Multi Product Calibrator with NATA Calibration  
**FLU,5500A-NATA (1660) AU**  
**FLU,5500A MY • SG**

Calibrator sources direct voltage & current, alternating voltage and current, with multiple waveforms and harmonics, 2 simultaneous voltage outputs or voltage & current. Simulates power with phase control, resistance, capacitance, thermocouples and RTDs. Selectable ranges include the following outputs Vdc from 0 to 1.02kV, Vac from 1mV to 1.02kV with output from 10Hz to 500kHz. AC current from 0.01 $\mu$ A to 11A with output from 10Hz to 10kHz. DC current from 0 to 11A. Resistance values from short circuit to 330M $\Omega$ . Capacitance values from 330pF to 1,100 $\mu$ F. Temperature t/c B, C, E, J, K, L, N, R, S, T, U, RTD Pt385 100 $\Omega$ , Pt3926 100 $\Omega$ , Pt3916 100 $\Omega$ , Pt385 200 $\Omega$ , Pt385 500 $\Omega$ , Pt385 1k $\Omega$ , Ni120 120 $\Omega$  and, Cu427 10 $\Omega$ .



Genrad 1433F 111k $\Omega$  7 Decade Resistance Box  
**GR,1433F-NATA (1680) AU • MY • SG**

Seven decades by 0.01 $\Omega$  to 111k $\Omega$ . Accuracy 0.01% +0.002 $\Omega$ . Useful for platinum resistance thermometer calibration. NATA calibrated.



IET Resistance Temperature Detector Simulator RTD-250  
**GR,RTD-250 (1658) AU**

20 to 1,121.10 $\Omega$ , 5 decades, accuracy (ppm) 200, resolution 10m $\Omega$ .

## Gauss/Tesla Meters



FW Bell Gauss/Tesla Meter  
**BEL,4190 (1969) AU • NZ**

Handheld digital ELF gauss meter. Maintains accuracy regardless of orientation. Applications include detecting magnetic field emissions from overhead AC power lines, video display terminals, office equipment and household appliances. Analogue o/p, data logging, auto range 0.1 to 1999 mG, minimum resolution 0.1mG/0.1 $\mu$ T.

## Gauss/Tesla Meters (cont'd)



**FW Bell 5180 Gauss/Tesla Meter**  
**BEL,5180 (1960) AU • NZ • MY • SG**

Magnetic measuring equipment, portable gaussmeter. Built-in software eliminates the need for complex calibration procedures. Key features include Auto Zero, Min/Max/Peak Hold, Auto Range and Relative Mode. Allows the user to select Gauss, Tesla or Ampere/Meter readings. With Hall effect transverse probe STD18-0404. Frequency bandwidth DC - 20kHz, range from 0 up to 30 kG with a basic accuracy of 1.1% (FS). Analogue output ( $\pm 3V$  FS) and USB interface. Battery operated.

## E & H Field Strength Meters

→ See also Radiation Monitoring & Protection on page 160.



**Holaday HI-3604 E & H Survey Meter ELF**  
**HOL,HI-3604 (1945) AU • MY • SG**

Low frequency field meter. Designed to evaluate electric and magnetic fields associated with 50Hz power lines. Frequency range 30 to 2,000Hz. Measures magnetic fields from 0.1 milligauss to 20 gauss. Measures electric fields from 1 volt/meter to 200 kilovolts/meter. LCD display. 127 reading data memory.



**Holaday HI-3627 Magnetic Field Meter**  
**HOL,HI-3627 (1980) AU**

Three orthogonal field sensors. Dynamic range 0.2mG~20G. True RMS detection. Frequency range 5Hz to 2kHz with an in-built 30Hz high pass filter. Meets requirements of the Swedish protocol and the IEEE P-1140 protocol.

## E & H Field Strength Meters (cont'd)



**Narda NBM-520 'E' Field Strength Meter and Probe EF1891**  
**NAR,NBM-520 (1925) MY - SG**

Field strength meter with EF1891 'E' field probe. Detects electric fields from 3 MHz to 18 GHz, covering fields generated by broadcasting, telecoms, radar and any other transmission sources within this range. Dynamic range from 0.6V/m to 1,000V/m. Applications include measuring field strengths to comply with general safety regulations and actual radiated power. Includes fibre optic cable with optical to electrical converts for remote monitoring.



**Narda NBM-550 'E' Field Strength Meter and Probe EF1891**  
**NAR,NBM-550 (1930) AU**

Measures the field strength of non-ionising radiation from various transmission facilities. This includes mobile phone and broadcast towers, to determine radiation exposure to nearby workers and the general public. Can be used to make precise measurements to establish human safety, particularly in workplace environments where high electric field strengths are likely to occur. It also includes a non-directional isotropic probe for applications in the frequency range 3MHz to 18GHz, with a probe interface that automatically detects probe parameters for simple operation. Features: Large graphical display. GPS interface with automatic storage of position and measurement data. Built-in memory stores up to 5000 measurement results. Audible warning with programmable alarm threshold.

## EMC & Power Disturbance Simulators

NEW!



**Teseq NSG 437 30kV Static Discharge Generator**  
**TES,NSG 437 (8374) AU**

Ergonomic design and advanced functionality. designed to sit comfortably in the operator's hand, with operating conditions constantly displayed and accessible on a bright, clear colour touch display.

Features

- Air and Contact discharge to 30 kV
- Easily and quickly interchangeable discharge networks
- Activity log





## Next Generation Radio

TechRentals' Push-to-talk-over-Cellular (PTToC) solution, **RAPID**, leads the way in giving you nationwide access to your teams throughout Australia. Either one-to-one or one-to-many, you can communicate with your team using our RAPID Radio next generation solution and experience the superior audio clarity and system performance. Managing your team over a wide area has never been easier or more cost effective.



### Discover The RAPID Difference



**Easy-to-Use:** Instant communication with superior audio quality.



**Quality:** True quality enterprise solution, devices, and voice transmission.

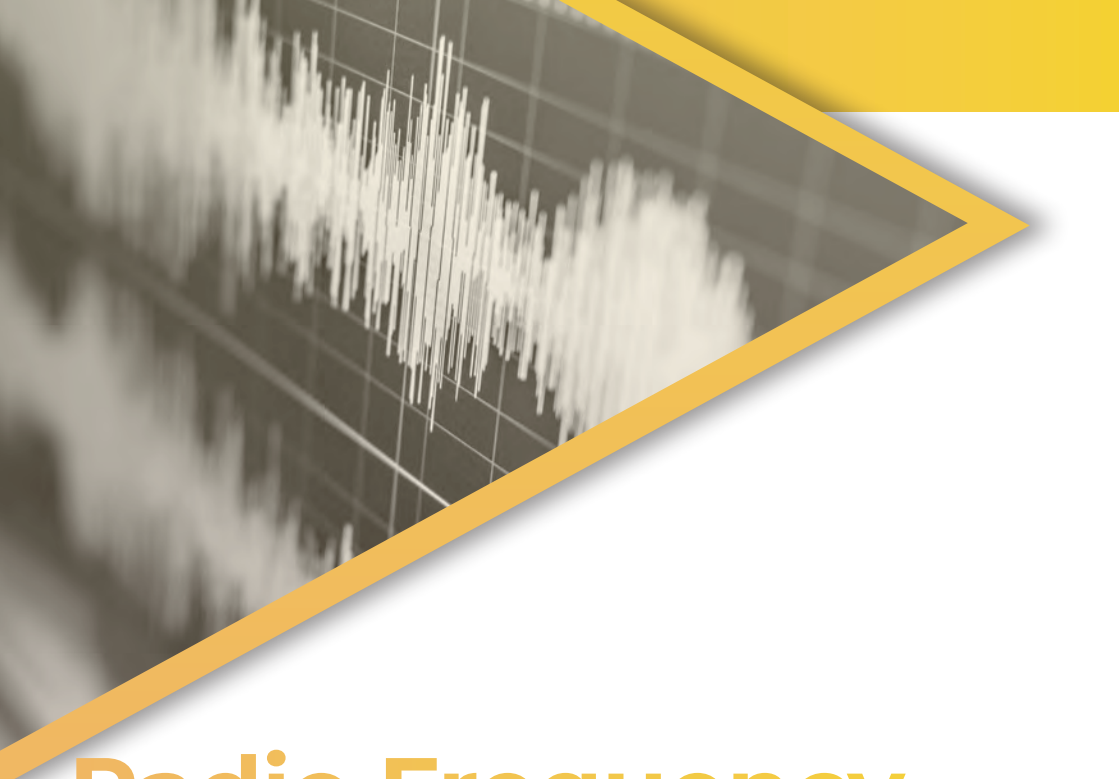


**Cost & Efficiency:** Reduced infrastructure costs and easy deployment.



**Security:** High level of security features and protocols.

Available for Australia only.



# Radio Frequency

Pg. 17 RF Signal & Sweep Generators

Pg. 17-18 Spectrum Analysers - High Frequency

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Pg. 22 Power Meters - RF

Pg. 23 Antennas

## RF Signal & Sweep Generators

→ See also Function Generators on page 7.



Keysight N5181B MXG X-Series 6GHz RF Analog Signal Generator  
**KEY,N5181B (2328) AU**

MXG-X RF Analog Signal Generator, 9k to 6 GHz, -144 to +19dBm. Features fast switching, low phase noise, pulse, and narrow pulse, AM, FM, phase modulation and sweep. Applications include R&D, receiver and component testing. 1000BaseT LAN, LXI, USB 2.0, and GPIB interfaces.

## Spectrum Analysers - High Frequency



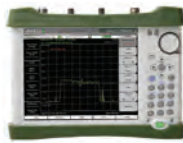
Keysight N9344C 20GHz Spectrum Analyser with Tracking Generator  
**KEY,N9344C-TG (2537) AU • MY • SG**

9kHz to 20GHz with 5MHz to 7GHz tracking generator. -144dBm displayed average noise level (DANL), <0.95s sweep time for 20GHz full span. Average continuous power, +30dBm for 3 minutes maximum. Flexible remote control via USB/LAN. User memory 64MB, able to store approximately 14,000 traces.



Keysight N9344C 20GHz Spectrum Analyser with GPS  
**KEY,N9344C (2538) AU**

9kHz to 20GHz with GPS. -144dBm displayed average noise level (DANL), <0.95s sweep time for 20GHz full span. Average continuous power, +30dBm for 3 minutes maximum. Flexible remote control via USB/LAN. User memory 64MB, able to store approximately 14,000 traces.

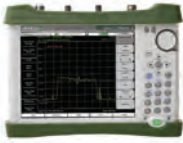


Anritsu MS2712E 4GHz Spectrum Analyser opt GPS, LTE, +  
**ANR,MS2712E-09-31+ (2560) AU**

Handheld with GPS is ideal for field spectrum monitoring, broadcast proofing, RF & microwave measurements, and Wi-Fi & wireless network measurements. You can store up to 2,000 traces and setups on-board or on a USB flash drive. Set-up time is minimised and information is effectively organised with the Trace Save-on-Event and one-button envelope creation features. Features: Dynamic range 102dB. DANL -162dBm. GPS tagging of saved traces. Gated Sweep.

# RADIO FREQUENCY

## Spectrum Analysers - High Frequency (cont'd)



Anritsu MS2712E 4GHz Spectrum Analyser with Tracking Generator & GPS  
**ANR,MS2712E-20-31 (2560) AU**

Handheld 4 GHz Spectrum Analyser with Tracking Generator and GPS is ideal for field testing of spectrum monitoring, broadcast proofing, RF & microwave measurements, and Wi-Fi & wireless network measurements. Can store up to 2,000 traces and setups on-board or on a USB flash drive. Set-up time is minimised and information is effectively organised with the Trace Save-on-Event and one-button envelope creation features. Features: Tracking generator -50 dBm to 0 dBm in 0.1 dB steps. Dynamic range 102dB. DANL -162 dBm. GPS tagging of saved traces.



Anritsu MS2724C 20GHz Spectrum Analyser with GPS  
**ANR,MS2724C (2510) MY • SG**

Handheld is ideal for field testing of spectrum monitoring, broadcast proofing, RF & microwave measurements, and Wi-Fi wireless network measurements. Comes with Coverage mapping (RSSI) options, Interference Analyzer (Spectrogram) options and Channel Scanner options. Dynamic range 104 dB, DANL -160 dBm, stores up to 13,000 traces and setups on-board or on a USB flash drive.

## Network Analysers/Antenna & Cable Test



3Z RF Vision Antenna Alignment Tool  
**3ZT,RFV-2000 (2145) AU**

This tool replaces a compass, GPS, and range finder. Effective, reliable and ensures that installers perform jobs as indicated in RF design specifications. Use for accurate antenna alignment to prevent coverage gaps, network performance degradation, loss of voice quality and traffic. Features a built in HD camera which provides augmented reality line of sight image, reporting capabilities and an easy to use GUI.

## Network Analysers/Antenna & Cable Test (cont'd)



### Keysight E5071C-260 ENA Series Network Analyser **KEY,E5071C (2744) AU**

2 port, 9kHz to 6.5GHz network analyser is a fast, accurate, and versatile solution to RF component testing. Incorporates an integral S-parameter test set and 85032F calibration kit. The E5071C-260 is suitable for RF evaluation tests concerning component manufacturing and is ideal for R&D engineers, wireless designers, and aerospace/defence contractors. Features: Wide dynamic range: >123 dB dynamic range at test port (typical). Low trace noise: 0.004 dB rms at 70kHz IFBW. Fast measurement speed, 41ms. High temperature stability, 0.005dB/°C.



### Anritsu MW82119B 2,100MHz PIM Master with Site Master Option **ANR,MW82119B-2100 (2198) AU**

Passive Intermodulation (PIM) analyser with measurement frequency 2,100 MHz and Site Master (cable and antenna analysis) options. Portable battery-operated, high power for the major wireless standards. Verify PIM performance at difficult to access sites such as Remote Radio Head (RRH) installations or indoor Distributed Antenna Systems (DAS). PIM measurements include PIM vs time, sweep PIM, distance to PIM (DTF), 1-port phase and smith chart.



### Anritsu MW82119B 850MHz PIM Master with Site Master Option **ANR,MW82119B-850 (2199) AU**

Passive Intermodulation (PIM) analyser with frequency, Cellular 850MHz band and Site Master (cable and antenna analysis) options. Portable battery-operated, high power for the major wireless standards. Verify PIM performance at difficult to access sites such as Remote Radio Head (RRH) installations or indoor Distributed Antenna Systems (DAS). PIM measurements include PIM vs time, sweep PIM, distance to PIM (DTF), 1-port phase and smith chart.



### Anritsu S331E 4GHz Sitemaster Cable & Antenna Tester **ANR,S331E (2180) AU**

Cable and antenna analyser, frequency range 2MHz to 4GHz. Measures return loss, VSWR, cable loss, and Distance To Fault. Suitable for legacy networks in addition to the new 3G and 4G networks being installed. Applications include cable & antenna installation and maintenance for wireless service providers.

## Network Analysers/Antenna & Cable Test (cont'd)



Anritsu S331L 4GHz Sitemaster Cable & Antenna Analyser  
**ANR,S331L MY · SG**

Cable and antenna analyser, frequency range 2MHz to 4GHz. Built in power meter 50MHz to 4GHz, -33dBm to +20dBm. Measures return loss, VSWR, cable loss, and Distance To Fault. Suitable for legacy networks in addition to the new 3G and 4G networks being installed. Applications include cable & antenna installation and maintenance for wireless service providers, contractors, military, aerospace, defence, and public safety applications.



Anritsu S332D Colour Sitemaster incl 3GHz Spectrum Analyser  
**ANR,S332D NZ**

Used in commissioning and maintenance of cellphone sites, radio installations and coaxial cables. Standard signal table allows automated setup. Colour display. Frequency range 25MHz~4GHz for cable and antenna test. 9kHz~3GHz for spectrum analysis. Measures return loss (range 0~60dB), SWR (range 1~65), cable loss (range 0~30dB) and distance to fault (range 1197m). Spectrum analyser resolution bandwidth 100Hz~1MHz. Integral synthesized signal generator. Calibration components included for initial set-up. RS-232 interface for printer or PC. Analysis software contains distance to fault and Smith chart tools. Portable.



Anritsu S332E Sitemaster including Spectrum Analyser  
**ANR,S332E (2175) AU**

2MHz to 4GHz and spectrum analyser 100KHz to 4GHz. DANL -152dBm. Measures return loss, VSWR, cable loss, and Distance To Fault. N(f) Type port. Analysis software containing DTF and Smith chart tools included. Complete with calibration standard, AC/DC adaptor, and 12VDC car adaptor. Cable & antenna installation and maintenance for wireless service providers, contractors, military, aerospace and defence, and public safety applications.

## Network Analysers/Antenna & Cable Test (cont'd)



Anritsu S332E Sitemaster Including Spectrum Analyser and Opt 431,31,509,27

**ANR,S332E-CMAP-MOD (2165) AU • MY • SG**

2MHz to 4GHz and spectrum analyser 100KHz to 4GHz. DANL -152dBm. Options included, indoor outdoor Coverage Mapping, GPS Receiver, Channel scanner and AM/FM/PM Analyser. Measures return loss, VSWR, cable loss, and Distance To Fault. Analysis software containing DTF and Smith chart tools included. Applications include cable, antenna, installation and maintenance, spectrum analysis, channel scanning, coverage mapping, AM/FM/PM demod for wireless service providers, contractors, military, aerospace and defence, and public safety applications.



Anritsu S820D Microwave Sitemaster 25MHz to 20GHz

**ANR,S820D MY • SG**

Microwave antenna and cable test set. Portable single port analyser, providing return loss (SWR) insertion loss and distance to fault measurements in the frequency range of 25MHz~20GHz. Unit comes standard with RS232 interface, Smith chart and software management tools, AC/DC and automotive adaptor. A comprehensive range of precision waveguide components and adaptors are available.



Anritsu Microwave Site Master Handheld

**ANR,S820E (2149) AU • MY • SG**

Microwave antenna and cable analyser, frequency range 1MHz to 20GHz with 110dB dynamic range. Coaxial and waveguide system measurements include 1-port Return Loss, VSWR, Cable Loss, Distance-To-Fault and VSWR, Smith Chart, transmission and phase measurements. Unit comes standard with USB interface, smith chart and software management tools. Supplied with K(m) type port (compatible with 3.5mm and SMA), the S820E Sitemaster also includes "Classic Mode" which allows former users of the S8X0D series to become immediately productive with a minimal additional effort. A range of waveguide calibration components are separately available to rent.



Anritsu Sitemaster Waveguide Components

**ANR,WAVEGUIDE-ADAP (2190) AU • MY • SG**

Calibration components and wave guide to co-ax adaptors for Anritsu S820x Sitemaster. Set includes 1/8 and 3/8 shorts, termination, and waveguide to co-ax adaptor.

## Communication Test Sets



Anritsu S412E LMR Master  
**ANR,S412E AU**

A compact handheld multi-function mobile radio analyser that has been specifically developed for technicians and engineers who install and maintain public safety, utility and private mobile communications systems.



General Dynamics R8000B Communications Analyser  
**GD,R8000B (2380) AU**



A compact communication system analyser which is designed to monitor and service radio communications equipment. It also generates and receives signals and measures modulation and frequency. The R8000B performs a variety of tests on AM, FM, PM, and optional digital standards P25, DMR, NXDN, and TETRA radio transceivers. A full-featured instrument which acts as a spectrum analyser, signal generator, sensitive measurement receiver, oscilloscope, and much more. With high spectral purity, it is a lightweight and truly portable solution to effective communications system analysis. Features: Frequency range 250 kHz to 1 GHz. 50W 5 min, 150W max. Less than 6.4 kg and has an 8.4" colour LCD screen. DANL is -140dBm (50Ω input termination).

## Power Meters - RF

Keysight E4416A EPM P-Series Power Meter  
**KEY,E4416A MY • SG**



Power meter, for peak, average, peak-to-average ratio and time-gated measurements. 100μW to 25W (-70dBm to 44dBm), 9 kHz to 110GHz (power sensor dependent), 4 digit display - watts, dBm, dB (rel).  
Analyser Software for complete pulse and statistical analysis. 8 pre-defined wireless configurations (GSM, EDGE, NADC, iDEN, Bluetooth™, IS-95 CDMA, W-CDMA and cdma2000). Comes with E9322A Peak & Average Power Sensor (50MHz to 6GHz, 1.5MHz bandwidth, -45dBm to +20dBm at Normal Mode).

Keysight E4418B EPM Series Single Channel Power Meter  
**KEY,E4418B MY • SG**



RF Power meter for average power measurements. 100μW to 25W (-70dBm to 44dBm), 9kHz to 110GHz (power dependent), 4 digit display - watts, dBm, dB (rel). Comes with E9300A Average Power Sensor (50MHz to 18GHz, -60dBm to +20dBm at Normal Mode).

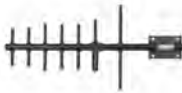


## Antennas



Anritsu Dipole Antenna Kit  
**ANR,ANTENNA (1834) AU**

MP534A dipole antenna 25 to 520MHz and MP651A 470 to 1700MHz.



Directional Yagi Antenna  
**ANT,DIRECTIONAL YAGI (1829) AU**

Various directional Yagi antennas. Frequency ranges from 824 M (UHF) to 2.17 GHz (UHF).

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# Data & Telecommunication

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## LAN Cable Testers



### TESTPRO CV100-K50 Copper Cable Certifier

**AEM,CV100-K50 (3277) AU**

Supports testing and certification for network deployments up to 40 Gigabit Ethernet for Cat 5e, 6, 6A, 7, 8 or Class I/II cabling system. The electrically centered test plug offers a frequency range of 3000 MHz which exceeds the Cat 8, Class I/II 2000 MHz requirement.



### Fluke DSX-5000 Cable Analyser 1GHz Class FA

**FLU,DSX-5000 (3278) AU • NZ • MY • SG**

1GHz cable analyser copper test solution enables testing and certification of twisted pair cabling for up to 10 GigE deployments and will certify shielded and unshielded structured cabling systems from Cat 3, to 7A and Class C, to FA at Level V accuracy. 9 second Cat 6 autotest. Built in Alien Crosstalk testing capability. PLA004 Cat 6A / Class EA, CHA004 (Cat 6A/Class EA) adapters and LinkWare PC reporting software included.



### Fluke DSX-5000 Cable Analyser Modules

**FLU,DSX5000-MOD NZ**

Copper tester modules to add to your own Fluke Versiv base unit. Once installed this becomes a Fluke DSX 5000 cable analyser and performs all the tests as per this model described above.



### Fluke DSX-8000 Cable Analyser 2GHz Class FA

**FLU,DSX-8000 (3254) NZ • MY • SG**

Cable analyser copper test solution enables testing and certification of twisted pair cabling for up to 40 GigE deployments and will certify shielded and unshielded structured cabling systems for Cat 5E,6,6A, 7A, 8 and Class C I/II, to FA at Level V accuracy. 8 second Cat 6 autotest. Built in Alien Crosstalk testing capability. PLA004 (Cat 6A / Class EA), CHA004 (Cat 6A / Class EA) adapters and LinkWare PC reporting software included.

## LAN Cable Testers (cont'd)



### Fluke CertiFiber Pro MM Optical Loss Test Set

**FLU,DSX-MM (3269) MY • SG**

Multimode optical loss test set modules (CertiFiber Pro Multimode OLTS modules) for the Versiv DSX-5000. Provides Tier 1 certification at 850 and 1300 nm in 3 seconds. A set reference wizard ensures correct reference setting. Encircled Flux compliant as required by ANSI/TIA and ISO/IEC. Measures fibre optic attenuation, length, and propagation delay. Includes built in VFL and Linkware software.



### Set of Fluke DSX-PC6 Patch Cord Adapters

**FLU,DSX-PC6 (3259) AU**

Enables you to use a DSX CableAnalyzer™ to make sure that patch cords comply with ANSI/TIA and ISO/IEC standards. The adapters have RJ45 jacks that Fluke Networks selects specifically for tests on Cat 6 patch cords.



### Kit of Encircled Flux MM Test Reference Leads for the DSX-MM

**FLU,DSX-MM EF LEADS MY • SG**

Kit consists of Encircled Flux (EF) compliant test reference leads for the following fibre networks: ST 62.5um (OM1) and SC, LC 50um (OM3 & 4). Suitable for Fluke CertiFiber Pro Optical Loss Test Set.



### Fluke CertiFiber Pro MM-SM Optical Loss Test Set B

**FLU,DSX-MMSM B (3263) AU • MY • SG**

Multi and singlemode (CFP-Q-ADD) optical loss test set modules for the Versiv DSX-5000. Provides Tier 1 certification at 850, 1300, 1310 and 1550nm in 3 seconds (for 2 wavelengths). A set reference wizard ensures correct reference setting. Encircled Flux compliant as required by ANSI/TIA and ISO/IEC. Measures fibre optic attenuation, length, and propagation delay. Includes built in VFL and Linkware software. Linkware software.

## LAN Cable Testers (cont'd)



### Fluke CertiFiber Pro SM Optical Loss Test Set **FLU,DSX-SM (3264) MY • SG**

Optical loss test set modules (CertiFiber Pro Singlemode OLTS modules) for the Versiv DSX-5000. Provides Tier 1 certification at 1310 and 1550 nm in 3 seconds. A set reference wizard ensures correct reference setting. Measures fibre optic attenuation, length, Includes built in VFL and Linkware software.

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## LAN Cable Testers (cont'd)



### Fluke Certifibre Pro Quad OLTS

**FLU,CERTPROQUAD NZ**



Latest generation fibre certification tester designed for testing, trouble shooting and certifying network cabling for both singlemode and multimode. Multimode testing is Encircled Flux compliant. Touch screen user interface for simple set-up and troubleshooting. This unit provides validation of fibre link performance and installation quality, fibre length, measurement of optical loss at multiple wavelengths and polarity confirmation. Multimode bi-directional testing at 850nm & 1300nm at the same time. Singlemode bi-directional testing at 1310nm & 1550nm at the same time. Interchangeable adaptors for SC, LC and ST testing. Pass/fail results based on common fibre standards. Includes in built visual fault locator (VFL).



### Fluke Certifibre Pro Multimode OLTS

**FLU,CERTPROMM NZ**



Designed for testing, trouble shooting and certifying multimode network cabling. Multimode testing is Encircled Flux compliant. Touch screen user interface for simple set-up and troubleshooting. This unit provides validation of fibre link performance and installation quality, fibre length, measurement of optical loss at multiple wavelengths and polarity confirmation. Multimode bi-directional testing at 850nm & 1300nm at the same time. Interchangeable adaptors for LC or SC connectors. Pass/fail results based on common fibre standards. Includes in built visual fault locator (VFL).



### Fluke FI-1000 Fibre Inspection Camera & Cleaning Kit

**FLU,FI1000 NZ**

Provides a visual display of the fibre end-face and pass/fail certification required under IEC61300-3-35. Used with the Fluke Certifibre Pro Quad or Pro Multimode above. Results stored and professional reports produced using software supplied. Contamination is the No 1 source of problems in optical networks, use this camera to ensure optimum network performance. Suitable for singlemode and multimode. SC, LC, ST and APC connector tips supplied. Cleaning Kit is supplied for when the fibre end face or port fails certification. Repeat inspection and cleaning until it passes. Cleaning Kit includes: Fibre optic cassette cleaner, pre-saturated wipes, Fibre End face and Port Cleaner (Ferrule) - 1.25mm and 2.5mm.

## LAN/WAN Analysers



### NetAlly LinkRunner 10G Ethernet Tester

**NET,LR-10G (3211) AU**

Simplifies testing and configuration of copper and fibre ethernet networks, streamlining workflows by combining essential functions of installation, triage, network validation and troubleshooting through layers 1-7. Accelerates deployments, speeds up problem identification, and improves the efficiency and effectiveness of network installers and operations teams. Features: LANBERT, Qualify premise cabling for carrying Multi-Gig and 10Gig Ethernet (requires LR-10G or EXG-300 at end point). Layer 1-7 AutoTest enables any technician to find network problems. Monitor networks for intermittent issues, every minute for up to 24 hours. Validate up to 90W 802.3bt PSE with TruePower loaded PoE test.



### NetAlly Etherscope EXG-300 Network Expert

**NET,EXG-300 (3212) AU**

A multi-technology, all-in-one handheld network analyzer that enables engineers and technicians to deploy, maintain and document Wi-Fi and Ethernet access networks. Supports MultiGig networks from 10/100/1000Mbps to 2.5/5/10G and 802.11a/b/g/n/ac/ax. Also known as, Wi-Fi versions 1, 2, 3, 4, 5, 6/6E.



### NetAlly Etherscope EXG-200 Network Expert

**NET,EXG-200 (3213) AU**

A multi-technology, all-in-one handheld network analyser that enables engineers and technicians to deploy, maintain and document Wi-Fi and Ethernet access networks. Supports MultiGig networks from 10/100/1000Mbps to 2.5/5/10G and 802.11a/b/g/n/ac. The AirMapper Site Survey application enables you to perform a Wi-Fi survey of an indoor or outdoor location.



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## LAN/WAN Analysers (cont'd)



### NetAlly AirCheck G2

**NET,AIRCHECK G2 (3219) AU • MY • SG**

Handheld wireless tester that allows users to quickly verify and troubleshoot 802.11 a/b/g/n/ac networks. Intuitive user interface and management platform provides actionable intelligence to remove the complexity of wireless troubleshooting. Fully controllable over IP. Features: Site Survey (heat maps). Interference detection. Channel scanning. Connectivity tests. Perf performance testing. Identify: Spotty connections, dead zones, slow speeds, unauthorized access, rogue access points and POE.



### VeEX Ethernet Services Test Set 1G

**VEE,MTX150-1G AU**

An Ethernet services test solution for Layer 1 to 4. Required by field technicians to install, verify, maintain and troubleshoot Metro Ethernet links, Business services, Internet Access and other packet-base services up to 1Gbps.

- Loopback device included
- RFC2544
- V-Sam test suite compliant with ITU-T Y.1564 standard
- Throughput, BERT, IPv4/IPv6



### VeEX Ethernet Services Test Set 10G

**VEE,MTX150-10G (3214) AU**

A self-contained Ethernet services test solution for Layer 1 to 4. Required by field technicians to install, verify, maintain and troubleshoot Metro Ethernet links, Business services, Internet Access and other packet-base services up to 10 Gbps. Ethernet Testing includes BERT, RFC2544, Throughput, Y.1564, Optical Lane BERT, Loopback, PCS Analysis, Multiple Stream (32), IP Connectivity and IPv6. Ethernet Layer-4+ Testing: V-PERF 1GE/10GE Line Rate TCP Throughput per RFC6349.



## LAN/WAN Analysers (cont'd)

**NEW!**



### VeEX Ethernet Services Test Set 100G

**VEE,TX300-100GX (3216) AU**

Fast troubleshooting and comprehensive analysis of transmission problems can be performed using its common graphical user interface. Novice users benefit from the easy-to-use GUI, while experienced users will appreciate an array of advanced features. Applications include installation, commissioning, monitoring and maintenance of Ethernet networks.

#### Features

- 100 Gbps Ethernet testing
- RFC2544 and V-SAM (Y.1564) testing
- IPv4 and IPv6 traffic generation
- Fibre Channel
- OTN



### Viavi SmartClass Ethernet Tester 10M-1G

**VIA,SMARTCLASS ETH-1 (3221) MY • SG**

For the installation, turn up and maintenance of Ethernet IP services up to 1 Gbit electrical or optical. This kit includes a Loopback device for performing RFC2544 acceptance testing, throughput, latency, frame loss, back-to-back frame and jitter. Applications include performance assessment of Carrier Ethernet services, activation and maintenance of metro Ethernet networks, deployment of active Ethernet (point-to-point) access services, switched networks, traffic generation and QoS verification.



### Viavi SC 4800 Ethernet Tester 10M-1GE

**VIA,SC 4800 ETH (3215) AU**

For the installation, turn up and maintenance of Ethernet IP services up to 1 Gbit electrical or optical. This kit includes a Loopback device for performing RFC2544 and Y.1564 (EtherSAM) acceptance testing, throughput, latency, frame loss, back-to-back frame and jitter. Applications include performance assessment of Carrier Ethernet services, activation and maintenance of metro Ethernet networks, deployment of active Ethernet (point-to-point) access services, switched networks, traffic generation and QoS verification.

## Light Sources & Power Meters



### Fluke FTK1000 Multimode Fibre Optic Light Source & Meter **FLU,FTK1000 (3365) AU**

Light source is multimode 850nm and 1300nm. Power meter has 850/1300nm multimode and 1310/1550nm single mode. Manage results and print reports via Power meter memory, PC and supplied software.



### JDSU/Viavi SmartClass OLP-87 PRO Fiber PON Power Meter & VIP **JDSU,OLP-87 PRO MY - SG**

TFTTx/PON power meter with P5000i inspection probe. Used for qualification, activation, inspection and troubleshooting of B-PON, E-PON, and G-PON networks. The FiberChek software and P5000i probe allow for pass/ fail fibre inspection analysis and reporting. Ideal for end-of-line testing, activation, and maintenance of all FTTx/ PON signals. The through-mode capability can simultaneously measure voice, data, and video signals on fiber at 1490 and 1550nm downstream and 1310nm burst mode upstream. Supplied with various tip adapters please inquire.



### Kingfisher KI-28010 Single Mode APC Light Source and KI-2600 Power Meter

#### **KIN,KI28010-2600 (3361) AU**

Singlemode light source KI-28010 and power meter KI-2600. Compatible with APC and PC singlemode networks. Wavelengths 1310, 1550 and 1625nm. Memory with text, timestamp and USB dump, real-time PC reporting software. Autotest provides fast, easy and automatic multi wavelength loss testing.



## Fusion Splicers



Fitel S123M12 Ribbon Fusion Splicer

**FIT,S123M12 (3312) AU**

Hand-held 12-core ribbon fibre fusion splicer. Protection sleeve shrink time is 35 seconds, while splicing requires only 15 seconds for 12 core ribbon fibre allowing up to 160 splicing cycles (splicing/heating) using the 2 battery packs installed in the main body. Includes cleaver and thermal jacket stripper.



Fitel S178A V2 Fusion Splicer and Cleaver

**FIT,S178A NZ**

Precision core alignment fusion splicer and cleaver for many variants of fibre including singlemode and multimode. Fully automatic splicer, splice time typically 7s. In demanding applications will also offer cladding alignment (as opposed to core alignment). Data memory for last 2000 splices with visuals of last 100. 304x and 608x magnification. Illumination lamp lights up the v-grooves for better clarity in low light conditions. Supplied with 10mm tight fibre holder, and 250um and 900um holders interchangeable with the S326 cleaver, alleviating need to precisely realign fibres once cleaved. Automatic post-splice tension test (1.96N). Built-in heater for applying splice protectors. Altitude sensors operate up to 5000m which adjust arc time and intensity as required. Dual battery (up to 200 splices & heatings) or AC power. Fitel S326 precision one-step cleaver: Cleave length fixed at 10mm or adjustable to 3-20mm. Integrated sharps bin.



Fitel S179 Core Alignment Fusion Splicer and Cleaver

**FIT,S179 (3313) AU • NZ**

Hand-held, core-alignment fusion splicer for single and multimode fibre, includes S326 cleaver. 6 s splice time, 9 s heating time, and losses of 0.02 dB and 0.01 dB on single and multimode fibre respectively. Features include 4.3-inch LCD touch screen, 3+1 LED lights illuminate entire splicing chamber for improved visibility in low-light and Intentional high attenuation splice function, splice loss of 0.1 dB to 15 dB(0.1dB step) can be made for an inline fixed attenuator.

## Fusion Splicers (cont'd)



Fitel S326 Fibre Cleaver

**FIT,S326 NZ**

For single fibre cleaving. Cutting blade locks in place after scoring, preventing double scoring of fibre and also ensuring quality cleaving angles. Waste fibre deposits automatically into a collection chamber. Single Fibre Cleave length: fixed length 10 & 16 mm or adjustable to 3-20mm.



Fujikura FSM70R+ Ribbon Fusion Splicer and Cleaver

**FUJ,FSM70R+ (3309) AU**

Typically splice time 11 seconds and sleeve shrink time 29 seconds. Detachable work table and arc-free calibration system. Includes CT-50 cleaver and thermal jacket stripper.



Fujikura FSM70S+ Core Alignment Fusion Splicer and Cleaver

**FUJ,FSM70S+ (3317) AU**

Single fibre core alignment fusion splicer and CT50 cleaver. Typical splice losses of 0.02dB and 0.01dB on single and multimode fibre respectively. Automated tension test, wind and heater cover, 6 second Ultra Fast splice time, 14 second heat time and 20,000 splicer result storage.



Fujikura FSM70S Core Alignment Fusion Splicer and Cleaver

**FUJ,FSM70S (3318) AU • NZ • MY • SG**

Single fibre core alignment fusion splicer and CT30A cleaver. Typical splice losses of 0.02dB and 0.01dB on single and multimode fibre respectively. Automated tension test, wind and heater cover, 7 second splice time and 14 second heat time..



Fujikura FSM90S+ Single Core Alignment Fusion Splicer and Cleaver

**FUJ,FSM90+ MY • SG**

Single fibre core alignment fusion splicer and CT50 Bluetooth cleaver. Typical splice losses of 0.02dB and 0.01dB on single and multimode fibre respectively. Automated tension test, wind and heater cover, 7 second splice time and 10 second heat time. Automated cleaver blade management. second splice time and 14 second heat time.

## OTDR & Fibre Inspection



Anritsu MT9085A Access Master SM and MM OTDR

**ANR,MT9085A SM-MM MY • SG**

850/1300 nm (29/28dB) and 1310/1550 (39/37.5dB). Singlemode port is SC/APC. Intelligent analysis software identifies problem splices, connectors and even macrobends. Full 1×64 PON support. Store up to 1,000 traces internally (much more using USB), drop and drag results to PC.



JDSU/Viavi MTS-2000 OTDR FibreComplete

**JDSU,MTS-2000-FCOMP MY • SG**

Multi-Test Platform with FiberComplete™ singlemode module is ideal for field technicians looking to perform traditional fibre qualification tests such as bidirectional Insertion Loss (IL), acceptance testing, and general maintenance on metro and PON-based FTTx networks. Comes with a power meter, a fibre inspection probe, and an Optical Time Domain Reflectometer (OTDR) module. Will measure Optical Return Loss (ORL), simplify troubleshooting in FaultFinder mode, and perform on-board, automated NBN test sequences. Features: 1310, 1550, and 1625 nm wavelengths at 37, 35, and 35 dB dynamic range (respectively). Performs IL, ORL, and OTDR from one optical port. Real-time continuity check and automatic product pairing. Fewer connections/disconnections significantly reduces testing time.

New Look.  
Same Vision.



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## OTDR & Fibre Inspection (cont'd)



### Viavi MTS-4000 Multi and Singlemode OTDR

**VIA,MTS-4000 MMSM (3332) AU**

Multi and Singlemode OTDR, 850/1300nm and 1310/1550nm with a SC connector and dynamic ranges 26/24 dB and 37/35 dB respectively. The fibre module is housed in the 9" touch screen MTS-4000 mainframe designed for the installation, turn-up and maintenance of fibre optic networks. Features the Smart Link Mapper function which offers the user an easy to follow block diagram as well as the OTDR trace, helping novice and expert Fibre Technicians alike.



### Viavi MTS-4000 Singlemode OTDR

**VIA,MTS-4000 SM (3334) AU**

Singlemode OTDR 1310/1550/1625nm with dynamic ranges 40, 40 and 38 dB respectively. Includes the MA2 fibre module, housed in the 9" touch screen MTS-4000 mainframe and is capable of point to point and up to 32x splitter FTTx/PON testing. Features the Smart Link Mapper function which offers the user an easy to follow block diagram as well as the OTDR trace, helping novice and expert Fibre Technicians alike. Supplied with a P5000i VIP and launch lead.



### Fluke Optifiber Pro Quad OTDR

**FLU,OPTIFIBER-PRO Q (3344) AU • NZ • MY • SG**



Multi and singlemode OTDR, wavelengths 850, 1300, 1310 and 1550nm, dynamic range 28, 30, 32 and 30dB respectively. Designed for testing, troubleshooting and certifying multi and singlemode fibre optic networks. Smartphone user interface, shortest event and attenuation deadzones, LinkWare download and reporting software included.



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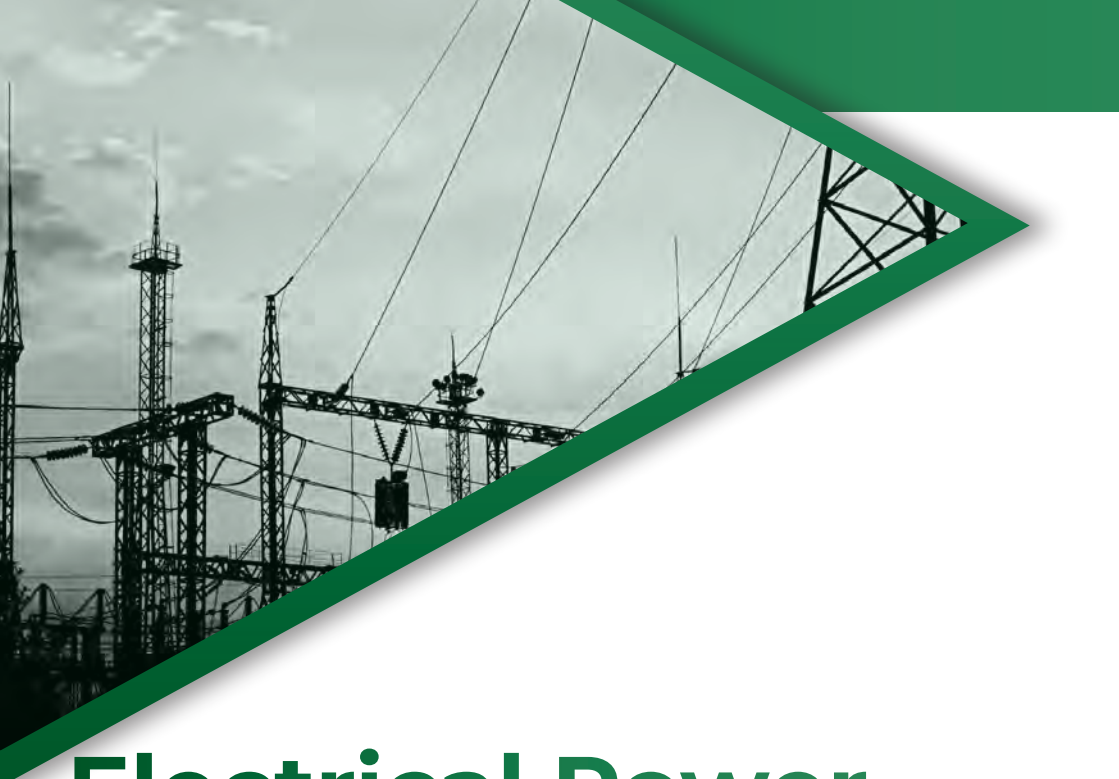
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# Electrical Power

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## Cable & Pipe Tracers and Fault Locators

→ See also Underground Services Location on page 133.



### C.Scope DXL4 and SGV4 Cable and Pipe Locator

**CSC,DXL4-SGV4 (3719) AU • MY • SG**

Cable and pipe avoidance and location tool with depth measurement. Simultaneous dual 33+131kHz frequency will assist in the detection of smaller buried pipes and cables such as telecoms, cast iron and street lighting spurs. 4 available power levels up to 1 watt and depth detection approximately 3 meters (depending on soil type and operating mode). Four detection modes; Power, Radio, Generator and Allscan. Features a Dynamic Swing Sensor to aid in cable and pipe location.



### C.Scope MXL4-MXT4 Cable and Pipe Locator

**CSC,MXL4-MXT4 NZ**

Traces path of energised cables, conductive pipe or cable and in "radio mode" searches for re-radiated signals, common in underground services. Four detection modes; Power, Radio, Generator and Allscan. Features a Dynamic Swing Sensor to aid in cable and pipe location. Simultaneous dual 33+131kHz frequency will assist in the detection of smaller buried pipes and cables such as telecoms, cast iron and street lighting spurs. Lower frequencies aid location of correct cable in areas where cables are co-located. Multi-frequency generator with 6 signal outputs: 512Hz, 640Hz, 8kHz, 33kHz, 131kHz, simultaneous 33+131kHz. Transmitter: operates with direct connection, tongs or induction. Can determine depth of cable: up to 2m in radio mode, other modes up to 3m. Radio detection mode: 33kHz sondes. Alarm indicates shallow cables (under 300mm). Direct connection current feature aids in locating correct pipe. Automatic daily self-test to confirm working condition.



### Dynatel 2273 Buried Cable and Fault Locator

**DYN,2273 NZ**

Used to find cables to 2.5 metres deep underground or in walls. Traces path of energised cables and conductive pipe or cable using multi-frequency tone generator. Can also be used to find breaks in cables and "short to earth" problems using an A-frame accessory.

# ELECTRICAL POWER

## Cable & Pipe Tracers and Fault Locators (cont'd)

### Fluke Cable Locator

**FLU,2042 (3602) AU**



Ideal for tracing cables in walls and underground, locating fuses/ breakers on final circuits as well, and many other applications. Kit comprises a transmitter and receiver in a carry case. Voltage measurement range 12 to 400V. Frequency range 0 to 60Hz. Transmitter output signal 125kHz. Transmitter voltage 0 to 400V AC/DC. Depth location 0 to 2.5m. Receiver voltage detection range 0 to 0.4m. The receiver has a torch for working in dimly lit areas.



### Fluke AT 8030 Advanced Wire Tracer

**FLU,AT-8030-INT NZ**

Trace energized and de-energized wires in walls, ceilings, floors and tight spaces. Also identifies breakers and fuses, as well as the location of a break, open or short. Work directly on an energized circuit without the need to take equipment offline. Three Transmitter power modes: "High Signal" mode for normal circuits, "Low Signal" mode for precision tracing in difficult areas and "Loop" mode for closed loop de-energized circuits. Two automatically selected frequency modes for optimal tracing. Displays the location and orientation of energized wires. High resolution 3.5" TFT LCD colour display. CT-400 Signal Clamp included (for inducing signal into wires without access to bare conductors). CAT IV 600V rated.



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## Cable & Pipe Tracers and Fault Locators (cont'd)

### Megger EZ-Thump 12kV Thumper & TDR Power Cable Fault Locator

**MEG,EZ-THUMP12 (3610) AU**



A compact and light weight portable cable fault locations system ideally suited either for use in a "satellite" fault locating concept for remote areas that may have less frequent faults, when ease of operation, light weight and economics are important, or for hard to access inner city locations. Incorporates a 12kV Hipot tester, time domain reflectometer (TDR), and surge generator. Can be powered from an AC supply or internal batteries (3h recharge time provides 30m of thumping). Surge generator produces a 500J, 0 to 12kV at 12mA pulse. Kit includes the Digiphone Plus pin-pointer with surge wave receiver to locate faults while thumping.

### Megger TDR2000/2RM Dual Channel TDR Cable Fault Locator

**MEG,TDR2000/2RM MY • SG**



Time Domain Reflectometer cable fault locator. User selectable ranges from 0 to 50m up to 20km, minimum resolution 0.1m. Dual cursor measurement. Internal memory for 15 traces. Megger "Tracemaster" software supplied. RS232 interface for PC communications. High resolution LCD display. Battery powered. Dust and shower proof to IP54.



### Megger TDR2000-3P Advanced Dual Channel TDR

**MEG,TDR2000-3P (3606) AU • NZ • MY • SG**



Time Domain Reflectometer cable fault locator. User selectable ranges from 0 to 50m up to 20km, minimum resolution 0.1m. Dual cursor measurement. Internal memory for 15 traces. Megger "Tracemaster" software supplied. High resolution LCD display. Battery powered. Dust and shower proof to IP54. This system can operate on live cables.

**DIGIPHONE2+ NT**  
Shock wave receiver  
for acoustic &  
electromagnetic fault  
location



**EZ-THUMP**  
Portable LV cable fault  
location system

CABLE FAULT LOCATING

**Megger**<sup>®</sup>



**TORKEL900**  
Battery discharge test system



**BVM**  
Battery voltage monitor



Call today to discuss your technical requirement

# ELECTRICAL POWER

## Electrical Testers

→ See also Current Clamps, Probes & Accessories on page 60.

NEW!



Fluke SMFT-1000 Solar I-V Curve Tracer Pro Kit

**FLU,SMFT-1000 (8765) AU • MY • SG**

For PV installation, commissioning, inspection, and maintenance testing that conforms to IEC 62446-1 standards. 1000V/20A, maximum power 20KW, supplied with Irradiance Meter and TruTest™ Advanced Solar Software.



Fluke 9062 Phase Rotation Indicator

**FLU,9062 (3503) AU**

Provides rotary field and motor rotation indication with the benefits of contact-less detection indication of 3 phase rotation using test leads supplied or can be used to determine motor rotation on synchronous and asynchronous 3 phase motors.

NEW!



Megger Detex Phasing Tester

**MEG,DETEX MY • SG**

Provides bright LED indication for easy visibility indoors or where lighting conditions are poor. This two-pole phasing tester may be used on grounded and ungrounded ac systems to check high-voltage fuses, test for correct phase connections and test for the absence of high voltage on deenergized lines or apparatus. Voltage Range: 4.16 to 34.5kV.

Watch how-to/information videos on any piece of equipment displaying this symbol. Visit the TechRentals YouTube page at [www.youtube.com/TechRentals](http://www.youtube.com/TechRentals)



## Electrical Testers (cont'd)



### Seaward PV200 Solar PV Tester with Irradiance Meter

**SEW,PV200+KIT (8761) AU • MY • SG**

Comes with PV Tester, irradiance meter and solar cert software. It is a solar commissioning tester, with I-V curve tracing, in accordance with IEC62446 & IEC 61829. Perform earth continuity, insulation resistance (auto short circuit test and point-to-point), AC/DC voltage measurement. Open circuit voltage up to 1000VDC. Short circuit current up to 15ADC. Comes with current clamp up to 40A and Solar Survey 200R to record real-time irradiance, ambient temperature and PV module temperature. Can be paired with Android device via NFC for field data analysis.



### Seaward Solar Utility Pro Kit

**SEW,SOLAR-PRO (8762) AU • MY • SG**

Solar Utility Pro Kit 1500V/30A, 1000V/40A, maximum power 45kW. Test multiple strings in parallel up to 1500V/up to 40A. Tests open circuit voltage (VOC), short circuit current (ISC), irradiance (W/m<sup>2</sup>), ambient temperature & more. Recording up to 999 full sets of string data.



### PVE PVPM1500X I-V Curve Tracer

**PVE,PVPM1500X (8763) AU**

Solar IV-curve tracer for PV modules/strings/arrays, up to 1500V and 20ADC. Measuring ranges: Voltage: 25V/100V/500V/1500V, Current: 2A/5A/10A/20A. Temperature: -40°C to ±100°C with Pt1000 and Irradiance: 0 - 1300W/m<sup>2</sup> (Standard sensor). Continuous long-term measurements of I-V-curves in selectable time intervals. Resolution 0.01V - 0.25V, 0.005A - 0.01A (depending on selected range). Up to 8 hours battery life.



### Megger DCM1500S Solar PV Clamp Meter

**MEG,DCM1500S (8764) AU • NZ**

Measures up to 2000VDC and 1500VAC (using the PVHV Leads), and 1500AAC or DC. Ideal for use in the installation, maintenance, monitoring and testing of photovoltaic systems and standard AC or DC electrical equipment. Supplied with standard 4mm leads, PVHV1 (4mm) and PVHV2 (MC4PV) HV lead sets.

## PAT Testers & RCD Testers



**Megger PAT150 Battery Operated Appliance Tester**  
**MEG,PAT150 (2601) AU**

Performs the full range of PAT tests required. Includes 10 mA & 30 mA portable RCD testing. Does 'substitute' and mains powered leakage testing. Light weight, portable, and battery operated.



**Megger PAT420 Testing and Tagging System**  
**MEG,PAT420 (2600) AU • MY • SG**

Portable appliance tester. Tests to AS3760. Stores data on USB memory stick. includes a barcode scanner and label printer.



**Megger RCDT330 Residual Current Device Tester**  
**MEG,RCDT330 (2618) AU**

Tests standard, DC, selection and programmable RCDs. Ramp testing. Auto (remote) testing. 3ph safe. Enables testing on 110V centre tapped supplies. Performs 1/2I, 1xI & 50xI tests on RCDs rated at 10mA, 30mA, 100mA, 300mA, 500mA & 1000mA on general and selective (time delayed) RCDs. Weatherproof to IP54.



**Metrel MI 3360 25A PAT Tester**  
**MET,MI3360-25A NZ**

Automatic Portable Appliance Tester [PAT] system. Performs all necessary tests via its Autosequence function to ensure AS/ NZS3760 compliance. Can also create and save your own specific test requirements. System includes tester, tag printer and QR barcode scanner. Uses 4.3" Colour TFT Touch Screen or keyboard for easy navigation. Internal memory for storing test results and software to download data (via USB) to produce detailed reports on assets, including next test date. Durable plastic adhesive test tags printed to attach to appliances and leads [logo optional on request]. Mains or battery powered. Tests include: Continuity/Protective earth resistance: 200mA; 10A & 25A Bond Testing; Polarity / Active polarity test; RCD testing (type A, AC, B, B+, F); P-RCD testing (2 pole, 3 pole, K/ Di (varistor), S (3-pole)); Insulation Resistance; Leakage current (Substitute/-S, Differential, PE, Touch).



## Micro-Ohm Meters & Earth Testers



### Fluke 1625 KIT GEO Earth Ground Tester

**FLU,1625-KIT (2650) AU • MY • SG**

Measure total earthing resistance (RA) with 3 or 4-pole Fall of Potential method, selective earth resistance measurement and 4-pole soil resistivity testing (0.001 $\Omega$  to 19.99k $\Omega$ ). Performs stakeless ground loop measurements (0.001 $\Omega$  to 199.9 $\Omega$ ). Includes automatic frequency control to minimise interference effects. Battery powered.



### Fluke 1630 Earth Ground Clamp

**FLU,1630-EARTH CLAMP (2651) AU**

Earth ground loop testing and continuity testing without breaking the circuit. Ground loop resistance range 0.025 $\Omega$  to 1.5k $\Omega$ . Ground leakage current measurement range 0.2mA to 1000mA. Current measurement range 0.2A to 30A. Logs and stores measurements for on screen recall. LCD display. Battery powered.



### Kyoritsu 4200 Earth Ground Clamp Meter

**KYO,4200 NZ**

Earth ground loop testing without breaking the circuit. Uses the stakeless method; eliminates the need to disconnect parallel ground rods and find suitable locations for placing auxiliary ground stakes. Performs earth ground loop tests in locations where it is not possible to use other techniques, including inside buildings or on power pylons. Resistance range from 0.05 $\Omega$  to 1200 $\Omega$ . Ground leakage current from 0.1mA to 1000mA. AC current measurement range from 0.1A to 30A.



### Hukseflux FTN02 Thermal Needle System

**HUK,FTN02 NZ**

Used for on-site measurements of thermal conductivity, resistivity and temperature, from the surface down to 1.5m. After making a small-diameter access hole (30mm), the thermal needle is inserted just above the point to be investigated, then pushed into the undisturbed soil below. Ideal solution for route-surveying of high-voltage electric power cables and heated pipelines. Typical measurement: approximately 60sec to get to thermal equilibrium plus 300sec for the actual heating interval. Measurement range: 0.1 to 6W/(m·K) (all common soils). Absolute measurement method per ASTM D5334-14 and IEEE Standard 442-1981(03). Operating range: 0° to +50°C. Data storage: 50 measurements.

## Micro-Ohm Meters & Earth Testers (cont'd)

NEW!



Sonel MRU-200 Earth Resistance Tester

**SON,MRU-200 NZ**

**SON,MRU200GPS NZ**

Earth Resistance and soil resistivity meter, with multiple options for testing: (1) earthing resistance using auxiliary probes - 3-probe and 4-wire method, (2) earthing resistance using auxiliary electrodes and clamp (for measurements of multiple earthing) - 3-wire method with clamps, (3) earthing resistance using double clamps (for measurement when it is impossible to use auxiliary electrodes) - Two-clamp method, (4) measurement with an impulse ramp e.g. lightning protection systems - impulse method, (5) ground resistivity (four spike Wenner method aka Fall of Potential soil resistivity), (6) current e.g. leakage current using the clamp or flexible Rogowski coil (both supplied). Stores 990 test results. GPS model notes GPS co-ordinates of stored test results.



Megger DET2/3 Earth Tester

**MEG,DET2/3 (2656) AU • MY • SG**

Complete with ETK50C kit. High resolution of  $1\Omega$ , ideal for large earth (ground) systems. High accuracy for earth (ground) electrode grid and soil resistivity tests. Test in accordance with BS 7430 (earthing/rounding), BS-EN-62305 (Lightning Protection), IEEE Standard 81 and Railway Applications



Megger DLRO10HDX Micro-Ohm Meter

**MEG,DLRO10HDX (2668) AU • NZ • MY • SG**

Simple rotary switch selection of five test modes, including auto start on connection. The unit is powered from either its rechargeable battery or mains. Capable of delivering 10A into measurements up to  $250M\Omega$  and 1A into measurements up to  $2.5\Omega$ . The duration of each test may be up to 60s. Memory storage for test results up to 200 records Applications ranging from railways and aircraft to resistance of components in industry.

## Micro-Ohm Meters & Earth Testers(cont'd)



Megger DLRO10X Digital Low Resistance Ohm Meter  
10A/0.1 $\mu\Omega$ -2K $\Omega$

**MEG,DLRO10X (2663) AU • MY • SG**

Self-contained fully automatic (with manual option) micro-ohm meter, selecting the most suitable test current up to 10Adc. Range 0.1 $\mu\Omega$  to 2k $\Omega$ , resolution 0.1 $\mu\Omega$ . Internal memory for 700 tests. Download software supplied. RS232 communications to PC. LCD display. Rechargeable battery.



Megger DLRO200 200A Micro-Ohm Meter

**MEG,DLRO200 (2664) AU • MY • SG**

Digital low resistance ohmmeter that measures resistances between 0.1 $\mu\Omega$  and 1 $\Omega$  m at high currents. Used to test circuit breaker and switch contacts, busbar joints, and other applications where high current is needed. Can operate in three modes: In continuous mode it will monitor a resistance over a period of time. In normal mode it will test a current at the push of a button. In auto mode, once the desired current is selected and leads are connected, it will start testing, which is a handy mode for testing busbar joints. Features: Provides test currents from 10A to 200A DC. Includes 5m lead set with 2 x 50mm<sup>2</sup> current leads and 2 x potential leads (with clips). On board memory for up to 300 test results and notes. RS232 port to download stored results or for real time output to a printer.



Megger DLRO100XB 100A Micro-Ohm Meter

**MEG,DLRO100XB (2669) AU**

100A lightweight, mains and battery operated digital low resistance ohmmeter. Unit is supplied with 5m kelvin lead set, DC clamp and Terminal adapters (to connect own lead set by customers). Measurement range from 0.1 $\mu\Omega$  to 1.999 $\Omega$  with resolution 0.1 $\Omega$ . Applications include testing switchgear and circuit breaker contact resistance, busbar and cable joints, wire and cable resistance, bond testing in various industries like utilities, manufacturing, transport and aviation.

## Micro-Ohm Meters & Earth Testers (cont'd)



Megger DLRO600 Digital Micro-Ohm Meter - High current  
**MEG,DLRO600 (2665) AU • NZ**

Test current range 10A to 600Adc. Measurement range  $0.1\mu\Omega$  to  $1\Omega$ , resolution  $0.1\mu\Omega$ . Current cables 2x5m. Internal memory for 300 tests. Download software supplied. RS232 communications to PC. LCD display.



Megger DLRO Wind Turbine Lightning Protection Test Lead Set  
**MEG,DLRO-100LEAD (2662) AU**

For Megger DLRO 10 series digital micro-ohm meters. Specially designed for measuring resistance of lightning protection circuit between wind turbine blade tip and ground. Kelvin clip and hook ends on 100m cable reel. 5m DH2 lead with duplex hand spikes and hook end.



Megger DLRO Lead Set Current & Voltage Leads  
**MEG,DLRO-LEADSET (2666) AU**

For Megger DLRO digital micro-ohm meters. Potential spike lead set x2 and current clip lead set x2. Leads are used to separate the C & P connections. This avoids the erroneously high readings taken due to a high resistance contact. Current clip lead set 2m (242041-7) and potential spike set 2m (242021-7).



Megger MOM2 Micro-Ohm Meter  
**MEG,MOM2 (2660) AU • NZ • MY • SG**

Lightweight (1 kg), handheld micro-ohm meter. Up to 220A test current, autoranging from  $999\mu\Omega$  to  $1000\text{ m}\Omega$  FS. Rechargeable batteries provide 2200 measurements for  $I_{min} = 50\text{A}$ , or 800 for  $I_{min} = 100\text{A}$ . Memory for 190 recorded measurements, downloadable via Bluetooth with provided software. Kelvin probes included.

## Power Analysers, Loggers & Recorders



### Elspec G4500 Portable Quality Analyser with GPS Receiver **ELS,G4500 (8750) AU**

Measure, store and analyse (continuously) waveform signals. Includes G4500 with 4 x 3000A Flexible Current Clamps and GPS Receivers. Suitable for applications like Utilities (transmission, distribution, generation) and Energy Consumer (critical power, industrial, commercial, etc.)



### CHK PQ45 Power Quality Analyser **CHK,PQ45 NZ**

Weatherproof IP66 Cat IV 600V field unit that provides load-logging and fault finding through event capture. Configure the unit using the CHK Citrus software provided, take it to site and it will log for as long as required. Powered from the monitored voltage. The tablet supplied enables the unit to be configured on site and data reviewed real-time. Can be configured to start on power up or at a predetermined time. Includes 4G comms for interrogation while in-situ, data downloaded and instrument reprogrammed with no interruption to logging. Graphical display of logged data with ability to drill down. Export data to Excel or generate pdf reports. Memory: 8GB; Built-in GPS; 2 probes supplied to monitor temperature: -50°C to 150°C; Monitors mains signalling (Ripple amplitude) and IEC events (sags, swells, dips, interruptions, RVC). Records DC voltages and also DC currents with DC clamps (separately available).



### CHK AC/DC 1000A Clamps **CHK,DC1000A NZ**

Used in conjunction with the CHK PQ45 Power Quality Analyser to measure DC Current. CAT III, 600V,  $\pm 10A$  to  $\pm 1000A$  clamps with a 50mm jaw. DC frequency range to 10 kHz, bare conductor limited to 1 kHz. Can also measure AC and DC concurrently. Set of 4 clamps supplied.

# ELECTRICAL POWER

## Power Analysers, Loggers & Recorders (cont'd)



### CHK AC/DC 250A Clamps

**CHK,DC250A NZ**

Used in conjunction with the CHK PQ45 Power Quality Analyser to measure DC Current. AC and DC can also be measured concurrently. CAT III, 600V,  $\pm 10\text{A}$  to  $\pm 250\text{A}$ . Clamps with a 50mm jaw. DC frequency range to 10 kHz, bare conductor limited to 1 kHz. Set of 4 clamps supplied.



### Fluke MDA-550 Motor Drive Analyser 4 Channel

**FLU,MDA-550 (8745) AU**

A motor drive analyser designed to monitor and troubleshoot VFD (or VSD) motor systems. Features 4 channels, measurement to the 51st harmonic, 3 x voltage probes with 1000V input range, 3 x current clamps 40~400A switchable, SVS-500 shaft voltage set with brushes, extension rod and magnetic base including high frequency probe. All CAT IV 600V/CAT III 1000 V safety rated.



### Fluke 345 Power Quality Clamp Meter

**FLU,345 (8739) AU • NZ**

Ideal for measurements on switching loads such as variable frequency drives, electronic lighting and UPS systems. Low-pass filter and high EMC immunity design make unit ideal for noisy environments. 600V CAT IV rated, 1400A AC, 2000A DC. Measure and log harmonics, inrush current, ripple current on battery systems. Analyse data and generate reports with included Power Log software.



### Fluke 435 3-Phase Power Quality & Energy Analyser

**FLU,435 MY • SG**

Suits a broad range of AC mains studies. Includes 4 x 600/6000A AC CTs. A unique energy loss calculator provides the ability to monetarily quantify energy losses. Supplied with Fluke Power Log Software for detailed data analysis and report generation. Optional accessory: FLU,I5SPQ3 (3 x 15s 5A AC current clamps).

## Power Analysers, Loggers & Recorders (cont'd)



### Fluke 438 Power Quality & Energy Analyser

**FLU,438 MY • SG**

Suit a broad range of ac mains studies. Includes 4 x 600/6000A AC CTs. A unique energy loss calculator provides the ability to monetarily quantify energy losses. Motor Analyser function provides analysis of speed, torque, mechanical power and calculate motor efficiency without mechanical sensors. Supplied with Fluke Power Log Software for detailed data analysis and report generation. Optional accessory: FLU,I5SPQ3 (3 x i5s 5A AC current clamps).



### Fluke 1738 Power and Energy Logger

**FLU,1738 (8736) AU • MY • SG**

**FLU,1738-1500 MY • SG**

3 phase power logger with Fluke Connect® mobile app. Includes 4 x 1500 A flex probes (1 A to 150 A 100 mA resolution, 30mA accuracy) and 4 x 6000A 1m flex probes. Copy logged files to a USB memory stick. Measures to 50th harmonic. Capture transients. Can be powered off phase one if required. 4 h backup battery operation. 1000 V CAT III/600 V CAT IV. Colour Touch Screen. Displays real-time waveforms and FFT.

**NEW!**



### Fluke 1773 3-Phase Power Logger

**FLU,1773 NZ**

Ideal unit to record your power usage, to understand what power you need and to manage energy saving activities. Also has advanced harmonics study up to 50th, inrush, flicker, voltage dips and swells. 4 Voltage inputs: 3 phases and neutral (600 V CAT IV). 4 Current inputs: 3 phases and neutral (1500A flexible clamps, Ø up to 220mm). Trend intervals: 1 sec to 30 mins. Data storage: Up to 3 years at 1 min intervals for one log. Software provided to analyse and view data and create customized reports.

# ELECTRICAL POWER

## Power Analysers, Loggers & Recorders (cont'd)

NEW!



### Fluke 1775 3-Phase Power Quality Analyser

**FLU,1775 NZ**

Ideal unit for measuring power quality and fault finding. Also logs power usage. Has advanced harmonics study up to 50th, inrush, flicker, transients and both oscilloscope function with voltage dips and swells for industrial PQ troubleshooting. Useful for applications such as nuisance circuit breaker tripping, power utility quality surveys, discovery of equipment failures caused by transients (range  $\pm 8$  kV at 1MHz sampling). View real-time voltage transitory events while logging. Event waveform capture. 4 Voltage inputs: 3 phases and neutral (600V CAT IV). 4 Current inputs: 3 phases and neutral (6000A flexible clamps'  $\varnothing$  up~300mm). Trend interval user selectable: 1 sec to 30 min. Data storage: Up to 3 years at 1 min intervals for one log. Software provided to analyse and view data and create customized reports.



### Fluke 1777 Power Quality Analyser

**FLU,1777 (8732)) AU • MY • SG**

Automatically measures power and power quality parameters. At a glance power quality and power health parameters. Capture high-speed transients at up to 8kV. Powers directly from the measurement circuit without a line chord. Many communications options. USB, WiFi, Ethernet 7 cellular interface options. Includes internal GPS module for timing.



### Fluke i40s-EL 3x40A CTs for secondary msmt 1777 or 1738

**FLU,I40S-EL (8736)) AU**

The current clamp-on transformer is used for low current measurement as an accessory to the Fluke 1738 or 1777; suitable for making measurements up to 40A, and also measures accurately on 1A and 5A secondary current transformers. The i40s-EL jaw is capable of being clamped on current conductors up to 15mm in diameter.



### Fluke VR1710 Single-Phase Voltage Quality Recorder

**FLU,VR1710 (8720) AU • NZ**

Single phase power quality analyser. Records RMS, transients, flicker & harmonics up to the 32nd. Selectable logging periods from 1s to 20min. Provides continuous recording with no gaps. Includes software for download, analysis and automatic reporting.



## Power Analysers, Loggers & Recorders (cont'd)



### Hioki 3169-20 Clamp-on Power Analyser

**HIO,3169-20 NZ**

Measurement of single-phase to three-phase 4-wire circuits using this compact and light weight meter. Ideal for achieving close control over energy-saving management activities and measures e.g. it can measure the power of just a few cycles. Wiring configurations include: single-phase, multiple single-phase, three-phase 3-wire and three-phase 4-wire. 0.5A to 5000A range. Measures voltage, current, power, power factor and integrated values and can simultaneously perform demand measurements required for carrying out power management and energy-saving measures, as well as harmonic measurements. Supplied with four 500A clamp-on CTs, other CT options available. Flashcard memory. Hioki 9625 Power Measurement Support Software for data analysis and reporting.



### Hioki Clamp-on Sensors

**HIO,9667 NZ**

**HIO,9667-02 NZ**

**HIO,9669 NZ**

**HIO,9694 NZ**

Set of CT's suitable for use with Hioki 3169 power quality analysers for measurements of currents.

- HIO.9667: up to 5000A per phase.  
Output voltage: 500mV AC f.s. Core Jaw Diameter: 55mm. Four CT's in a kit.
- HIO.9669: up to 1000A AC per phase.  
Output voltage: 500mV AC f.s. Core Jaw Diameter: 55mm. Four CT's in a kit.
- HIO.9694: Up to 5A AC per phase.  
Output voltage 10 mV AC/A. Measurable conductor diameter up to 15 mm. Four CT's in kit.

## Power Analysers, Loggers & Recorders (cont'd)



Hioki PW3198 Power Quality Analyser including 3 x 1,000A, 1 x 200A AC/DC & 4 x 5,000A Flex CTs

**HIO,3198 (8732) AU • MY • SG**

Can record voltage, current, pf, f (Hz), kVA, kVA<sub>r</sub>, kW, harmonics (THD and individual to 50th order), flicker (IEC6100-4-15), and inrush current. Transient overvoltage can also be measured up to 6kV peak at 2M samples per second. Meets the CAT IV safety standard and international standard IEC 61000-4-30 Edition 2 Class A. Supplied with analysis software (Hioki 9624 PQA-HiVIEW) for reporting, compliance, and record management. Features: Four isolated voltage channels rated CAT IV/600V RMS AC or DC. 2GB memory. Total energy, tariffs, max demands, transient, and sub-cycle disturbances. Includes 3 x fixed 1000A AC CT, 4x flexible 500A/5000A CT, and 1x 200A AC/DC CT.



Hioki PW3360-21 Clamp On Power Logger with Harmonic Measurement

**HIO,3360-21 MY • SG**

Power logger, supports single to three phase 4 wire circuits. Supplied with 3x500A CTs 5/10/50/100/500A ranges 0.3%rdg+0.01%fs and 3x5000A Flexible CTs 50/500/5000A ranges 2%rdg+0.3%fs. Has a built in battery and can also be powered by the line voltage. Provides harmonic measurement upto the 40th harmonic. Has plug in SD card. Is recognized and a diskdrive when connected to a computer. Includes analysis software.

## Power Analysers, Loggers & Recorders (cont'd)



### Hioki PQ3198-94 Power Quality Analyser

**HIO,PQ3198-94 (8733) AU • MY • SG**

Premium Power Quality Analyzer in accordance with the IEC61000-4-30 Class A standard for demanding applications. Includes 4 x CT7045 6000A AC flexible CTs and 4 x CT7742 2000A AC/DC CTs. Ideal for AC mains studies as well as solar inverter evaluations. Supplied with PQ ONE power quality analysis software for detailed data analysis and report generation.



### Hioki CT7116 6A AC Current Sensor

**HIO,CT7116 (8788) AU**

6A AC Current Sensor suitable with Hioki PQ3198-94



### Hioki 9694 Clamp-on CT 5A (Set of 4)

**HIO,9694CT5A (8789) AU • MY • SG**



Rated primary current 5A AC. Amplitude accuracy  $\pm 0.5\%$  rdg.  $\pm 0.2\%$  FS (at 45 to 66Hz), 66Hz to 5kHz  $\pm 1\%$  or less. Max circuit voltage 300V RMS/insulated wire. Core jaw 15mm $\varnothing$ . Size mm: 46w  $\times$  21d  $\times$  135h, cord length 3m.



### Metrix MX2040 AC/DC Clamp-On Meter

**MET,MX2040 NZ**

Measures: Watts, AC/DC voltage, AC/DC current, active power, apparent power, reactive power, kWh, power factor, resistance and frequency. AC ranges: 200 and 2000 amps. Bandwidth: (True RMS) 10 Hz - 3 kHz. Analogue output of RMS and instantaneous values.

## Hioki Power Analyzer PW8001

Superior Affinity  
Between Power Analyzers  
& Current Sensors !



Scan to  
find out more



\*Current sensors sold separately.

## High-Precision Power Analysis For Motor & Inverter Efficiency Through Sensing Technology

DC, 0.1 Hz to 5 MHz, 3-phase 4-wire  
**World-Class Accuracy: Basic accuracy of  $\pm 0.03\%$**   
**Current range: 100 mA to 2000 A**

- ◆ Safe evaluation of increasingly high-voltage solar inverters: 1500 V DC CAT II / 1000 V DC CAT III
- ◆ Accurate measurement of reactor and transformer losses
- ◆ 8 channels of power and 4 motor analysis in a single unit, 15 MS/s sampling rate
- ◆ Accurately measure the efficiency of SiC motor drive systems

## Hioki Power Quality Analyzer PQ3198



Scan to  
find out more



\*Current sensors sold separately.

## Investigate Power Characteristics and Analyze the Causes of Problems

Verify Power Problems in Accordance With The  
IEC61000-4-30 Edition 3 Class A Standard

- ◆ The PQ3198 can measure all parameters at once, including power, harmonics, and anomaly waveforms. Transient voltages, Voltage swells, Voltage dip, Interruptions, Frequency fluctuations, Inrush current, Harmonics, High-order harmonics (Supraharmonics), Unbalance
- ◆ Two systems of power measurement and efficiency calculation for (ch 1, ch 2, ch 3) and ch 4
- ◆ Easily create reports & data analysis. Supports remote monitoring and measurement

## Hioki Memory HiLogger LR8450



Scan to  
find out more



\*Measurement units sold separately.

## Engineer's Dream! High Speed, Multi-Purpose Data Logger

Versatile Plug-in & Wireless Input Units\* for  
Endless Possibilities!

- ◆ Mix and match 7 different measurement units - **Voltage, Temperature, Humidity, Strain, Resistance, CAN, Current** and capture all waveforms simultaneously in 1 device!
- ◆ 1ms Sampling Portable Logger Expandable to 330 Channels
- ◆ Monitor data captured remotely and wirelessly



# HIOKI

Measuring the Future, Enriching Lives  
HIOKI's Precision for a Sustainable World.

Established in 1935 in Ueda, Japan, HIOKI E.E. Corporation stands at the forefront of technological innovation in the field of electrical measuring instruments.

Renowned for our high-precision products, we are committed to pioneering advancements that contribute significantly to society and foster a safe, sustainable lifestyle. Our journey is marked by a relentless pursuit of innovation, aiming to transcend traditional measurement boundaries. At HIOKI, we believe in creating solutions that not only offer unmatched accuracy and efficiency but also positively impact the environment and enhance the quality of life. Our dedication to excellence and sustainability is a testament to our vision of shaping a better world through cutting-edge technology and responsible practices.

[www.hioki.com/sg-en](http://www.hioki.com/sg-en)

## Current Clamps, Probes, & Accessories

→ See also Electrical Testers on pages 44-45.

→ See also Power, Analysers, Loggers & Recorders on pages 51-57



**Elspec Current Clamps (4 x 1-6A Mini Clamps)**

**ELS,MINICLAMPS (8752) AU**

Set of 4 x a-6A Mini Clamps suitable for Elspec G4500 unit.



**Fluke 376 True-rms AC/DC Clamp Meter with iFlex**

**FLU,376 (8770) AU • MY • SG**

1,000A AC and DC current measurement with fixed jaw. 2500A AC current measurement with the 45cm iFlex flexible current probe. 1000V AC and DC voltage measurement. Voltage and current measurements are true rms. Includes ability to measure frequency, resistance and capacitance. Rated CAT IV 600V and CAT III 1000V.



**Fluke 90I-610S 1A to 600A AC/DC Current Probe**

**FLU,90I-610S MY • SG**

Compatible with any Fluke scopemeter test tool, power harmonics analyser, oscilloscope, multimeter or other voltage measurement device that has the following features: BNC input connectors or if using a meter a BNC to banana plug adapter PM9081/001 (included) lets you use this probe with your DMM.



**Fluke i5sPQ3 AC Current Clamps, 5A (3 x i5S per set)**

**FLU,I5SPQ3 (8790) AU • MY • SG**

A pack of 3 pieces of the i5s 5A AC current clamps, specially configured to provide low current accuracy while taking measurements on secondary current transformers. CAT III 600 V (For insulated conductors only). Suits the Fluke 435 and other instruments with BNC inputs.

**NEW!**



**Hioki CT7731 100A AC/DC with CM7291 Display Unit**

**HIO,CT7731 (8791) AU**

Suitable with MR8847-53 and MR6000-01 loggers. Can also be used with HIO,PQ3198-94 without display unit

**NEW!**



**Hioki CT7742 2000A AC/DC with CM7291 Display Unit**

**HIO,CT7742 (8792) AU**

Suitable with MR8847-53 and MR6000-01 loggers. Can also be used with HIO,PQ3198-94 without display unit

## Insulation Testers & Meggers to 20kV



EA Technologies UltraTev Plus Partial Discharge Detector  
**EAT,ULTRATEVPLUS (8410) AU • MY • SG**

Multi-function Partial Discharge (PD) Instrument. It measures accurate PD activity using the UltraTEV detector and an ultrasonic detector. It gives you an objective measure of the level of activity. Will display PD severity level. The kit includes the Ultradish for measurement of overhead assets.



Fluke 1577 Insulation Tester 2GΩ  
**FLU,1577 (8420) AU**

True RMS Multimeter, Autoranging. User selectable test voltages up to 1000V. Measurement range .1MΩ to 600MΩ.



Fluke 1587 Insulation Multimeter  
**FLU,1587 MY • SG**

Insulation: measurement range: 0.01M to 2GΩ. Test Voltages: 50V, 100V, 250V, 500V, 1,000V Multimeter: Voltage 1mV to 1,000VAC/DC, current 0.01mA to 400mA AC/DC, resistance 0.1Ω to 50.0MΩ, capacitance 1nF to 9999μF, frequency 0.01Hz to 99.99kHz.



Fluke 1587FC Insulation Multimeter  
**FLU,1587FC (8422) AU**

Will test to 2GΩ. Includes Fluke Connect capability. 50V, 100V, 250V, 500V & 1000V Insulation test capability. Using Fluke Connect can do PI/DAR, store, Temperature Compensation & VFD low-pass filter



Fluke 1663 FVF Installation Tester  
**FLU,1663FVF (2615) AU • MY • SG**

Provides the following tests: Continuity test under 200mA, Loop Impedance without triggering an RCD can be set for 10,30,100,300,500,650mA & 1A. Insulation resistance measurement under 500V. Measure earth plug resistance by earth rods (Rods not in kit). Voltage measurements.



Kikusui TOS-5101 10kV AC/DC Hipot Tester  
**KIK,TOS-5101 (8430) AU • MY • SG**

Hipot testing up to 10kV in either DC or AC. Digital voltmeter and ammeter, digital timer. Window comparator for more reliable pass/fail judgement. Automatic discharge of device under test in DC test mode. Equipped with Key Lock and Interlock functions for greater safety.

## Insulation Testers & Meggers to 20kV (cont'd)



### Megger PD SCAN

**MEG,PD-SCAN (8417) MY • SG**

An on-line partial discharge (PD) handheld scanner for detecting defects in medium and high voltage systems. Used for fast verification of partial discharge activity in MV and HV plants. Besides the partial discharge sensors, also a temperature and humidity sensor will be supplied. The device has two internal sensors (TEV, airborne acoustic) and can also be operated with various types of external sensors (TEV, HFCT, airborne acoustic, contact probes). Three PD measurement methods in one device. Comes with Set 4 accessories - full accessories.



### Megger MIT525 5KV DC Insulation Resistance Tester

**MEG,MIT525 (8426) AU • MY • SG**

Measures to 20TΩ at 5kV. Tests include PI, DAR, DD, SV and ramp test. Li-ion battery with rapid charge, mains operation possible while battery is charging. Advanced memory with date/time stamp. Noise filter rejects up to 3mA noise. PowerDB Lite asset management software supplied with unit for download of test data to a PC.



### Megger MIT1025 10kV DC Insulation Resistance Tester

**MEG,MIT1025 (8427) AU • NZ • MY • SG**

10kV Insulation Resistance Tester (IRT) capable of resistance measurements up to 20TΩ. Testing options include Polarisation Index (PI), Dielectric Absorption Ratio (DAR), Dielectric Discharge (DD), Stepped Voltage (SV) and ramp test. Has a CATIV 600 safety rating and dedicated voltmeter function (30V to 660V). Also features a rapid charge Li-ion battery with the ability to take measurements on a flat battery when connected to mains power. Features: Noise filter - rejects up to 3mA noise. Advanced memory includes time/date stamping of results. High altitude operation up to 3000m. PowerDB Lite software for download of test data to PC.



### Metrel Instaltest-XD Multifunction Tester & EVSE Adapter

**MET,INSTALTEST-XD-EV (2610) AU**

Instaltest-XD multifunction installation tester and 1532 XA EVSA adapter. provides electrical safety and functional testing of electrical installations and EV charging stations. It tests Mode 3 with type 2 connectors Testing a 3 phase load up to 13A. This pair of instruments can test state by state electrical and functionality testing of EVSE charging stations with the push of a button. Using the supplied MESM software.



## Insulation Testers & Meggers to 20kV (cont'd)



**Metrel A 1532 Electric Charging Station Test Adapter**  
**MET,A1532EVSE NZ**

Testing live EV Charge Point and connection cables with this new EVSE (Electric Vehicle Supply Equipment) adapter from Metrel made easy by simulating a vehicle connected to the charging station. Performs Voltage, Loop Impedance, PFC & RCD Tests externally. The A1532 is an extender for interfacing EVSE to test socket of installation tester for verification of electrical safety and functional testing. It is intended for testing Mode 3 EV supply equipment with type 2 (default) and type 1 (adapter) connectors. A1532 ESVE adapter is special accessory intended for using with METREL installation testers.



**Metrel A1632 eMobility Analyser**  
**MET,A1632 NZ**

A special accessory designed for diagnostic testing of Electric Vehicle Charging Stations in combination with supported METREL installation testers (also available for hire). It supports verification of electrical safety and functional testing of Type 1 and/or Type 2 charging stations as well as testing of Mode 2 and Mode 3 electrical vehicle (EV) charging cables and communication monitoring between the charging station and the EV during charging. Fully supported professional station-based and cable-based report creation with MESM software, included.



**Metrel MI3102BT Multifunction Installation Tester**  
**MET,MI3102BT NZ**

Measures and tests with fixed parameters set to international standards including AS/NZS3017, then provides a pass/fail indication. Also offers a range of auto-sequencing tests for fast testing and certifying. Application includes: Initial and periodic testing of domestic and industrial installations, testing of single and multiphase systems, testing of TT, TN and IT earthing systems and medical installation testing. Voltage: TRMS 0-550V, Frequency 0-500Hz. Insulation resistance with DC voltage (50-1000V): 0-999M $\Omega$ . Automated RCD testing (general and selective, type AC, A, F, B, B+, MI RCD, EV RCD, PRCD/-K/-S). Line/ Loop impedance (Trip Lock RCD): 0-10K $\Omega$ . Continuity (Automatic Polarity reversal): 0-2K $\Omega$ . Earth resistance (3-wire and 2-clamps method): 0-10K $\Omega$ . Phase Sequence. First Fault Leakage Current (ISFL): 0-20mA. Insulation Monitoring Devices (IMD) Test: 5-640K $\Omega$ . Predefined mini AUTOSEQUENCES for earthing systems: TT, TN/RCD, TN, IT. PC Software EuroLink PRO for report generation for saved results supplied.

## Insulation Testers & Meggers to 20kV (cont'd)



### Metrel MI3108PV Electrical & Photovoltaic Installations Test Set **MET,MI3108PV NZ**

Standard **Electrical** installation tester to measure and test installations with fixed parameters set to AS/NZS3017, then provides a pass/fail indication. Also offers a range of auto-sequencing tests for fast testing and certifying. AS/NZS3000 mandatory tests can be completed including: Voltage, Visual Inspections, Earth Continuity & Resistance, Insulation resistance, Phase rotation, AC Current (load and leakage), Fault Loop Impedance and RCD Verification tests. Displays power usage, power factor, harmonics (up to 11th) and THD. Stores up to 1800 test results or 500 graphical results. Software supplied for downloading, uploading, review, analysis and printing of test results.

**Photovoltaic:** Tests, evaluates and troubleshoots photovoltaic installations including: insulation, voltage, current and efficiency of inverter. STC characteristics of individual panels can be tested. Supplied with a photovoltaic reference cell, temperature probe and a remote unit (for use where the inverter is separated from the panels). Voltage: 0 - 999DC and AC; I-V m: 0 - 999DC. Current: 0mA - 300DC and AC; I-V m: 0 - 15 ADC. Power: 0 - 999kW; I-V m: 0 - 14.99kW. U / I curve: 1000V/ 5A/5kW. Irradiation: 0 - 1.75 kW/m<sup>2</sup>. Temperature: -10°C to +85°C.



### Omicron MPD 600-1 Single Channel PD Measurement System **OMI,MPD600 (8411) AU**

Single channel high-end partial discharge measurement and analysis system. IEC 60270-compliant partial discharge measurement. Recording and analysis of measurements with full function control. This unit is suitable for many PD testing applications. Requires voltage source.

## Insulation Testers & Meggers to 20kV (cont'd)



### Sonelec MIC-10K1 Insulation Resistance Tester **SON,MIC-10K1 NZ**

10kV Insulation Resistance Meter designed for the testing and maintenance of high voltage equipment including single- and multi-core cables, transformers, motors and generators, capacitors, switches etc. Meets EN 61010-1 and IEC 61557 standards. Also offers a cable "thumper" like feature to intensify the damage for fault finding. Pre-set standard test voltages: 50, 100, 250, 500 V, 1, 2.5, 5 and 10 kV. User defined test voltage: 50 to 1kV - 10V steps; 1 kV to 10 kV in 25 V steps. Maximum measuring range: 40 TΩ. Test current: 1.2 mA, 3 mA or 6 mA. Continuous indication of measured insulation resistance or leakage current. Displays capacitance during the measurement of RISO. Pre-configured diagnostic tests include: Polarization index (PI), absorption coefficients Ab1, Ab2 and dielectric absorption ratio (DAR) measurement, Step voltage insulation resistance (SV), Dielectric Discharge calculation (DD). Temperature measurement: -40 to 100°C with ST-1 probe included. Safety rated up to Cat IV 600 V (III 1000 V). Graphical LCD 5.6" display with data transmission via USB and Bluetooth. Memory: 8 MB equivalent (10,000 records). Operates from battery (1,000 measurements) or mains supply.



### Sonelec MMR650 Winding and Low Resistance Ohmmeter **SON,MMR-650 NZ**

Accurately measures small resistances of resistive and inductive objects as well as transformer windings including amorphous-core transformers. Applications include windings of power transformers and motors, breakers, contacts, earthing conductors, equipotential bondings, welded and soldered connections and bolted connections. Resistance range: 0.1μΩ (10A Test current) to 2000Ω (1 mA Test current) in 9 test ranges. Accuracy: ±0.25%. Stores 800 test results. 3m test leads with Kelvin clamp and probes. CATIII 600V. Battery powered.

## Oil, Hipot, and VLF Testers above 20kV

NEW!



### b2 electronics HVA45TD VLF and TD Test Set **B2E,HVA45TD (8465) AU**

VLF, DC, and TD test capabilities combined in one unit. Meets international test guides (e.g., IEEE 400.2-2013). VLF Sine wave - 0.01Hz to 0.1Hz frequency range, 45KV peak and 32.3KV RMS voltage range. DC - +/-45KV, VLF square wave - 0-45KV and Sheath test - 0-15KV. Manual and automatic test modes available. Supplied with b2 control center software for reporting. Built-in memory: up to 50 reports, 50 test sequences.



### High Voltage Inc PFT301 30kV AC HiPot Tester **HIV,PFT301CM (8452) AU • MY • SG**

Portable HiPot 0~30kVac 1kVA resistive/capacitive load: 33mA. Duty cycle at 1kVA 1h on 1h off 700VA continuous. Tests the integrity of items including insulating materials, isophase bus duct, switchgear, transformers, vacuum bottles & interrupters, vacuum switches, automatic circuit reclosers, bushings, fuses, arrestors, circuit breakers, transformers, capacitors, motor and generator windings.



### High Voltage Inc PFT-503CM 50kV AC Hipot Test Set **HIV,PFT503 (8453) AU • MY • SG**

Single, portable (34kg) unit suited for testing overhead apparatus, vacuum bottles and interrupters, switch gear, bus duct, motorized vacuum switches, reclosers, bushings, fuses and arrestors, linemans safety products, small transformers, electrical components and motors. This 3kVA model features capacitive load compensation enabling full load testing with a power draw of 1.5kVA while operating from a conventional line input. 60mA output current capability.



### High Voltage Inc PFT-1003CMF 100kV AC Hipot Test Set **HIV,PFT1003 (8456) AU**

Portable (16kg control unit, 39kg HV tank) hipot tester, 100kV, 50Hz, rated 3kVA into capacitive loads. Features continuously adjustable output voltage, external safety interlock, zero start safety interlock, self resetting over current protection, guard/ground return mode, HV on/off and main power push button ruggedized meters and with glass windows that eliminate static buildup.

## Oil, Hipot, and VLF Testers above 20kV (cont'd)



### HV Diagnostics HVA TD60-MC Portable Tan Delta Management System

**HVD,HVA TD60-MC (8464) AU**

Optional Accessory for HVD,HVA60-DC/VLF and HVD,HVA90-DC-VLF. Tan Delta or Power Factor tester used to determine the power factor of cables, transformers, capacitors, rotating machines and other switchgear. This test allows the detection of insulation defects before they fail inservice.



### HV Diagnostics HVA30 30kV-15mA DC/VLF High Voltage Insulation Dielectrics Test Set

**HVD,HVA30-DC/VLF (8461) AU**

VLF and DC test capabilities combined in one unit (20kg). Suitable for testing cables (XLPE, PE, EPR, PILC etc), capacitors, switchgear, transformers, machines (IEEE 433), insulators and bushings. VLF (0.1Hz to 0.02Hz), DC ( $\pm$ ), cable fault conditioning (burning) and sheath/jacket testing modes all included. Fully automatic or manual cable test sequences complying with International Standards/Guides such as IEEE 400.2, VDE 0276 and CENELEC. True symmetrical sinusoidal, load independent, output waveform across the full load range. Real-time display of actual output wave form. Easy to use, ergonomic, menu guided, large backlit user interface. Large output load capability (up to 5uF). Automatic and integrated load capacitance measurement with optimum frequency selection. Storage of test results for later retrieval or download to a PC/Laptop.



### HV Diagnostics HVA60 60kV VLF/DC Test Set

**HVD,HVA60-DC/VLF (8462) AU • NZ • MY • SG**

VLF and DC test capabilities combined in one unit (60kg). Suitable for testing cables, capacitors, switchgear, transformers, machines, insulators and bushings. VLF (0.1Hz to 0.02Hz), DC ( $\pm$ ), cable fault conditioning (burning) and sheath/jacket testing modes all included. Fully automatic or manual cable test sequences. True symmetrical sinusoidal, load independent, output waveform across the full load range. Real-time display of actual output wave form. Large output load capability (up to 5uF). Automatic and integrated load capacitance measurement with optimum frequency selection. Storage of test results for later retrieval or download to a PC/Laptop. For a more comprehensive understanding of insulation condition perform tan delta testing at the same time with optional accessory HVD,HVA TD60.

# ELECTRICAL POWER

## Oil, Hipot, and VLF Testers above 20kV (cont'd)



### HV Diagnostics/B2HV HVA94 94kV VLF Test Set

**HVD,HVA94 (8463) AU**

VLF, DC and Jacket/Sheath testing. Sinusoidal: 0-94kV peak, 0-66kV rms. DC:  $\pm$  0-90kV and Squarewave: 90kV. Capable of testing cables up to 3,300m - 1 $\mu$ F at 0.1Hz and 61kV rms, 0.85 $\mu$ F at 0.1Hz and 66kV rms. The variable output frequency allows the testing of even much longer cables. 0.01 ... 0.1Hz in steps of 0.01Hz (default 0.1Hz) - auto frequency selection. Stores 50 test records.



### Megger OTS80PB Transformer Oil Tester

**MEG,OTS80PB (8450) AU • MY • SG**

Test voltage 80kV max at 61.8Hz. Fully automatic operation. Rechargeable batteries. RS232C interface.

**NEW!**



### Megger VIDAR Vacuum Circuit Breaker/Interrupter Tester

**MEG,VIDAR AU • MY • SG**

Checks the integrity of vacuum interrupter/ circuit breaker. User defined voltage selection, with extensive voltage range. Follows ANSI/IEEE standardized DC test methods. A suitable test voltage (DC) is applied to breaker, for PASS/FAIL results.



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## Transformer Testers



### Megger MWA330A 3Ph TTR & Winding Resistance Tester **MEG,MWA330A NZ**

Capable of performing 3-phase turns ratio, 3-phase winding resistance, OLTC Continuity (make-before-break), 3-phase core demagnetisation, magnetic balance/flux distribution, excitation current, polarity and phase angle deviation, auto vector detection, and heat-run tests. The kit includes 18 m test leads, and when connected, the instrument performs the full range of transformer tests without the need for test lead reconnection or a separate switch box. The unit effectively tests: Power transformers, distribution transformers, CTs and UTs (PTs) and motors/generators. Built-in touch-screen PC which will produce PDF reports via USB memory stick. Built-in printer.



### Megger TTR100-1 Handheld Transformer Tester **MEG,TTR100-1 MY • SG**

A handheld, robust, lightweight and battery operated instrument. Suitable for turns ratio, phase displacement, excitation current, vector group, winding resistance and polarity.



### Omicron Testrano 600 Three Phase Transformer Tester **OMI,TESTRANO600 (8551) AU**

Enhanced package. portable, three-phase test system which supports all common electrical tests on single- and three-phase power and distribution transformers. Tests include Transformer turns ratio (TTR) / exciting current, DC winding resistance, Demagnetization, OLTC scan / dynamic resistance measurement (DRM). Supplied with laptop and PTM advanced software.



### Omicron Franeo 800 Sweep Frequency Response Analyser **OMI,FRANEO 800 (8554) AU**

Standard package with PTM software. Fully compliant with the IEC 60076-18 and IEEE C57.149 standards. Suitable for power transformer testing and rotating machines testing & monitoring.

# ELECTRICAL POWER

## Transformer Testers (cont'd)



### Omicron CT Analyser Current Transformer

**OMI,CTANALYZER (8555) AU • MY • SG**

Tests protection and metering CTs according to IEEE and IEC standards. Measures phase-angle, ratio, winding resistance, excitation/saturation, residual magnetism, and burden impedance. Results of the assessment are received as a “pass or fail” decision within seconds due to the automated testing process. Features: Field verification up to the 0.1 accuracy class. Compact and lightweight (< 8 kg). High noise immunity for on-site testing.



### Omicron Dirana Transformer Insulation Moisture Analyser

**OMI,DIRANA (8557) AU**

Provides accurate and reliable condition assessment of insulation in power transformers, paper-mass insulated cables, bushings, and instrument transformers (CTs/PTs). The DIRANA utilises Dielectric Frequency Response (DFR) to determine the moisture content of oil-paper insulated power and instrument transformers. Features: Non-invasive measurement process. FDS and PDC+ algorithm for fast testing. Results defined by IEC 60422. Comes with laptop featuring pre-loaded software.



### Omicron SB2 Switch Box for CT Analyser

**OMI,CTSB2 (8556) AU**

An accessory for the CT Analyser which allows automatic testing of multi-ratio current transformers. Up to six connections for the secondary side of the current transformer



### Wika GIR-10 SF6 Gas Detector

**WIK,GIR-10 (5909) AU**

Gas detector based on infrared technology. Responds only to SF6 gas, therefore not sensitive to humidity and common VOC. Fast response time. Smallest concentrations of up to 0.6 ppmv can be detected. Applications include Locating and quantifying leakages at SF6 gas filled equipment, Determination of leak rate for final inspection of SF6 gas. filled equipment



## Circuit Breaker Testers



### Omicron Cibano 500 Circuit Breaker Test System

**OMI,CIBANO 500 (4676) AU • MY • SG**

Complete with advanced package circuit breaker tester for medium and high voltage circuit breakers. Suitable for Timing tests, Static contact resistance test and Dynamic contact resistance test. Supplied with Primary Test Manager Software ideal tool for the diagnostic testing and condition assessment of circuit breakers.

## Current Injectors



### Megger INGVAR Primary Current Injection Test System

**MEG,INGVAR (4603) AU • MY • SG**

Primary injection testing system consists of a Control Unit and a Current Unit. Up to 1600A output current with cables supplied. Unit is capable of up to 5000A output current with special cables(not supplied). Suitable for switchgear and CT commissioning, ground grid, circuit breaker testing and more.



### Multi-Amp MS-2 High Current Test Set

**MUL,MS-2 (4600) NZ**

Designed to test overload relays, circuit breakers and earth fault trip devices. Input 240V 50/60Hz. Output continuously adjustable in 4 ranges 120V/5A, 24V/25A, 6V/120A & 3V/240A. Short term over current of several times the rated current ranges is possible. Digital current meter has read and hold facilities for short duration currents. Digital timer measures elapsed time between energisation and the test device operating.

**NEW!**



### Omicron COMPANO 100

**OMI,COMPANO100 (4604) AU**

Battery Powered Primary injection, secondary injection, and basic protection test set. Applications include Wiring and polarity checks, Burden measurements, Single-phase protection relay testing, CT/ VT ratio checks, Micro-ohm resistance testing. 150VAC/220VDC output (30 VA), 110 A AC/ 100A DC output (600VA) and Inputs binary wet/dry, AC/DC voltage 300V or current with shunt. Supplied with Wiring check add-on and Grounding system. Optional HGT1 and HGT1 with PTM software available for step and touch voltages measurement.

## Current Injectors (cont'd)



### Omicron CPC 100 Multi-functional Primary Test System

**OMI,CPC100PTS (4620) AU • NZ • MY • SG**

Portable (29 kg) primary test system suited for testing of current transformers, voltage transformers, power transformers, power lines, HV cables, grounding systems, switchgear and circuit breakers, protection relays and more. Tests to 800A over frequency range 15Hz to 400Hz, or to 400A DC. Laptop included, preloaded with CPC 100 Toolset and PTM software. Optional accessories: OMI,CPCU1 (with or without OMI,HGT1) OMI,CPSB1 OMI,CP-TD12/TD15, OMI,CP-CR600.



### Omicron CP CB2 Current Booster

**OMI,CPCB2 NZ • MY • SG**

Combined with the CPC 100, the CP CB2 boosts the output current of a CPC 100 from 800A to 2000A.



### Omicron CP CU1 Multi-Purpose Coupling Unit for PC 100

**OMI,CPCU1 (4623) AU**

Combined with the CPC 100, the CP CU1 is a measurement system for line impedances & k-factors of overhead lines or power cables, mutual coupling of parallel lines, ground impedances of large substations and coupling of power lines into signal cables. This test system overcomes the problem of power system frequency interference that has previously made it necessary to use extremely large, high-power equipment to carry out these measurements.



### Omicron HGT1 Handheld Grounding Tester

**OMI,HGT1 (4625) AU**

Handheld meter to measure ground impedance, step and touch voltages. Applications include measuring Fall of Potential at locations outside the substation to determine the ground impedance and measuring step and touch voltages at multiple locations using the CPC 100 and CP CU1.



### Omicron CPSB1 Switch Box

**OMI,CPSB1 (4621) AU**

Switch Box to allow fully automated 3 phase transformer testing, accessory for the CPC100.

## Current Injectors (cont'd)



Omicron CP TD12 Capacitance and Tan Delta Add-on  
**OMI,CP-TD12 (4624) AU**

An accessory for CPC 100 for performing power/dissipation factor and capacitance measurements. Suitable to determine a wide range of electric and dielectric parameters: Power factor, dissipation factor (tan d), Capacitance, Exciting current, Watts / power (P, Q, S), Inductance, Impedance, Current, Phase angle, Quality factor .



Omicron CP TD15 Capacitance and Tan Delta Add-on  
**OMI,CP-TD15 (4625) AU**

An accessory for CPC 100 for performing power/dissipation factor and capacitance measurements 15KV. Suitable to determine a wide range of electric and dielectric parameters: Power factor, dissipation factor (tan d), Capacitance, Exciting current, Watts / power (P, Q, S), Inductance, Impedance, Current, Phase angle, Quality factor.



Omicron CP CR600 Compensating Reactor  
**OMI,CP-CR600 (4626) AU**

A compensating reactor for the CP TD12 and TD15. Allows testing of the insulation quality of generators, motors and other systems with high capacitances up to 1°F at rated frequency. Used with CPC 100 + CP TD12/15 for dissipation factor (tan delta) and power factor measurements.

**NEW!**



Omicron HGT1 Handheld grounding tester with PTM  
**OMI,HGT1 PTM (4628) AU**

HGT1 with PTM software is a handheld meter to measure ground impedance, step and touch voltages. Applications include measuring Fall of Potential at locations outside the substation to determine the ground impedance and measuring step and touch voltages at multiple locations using either Compano 100 or the CPC 100 and CP CU1.

## Electrical Circuit Mapper



Tasco 24 Channel Circuit Mapper System  
**TAS,CIRCUITMAP NZ**

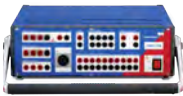
Maps up to 24 wiring circuits concurrently. Connect the transmitter cables to each circuit at the switchboard and the receiver displays the corresponding circuit number, to determine which breaker is connected to each transmitter lead. Can be used on live or de-energised cables up to 300 V. Transmitter, receiver, 24 clamps and manual supplied. Battery powered.

## Protection Relay Testing System



Omicron CMC 356 Advanced Protection Relay Test Set  
**OMI,CMC356 (4656) AU • NZ • MY • SG**

Protection relay test set with 6 current sources (6 x 32A/430VA, 3 x 64A/860VA or 1 x 128A/1000VA), 4 voltage outputs (4 x 300V or 1 x 600V), 4 x binary outputs, 10 x multifunctional binary inputs (dry/wet) and Generator Combination Cable for wiring convenience. The voltage and output channels are adjustable in amplitude, phase and frequency. All outputs overload and short-circuit proof. Laptop included, preloaded with Test Universe software (Advanced Protection + Transducer).



Omicron CMC 356 Enhanced Protection Relay Test Set  
**OMI,CMC356\_ENHANCED (4659) AU • MY • SG**

Protection relay test set with six current sources (6 x 32A/430VA, 3 x 64A/860VA or 1 x 128A/1000VA), four voltage outputs (4 x 300V or 1 x 600V), 4 x binary outputs, 10 x multifunctional binary inputs (dry/wet) and Generator Combination Cable for wiring convenience. The six current and four voltage output channels are continuously and independently adjustable in amplitude, phase and frequency. All outputs overload and short-circuit proof. Laptop included (except in NZ), preloaded with Test Universe software Enhanced protection package.



Omicron Arc 256X Arc Flash Initiator  
**OMI,ARC256X (4658) AU**

CMC accessory designed to simulate an arc using a xenon tube. It has a 6m (19.7 ft) long connection cable it is connected to the external interface socket of the CMC test set, which provides both the supply voltage as well as the signal that will trigger the flash.



Learning to operate unfamiliar equipment costs you time and can lead to errors. Save time and reduce your real costs. Discover our Configuration and Download solutions on [page 79](#).

## Protection Relay Testing System (cont'd)



### Omicron CMC 356 Basic Protection Relay Test Set **OMI,CMC356-BASIC MY • SG**

Protection relay test set with 6 current sources (6 x 32A/430VA, 3 x 64A/860VA or 1 x 128A/1000VA), 4 voltage outputs (4 x 300V or 1 x 600V), 4 x binary outputs, 10 x multifunctional binary inputs (dry/wet) and Generator Combination Cable for wiring convenience. The voltage and output channels are adjustable in amplitude, phase, and frequency. All outputs overload and short-circuit proof. Laptop included, (except in New Zealand), preloaded with Test Universe software .



### Omicron CMC 356 Advanced Protection Relay Test Set +61850 **OMI,CMC356\_61850 (4657) AU**

Protection relay test set with 6 current sources (6 x 32A/430VA, 3 x 64A/860VA or 1 x 128A/1000VA), 4 voltage outputs (4 x 300V or 1 x 600V), 4 x binary outputs, 10 x multifunctional binary inputs (dry/wet) and Generator Combination Cable for wiring convenience. The 6 current and 4 voltage output channels are continuously and independently adjustable in amplitude, phase and frequency. All outputs overload and short-circuit proof. Includes IEC61850 software package (GOOSE, Sampled Values, IEDScout, SVScout). ELT-1 and LLO-2 options not included. Laptop included, preloaded with Test Universe software (Advanced Protection + Transducer) and IEC61850 package. Optional accessories: OMI,CMA156-6PCA OMI,C-PROBE1 OMI,CMGPS



### Omicron GPS time reference **OMI,CMGPS588 (4663) AU**

Synchronisation unit is an antenna-integrated GPS controlled time reference. Optimised for outdoor usage and works as a grandmaster clock according to IEEE 1588-2008/ IEEE C37.238-2011 Power Profile.



### Megger (Programma) Sverker780 Relay Test Set **MEG,SVERKER780 (4673) AU • MY • SG**

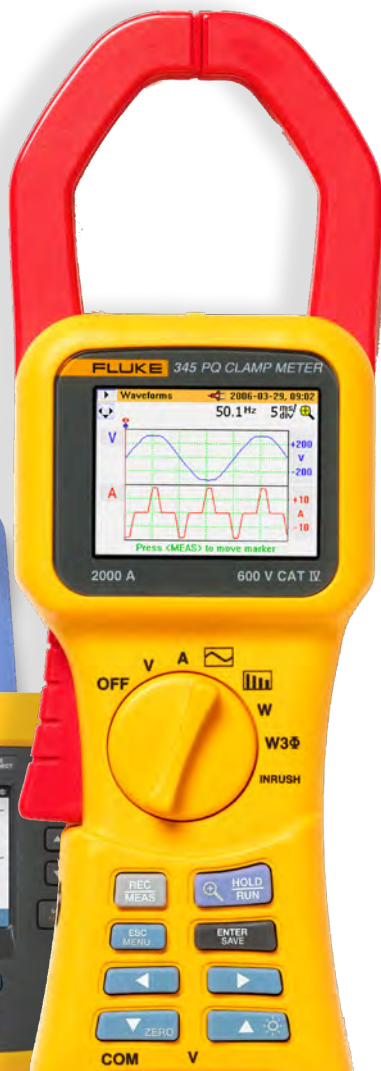
Relay test set for 1ph protective relay equipment. Three phase relays can be tested 1 phase at a time or by synchronising more than one unit. Current ranges to 100A with full load current to 250A. AC outputs to 250V & DC outputs to 300V. In-built capacitor and resistors for current output phase shifting. In-built timer, ammeter, and voltmeter. Measures phase angle, PF, and impedance. USB communications and control interface.

# ELECTRICAL POWER

## Identify Energy Wastage with Accurate Power Quality Analysis

With our experienced sales engineers, we can help identify long-term solutions to control and understand where power wastage problems and associated risks lie.

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## Battery Management Systems



### Hioki 3554 Battery HiTester

**HIO,3554 NZ • MY • SG**

Takes on-the-spot measurements of the internal resistance, voltage and temperature of lead-acid batteries, principally for UPS and similar applications, without needing to shut off the battery. Instantaneous results, on a three-rank scale of Pass, Warning, or Fail, using a composite decision based on the internal resistance and the voltage. Resolution of  $1\mu\Omega$ , necessary for high capacity batteries (of at least 500Ah). Includes Hioki 9460 clip type temperature leads.



### Hioki BT3554-52 Battery Tester

**HIO,BT3554-52 (8271) AU • SG**

**HIO,BT3554 MY**

Takes on-the-spot measurements of the internal resistance, and voltage of lead-acid batteries, for UPS and similar applications, without taking it offline. Instantaneous results and easy data management with mobile app( GENNECT Cross) or PC (GENNECT One). Up to 6,000 data sets can be saved. Pass, Warning, or Fail results using comparator function. Comes with Z3210 wireless adapter to communicate with smartphones or tablets via GENNECT Cross App.



### Megger Torkel 950 Battery Discharge Tester

**MEG,TOR950 (8279) AU • NZ • MY • SG**

Works with 7.5V to 500V battery systems and can discharge at up to 220A (15kW maximum power). It can be programmed for constant current, constant power, constant resistance or user defined load profiles. The kit includes a 200ADC current clamp allows on-load testing. Tests are controlled by a built in PC and results can be copied to a USB memory stick.

# ELECTRICAL POWER

## Battery Management Systems (cont'd)



### Megger TXL870 Extra Load Unit

**MEG,TXL870 (8277) AU • MY • SG**

Optional accessory for the Megger Torkel 950 battery discharger tester. Adds up to an extra 112A load capacity to a discharge test (15.8kW maximum). Operates as a slave in combination with a the Megger Torkel 850



### Megger BVM300 Battery Voltage Monitor

**MEG,BVM300 (8275) AU • NZ**

0~5VDC and 0~20VDC 1mv resolution. 1% accuracy daisy chained 31 channel voltage datalogger. Integrates with the Torkel controller to give cell by cell voltage measurement. If the battery string fails a load test the individual battery that is the culprit can be easily identified. These two instruments combined together meet the test standards IEEE450, IEC896-1, IEEE 1188-1996 & IEC896-2.



### Megger (Programma) TORKEL 860 Battery Load Unit

**PRO,TORKEL-860 MY • SG**

Portable (22kg, 38kg with accessories and transport case) battery discharge load unit. Works with 12V to 480V battery systems and can discharge at up to 110A (15kW maximum power). Can be programmed for constant current, constant power, constant resistance or user defined load profiles. The included DC current clamp allows on-load testing. Tests can be PC controlled and results reviewed using the included TORKEL Win software. The load current can be extended with the optional accessory MEG,TXL870.



Watch how-to/information videos on any piece of equipment displaying this symbol. Visit the TechRentals YouTube page at [www.youtube.com/TechRentals](http://www.youtube.com/TechRentals)



# SETUP AND DOWNLOAD

Save time and reduce your costs by using our data management services



Learning to operate unfamiliar equipment costs you time and can lead to fundamental errors in the data capturing processing. Use a better solution - our Setup and Download service.



## Fluke DSX-5000 Cable Analyser

### Setup:

- Company name
- Site
- Tester
- Setup of certification test limit
- Cable type/fibre type

### Results Downloaded:


- Raw Fluke Linkware files
- Linkware software
- PDF report results

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Our experienced technicians can provide you with downloaded data on a USB drive to help you with unfamiliar equipment. This includes everything you need for a quick setup such as PDF files, raw data files, and the appropriate software.

Once you nominate the appropriate technical information, we take care of the rest. The downloaded files can be promptly forwarded to you, or collected at an arranged time that's more convenient.

Equipment marked with the  symbol is available to rent with this service. Fees vary depending on the complexity of operation and the level of detail involved.

Data management services are available for many products. Above is an example of what you can expect.



# General Industrial

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Pg. 85-86 Endoscopes, Borescopes & Visual Inspection

Pg. 89 Tachometers/Stroboscopes

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Pg. 98-100 Wet & Dry Block Calibrators

Pg. 100 High Speed Wave Recorders

Pg. 101-105 Data Loggers

Pg. 106-108 Pressure Vacuum Gauges/Recorders

Pg. 109-110 Flow Meters for Liquids and Gases

Pg. 111-112 Combustion, Flue & Industrial Gas Analysers

## Temperature Meters/IR Thermometers



Fluke 52-IANZ Digital Thermometer

**FLU,52-IANZ NZ**  
**SER,QT16G-K NZ**

Type K, two channel thermometer with 2 probes supplied. Standard insertion 150 x 3mm probe, calibration range: -20°C to 200°C and surface contact probe, calibration range: -20°C to 600°C. High temperature insertion 450 x 6mm probe also available, IANZ calibration range: 200°C to 1000°C. Accuracy: ±1%



Fluke 54-2B 2 Channel Data Logging Temperature Meter with FlukeView

**FLU,54-2B-FVF (4507) AU • MY • SG**

Dual input digital thermometer with data logging. Will take most TC inputs. Accuracy ±0.05% of reading +0.3°C. 500 point logging with date & time stamp. Also records min, max or avg. Logged data can be reviewed on meter or downloaded to PC using software included. Supplied with 2 x 1m K type thermocouple leads -200 to 800°C.

**NEW!**



Fluke 62 Max Plus

**FLU,62 MAX PLUS (4510) AU**

Handheld Infrared Laser Thermometer delivers the accuracy you need. Just point, shoot, and read the temperature of many types of equipment. Get accurate readings from transformers, motors, pumps, panels, breakers, compressors, duct, steam lines, valves, and vents.



Fluke 63 Infrared Thermometer to 535°C

**FLU,63 MY • SG**

Non-contact mini IR thermometer with 12:1 distance to spot ratio and a temperature range from -32°C to 535°C. Delivers 1% accuracy and 0.5% repeatability with laser targeting.

## Temperature Meters/IR Thermometers (cont'd)



Fluke 1523 IANZ Precision Handheld Thermometer

**FLU,1523 NZ**

Single channel Reference Thermometer with 5627A PRT (Platinum Resistance Thermometer) probe  $\varnothing 1/4" \times 12"$  ( $\varnothing 6.35\text{mm} \times 305\text{mm}$  long). Temperature Range:  $-30^{\circ}\text{C}$  to  $+420^{\circ}\text{C}$ . PRT resolution:  $0.001^{\circ}\text{C}$ . Trending function to determine when temperature is stable. 25 memory locations. IANZ Calibrated.



Fluke 1524 NATA Precision Handheld Thermometer

**FLU,1524 -NATA 15 EC (4512) AU**

Precision portable, electronic thermometer with trending, memory for logging 15,000 data and time stamped measurements and 25 readings with statistics. Includes 5615-12 PRT probe, maximum immersion length 305mm, diameter 6.35mm. Temperature range  $-200$  to  $420^{\circ}\text{C}$ .



Fluke 572-2 High Temperature Infrared Thermometer

**FLU,572-2 NZ • MY • SG**

Temperature measurement range from  $-30$  to  $900^{\circ}\text{C}$  with USB interface. 60:1 distance to spot ratio with dual laser sighting for fast, accurate targeting. Adjustable emissivity and predefined emissivity table. Accuracy of  $\pm 1^{\circ}$  for reading from 0 to  $950^{\circ}\text{C}$ , display resolution  $0.1^{\circ}\text{C}$ . Stores 99 data points, data output via USB cable, comes with software for viewing and reporting.

## Infrared Thermal Imaging Cameras



### Flir T640 Thermal Imaging Camera

**FLI,T640 (4565) AU**

High performance thermal imaging camera with on-board 5MP visual camera, 640 x 480 thermal resolution, IFOV 0.68, 8X continuous zoom, time lapse and GPS are just a few of its many features. Temperature range -40 to 2,000°C. Calibration certificate to 1,000°C provided. If certification to 2,000°C is required, please inquire.



### Flir E54 Thermal Imaging Camera

**FLI,E54 (4572) AU**

Temperature range -20 to 650°, IR resolution 320 x 240, 30Hz. Display 10cm 640 x 480 touchscreen, 1-4 continuous digital zoom, video recording, Wi-Fi, USB and Bluetooth enabled. IFOV 1.31 mrad. Image modes include infrared, visual, MSX and picture-in-picture. Features manual focus, moisture, insulation, above, below, interval measurement alarms and GPS image tagging. Applications include electrical distribution, mechanical (belts, rollers, couplings, gaskets/seals, compressors etc), product development, HVAC/R, automotive.



### FLIR E76 Infrared Thermal Imaging Camera

**FLI,E76 (4573) AU**

Temperature range 20 to 650°C, IR resolution 320 x 240, 30Hz. Display 10cm 640 x 480 touchscreen, 1-4 continuous digital zoom, video recording, Wi-Fi, USB and Bluetooth enabled. IFOV 1.31 mrad. Image modes include infrared, visual, MSX and picture-in-picture. Features Laser-assisted auto or manual focus, laser distance measurement, moisture, insulation, measurement alarms and GPS image tagging. Applications include electrical distribution, mechanical (belts, rollers, couplings, gaskets/seals, compressors etc), product development, HVAC/R, automotive.

## Infrared Thermal Imaging Cameras (cont'd)



### Flir E75 Infrared Thermal Image Camera

**FLI,E75 (4574) AU • MY • SG**

Temperature range -20 to 650°C, IR resolution 320 x 240, 30Hz. Display 10cm 640 x 480 touchscreen, 1-4 continuous digital zoom, video recording, Wi-Fi, USB and Bluetooth enabled. Image modes include infrared, visual, MSX and picture-in-picture. Features Laser-assisted auto or manual focus, laser distance measurement, moisture, insulation, measurement alarms and GPS image tagging. Applications include electrical distribution, mechanical (belts, rollers, couplings, gaskets/seals, compressors etc), product development, HVAC/R, automotive.



### Flir Thermal Imaging Camera

**FLI,E86 NZ**

**FLI,E95 NZ**

-20°C to 1,500°C, 464 x 348 (928 x 696 with UltraMax®) for displaying and capturing surface temperature of objects. 30 Hz sampling rate suitable for video recording and live streaming. Applications include: energy audits and building inspection, electrical surveys, mechanical applications, R&D etc. Touch screen LCD with auto-rotation. Minimum span: 2.0°C. Focus Options: Continuous, one-shot laser distance meter (LDM), one-shot contrast, manual. Time-lapse (Infrared): 10 sec to 24 hours. Digital Zoom: 1-4x continuous. Digital Camera: 5 megapixel. Thermal sensitivity FLI.E95:  $\leq 0.03^{\circ}\text{C}$  (30mK) [FLI.E86:  $\leq 0.04^{\circ}\text{C}$ ]. Quantify problems through on-screen area measurement ( $\text{m}^2$  or  $\text{ft}^2$ ). Image Modes: visual, Infrared, MSX® (FLIR's high level thermal image option), Picture-in-Picture. SD card (8 GB). 2x Li-ion batteries, approx. 2.5 hours each. Communication Interfaces: USB 2.0, Bluetooth & WiFi for live streaming and capture to tablets and smartphones. Software supplied for importing and analysing images, creating inspection reports and viewing live IR camera video.

## Infrared Thermal Imaging Cameras(cont'd)



**Fluke Ti480 PRO Infrared Camera**

**FLU,TI480 PRO (4564) AU • MY • SG**

Temperature range -10 to 1,000°C, 640 x 480 thermal resolution (1280 x 960 with SuperResolution mode) and 0.93 mRad. Wireless connectivity to PC, Apple or Android. Image capture still or video with live streaming capabilities. MultiSharp focus provides image focus throughout the field of view and a built-in laser distance meter displays the distance from your target.



**Fluke TiS60+ Thermal Imaging Camera**

**FLU,TIS60+ MY • SG**

Temperature range -20 to 400°C, IR resolution 320 x 240, 9Hz, IFOV 1.86mrad, 3.5 inch LCD screen, fixed focus. IR-Fusion, captures a digital visible light image at the same time as an infrared image. The camera blends the two images together, pixel for pixel, in a single display.



**Fluke Thermal Imager 4X Lens**

**FLU,LENS4X NZ**

4x Telephoto IR Smart Lens for Ti450 and Ti480 thermal cameras. Using this lens offers 2 main features: Firstly it enables images to be captured from greater distances away be it on the ground, in the air or just a safer distance. Ideal for hard to reach, energized or unsafe areas. Secondly it can detect a spot approx. 25% of the size of a standard lens, if images are taken from the same distance. Potential applications include: overhead transmission lines, power substations, tall stacks in petrochemical plants, areas too hot to get close to, hazardous and/or unsafe working areas or similar.

## Endoscopes, Borescopes & Visual Inspection

→ See also Pipeline & Cavity Inspection on page 137-139.



**Olympus IPLEX GL 2m x 4mm Handheld Videoscope**

**OLY,IPLEX-GL 2.4 (5175) AU**

2m, 4mm diameter hand handheld videoscope has the following features: Daylight viewing monitor. 60fps for smooth video and still imagers. Dynamic image optimisation, reduces halation, balances exposure and optimises gain quality. Noise reduction, minimises noise and ensures accurate colour reproduction. Constant video recording and video bookmarking. Wireless image sharing (with iOS app "IPLEX IShare" only).

## Endoscopes, Borescopes & Visual Inspection (cont'd)



### Olympus IPLEX GL 3.5m X 6mm Handheld Videoscope

**OLY,IPLEX-GL 3.5-6 (5176) AU • NZ • MY • SG**

3.5m x 6mm diameter handheld videoscope has the following features: Daylight viewing monitor. 60fps for smooth video and still imagers. Dynamic image optimisation, reduces halation, balances exposure and optimises gain quality. Noise reduction, minimises noise and ensures accurate colour reproduction. Constant video recording and video bookmarking. Wireless image sharing (with iOS app "IPLEX IShare" only). Optional UV and IR light sources.



### Olympus IPLEX RX 3.5m x 4mm Videoscope with Measurement

**OLY,IPLEX-RX (5184) AU**

Battery powered videoscope. 3.5m x 4mm insertion tube, 4 way, 130° articulation and 120° FOV. Stereo Measurement functions, Distance, Point-to-line, Depth and Area. Applications include inspection of heat exchangers, turbines, gearboxes, automotive parts and aircraft. Still and video recording to USB flash, approx 3,400 images and 30 mins per 1GB.



### Olympus IPLEX RT 7.5m Portable Industrial Videoscope

**OLY,IPLEX-RT 7.5 (5186) AU • MY**

Battery powered videoscope. 7.5m insertion tube, 6mm diameter, 4 way, 100° articulation and 120° FOV. Applications include inspection of heat exchangers, turbines, gearboxes, automotive parts and aircraft. Still and video recording to USB flash, approx 3,400 images and 30 mins per 1GB.



### Olympus IPLEX GT 7.5m x 6mm Portable Industrial Videoscope

**OLY,IPLEX-GT 7.5 (5185) AU • MY • SG**

Designed for the visual inspection of heat exchangers, turbines, gearboxes, automotive parts, aircraft, and other industrial machinery. This lightweight videoscope comes with a 7.5m long, 6mm diameter tungsten braided insertion tube. Record still images and video simultaneously with Smart Video. Features: 8" LCD monitor. Easy-to-use touch screen and hot key controls. Smart Video. TrueFeel articulation. Compliant to MIL-STD-810G.



### Olympus IVO620C Endoscope

**OLY,IVO620C5 NZ**

4 way articulating industrial endoscope with 2 metre probe. The probe has high intensity LED lights, and 8 brightness settings. Images are stored to an SD card, for later download. Lightweight and portable this touch screen endoscope provides quick and easy inspections of difficult to reach areas. Insertion probe can be used underwater. Insertion tube length: 2m. Tube Diameter: 6.2mm. Articulation: 4 Way, each 120°. Field of View: 90°. Depth of view: 12 ~ 150mm. Operating Temperature In Air: -25° to 80°C. Operating Temperature In Water: 10° to 30°C. Battery powered, 120 min life. Spare battery included.





# The Portable, Powerful Videoscope

IPLEX G Lite industrial videoscope

- Lightweight, rugged, and goes almost anywhere
- Clear, bright images aid in your decision-making
- Make your inspections fast and efficient



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🌐 [www.evidentscientific.com](http://www.evidentscientific.com)



# Extensive Fleet of Test Equipment

TechRentals has a diverse fleet of test equipment spanning many categories including General Industrial equipment. This category includes instruments such as:

- Industrial Process Calibrators
- Infrared Thermal Imaging Cameras
- Wet and Dry Block Calibrators
- Laser Rotational Shaft Alignment
- Flow Meters for Liquids & Gases
- Endoscopes Borescopes Visual Inspection

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## Tachometers/Stroboscopes



**Hioki FT3406 Contact/Non Contact Tachometer**

**HIO,FT3406 NZ • MY • SG**

Speed range for non-contact measurement is 30 rpm to 99,990 rpm, and contact base measurement is 15 rpm to 19,999 rpm. Contact adaptor included for mechanical connection to rotating shaft, and rim wheel adaptor included for linear speed measurement. Analogue output: 0-1 V DC FS with 2% accuracy. Internal battery or external AC operation.



**Monarch PLT200-KIT Digital Contact/Non Contact Tacho**

**MON,PLT200-KIT (5214) AU • MY • SG**

Hand held digital contact/non-contact tacho kit. Ranges optical/non-contact 5 to 200,000 RPM, contact 0.5 to 20,000 RPM. Display 5 digits, 5 alpha numeric LCD. Non contact operating range 90cm, tripod mounting. Direct contact tips and contact wheel supplied. Programmable for IPM, FT/M, YPM, cm/M, m/M, RPM, RPS, RPH and Totaliser up to 200,000. Output TTL pulse.

## High Speed Cameras



**Olympus i-Speed3 High Speed Camera**

**OLY,ISPEED3 NZ**



Complete kit supplied including Olympus i-Speed3 video camera, 8.4" LCD display/control unit, lenses, lighting array, tripod & head. Maximum resolution: 2000 frames/sec at 1280x1024, up to 150,000 fps at lower resolutions. Display unit controls the camera & reviews footage, analyse distance, speed, acceleration etc. Manfrotto tripod & head for stability & control. Comer LED lighting array & stand. Godox 200W / 20,000 lux light also available. 10bit colour or monochrome. Maximum shutter speed: 1µs. Storage: 8GB. CF Card or Gigabit Ethernet file transfer. Cyclic memory & triggering methods including pickle switch & sensed movement. Four F-mount lenses: 24, 50, 105 & 75 to 240mm. Tripod counterbalance control & variable drag control of pan (-60° to 90°) & tilt (360°). Light output up to 5500 lux adjustable colour temperature. All battery or mains powered.

## Intrinsically Safe Camera



**Cordex TP3EX Intrinsically Safe Digital Camera**

**COR,TP3EX NZ**

Safely captures high-quality digital images and movies. IECEx Certificate of Conformity available on request. Operates in daylight, low light, or even total darkness, via an auto-adjusting CMOS sensor and LED flash.

## Laser Rotational Shaft Alignment



### Ficturlaser ECO Laser Base Shaft Alignment System

**FIX,ECO MY • SG**

Measurement resolution to 0.01mm. Shaft diameter range 25 to 175mm using an extension chain 25 to 450mm. Maximum distance between measurement units 3m. Horizontal Shaft Alignment, Vertical Moves for fast alignment process, additional features include Soft Foot Check, Target Values and Tolerance Table. Wireless configuration. 1,000 measurement can stored in JPEG and notes format. Alignment can be monitored in real time. 8h of continuous operation from Li-Ion bat.



### Pruftechnik Optalign Smart RS5 Optical Alignment System

**PRU,OPT-RS5 (4940) AU**

Optical alignment system with 5 axis precision sensors. Includes Target, thermal growth and dial gauge input. Multipoint measurement. Spacer and cardan shaft measurement. Compact magnetic brackets. Reliability centre software included.



### Pruftechnik Optalign Touch Standard Optical Alignment System

**PRU,OPT-TOUCH-STD (4940) AU • MY • SG**

Complete with 5 axis precision sensors. Includes target, thermal growth and dial gauge input. Multipoint measurement. Spacer and cardan shaft measurement. Compact magnetic brackets. Reliability centre software included.



### Pruftechnik Tension Chain and Tip Rod Kit

**PRU,ACC-KIT (4941) AU**

Kit of additional tension chains and tip rods for Pruftechnik Laser shaft alignment system.



### Easy-Laser System® XT660 Shaft with Display Unit

**EAS,XT660 MY**

Dot laser technology with single axis TruePSD 20x20mm detectors. Measurement resolution of 0.001mm with max measurement distance up to 20m. Shaft diameter range 20 to 150mm, using extension chain up to 450mm. Alignment for Horizontal & Vertical Mounted Machines 3 Machine Train Alignment, Check base twist, Check bearing play, Check soft foot and Documentation. 16 hours operating time. Includes Easy-Laser XT11 and 8" touch screen display unit (has built-in 13 MP camera for documentation), extension chain, Hexagon wrench and measuring tape.

## Industrial Process Calibrators



### Beamex MC6 Multifunction Calibrator NATA Certified

**BEA,MC6 (4727) AU**

NATA certified MC6 provides calibration capability for pressure, temperature, electrical and frequency signals with HART communication and Document Calibrator option included. Performs as a field-entry device (FED) allowing for the recording of non-calibration related maintenance results. Pressure modules included, -1 to 20 bar and 600 bar. DC voltage & current, frequency, and pulse measurement. RTD, thermocouple, and resistance simulation & measurement. Pressure accuracy EXT-600 bar 0.007% FS + 0.01% Rdg, INT-20 bar 0.005% FS + 0.01% Rdg, temperature coefficient  $\pm 0.001\%$  Rdg/ $^{\circ}\text{C}$  outside 15 to 35 $^{\circ}\text{C}$ .



### Beamex MC6 Multifunction Calibrator NATA Certified - C

**BEA,MC6-C (4727) AU**

Provides calibration capability for pressure, temperature, electrical, and frequency signals. HART communication and CMX light software provided. Calibration results can be stored or printed. Performs as a field-entry device (FED) allowing for the recording of non-calibration related maintenance results. Fluke dry well communication firmware and pressure modules, barometric, 0 to 100m, -1 to 20, 0 to 160, and 600 bar included.



### Beamex MC6 Multifunction Calibrator NATA Certified -K2

**BEA,MC6-K2 MY - SG**

NATA certified MC6 provides calibration capability for pressure, temperature, electrical and frequency signals with HART communication and Document Calibrator option included. Performs as a field-entry device (FED) allowing for the recording of non-calibration related maintenance results. Pressure modules included, -1 to 2 bar, -1 to 20 bar and Barometric (hand pumps included). DC voltage, current, frequency, and pulse.



### Beamex External Pressure Module

**BEA,MC6-PM (4731) AU**

**BEA,PRESSURE MODULE MY - SG**

External pressure modules compatible with MC6, MC5, MC4, MC2 MC5-IS, MC2-IS and MC5P calibrators. Various rangers available, please inquire.

## Industrial Process Calibrators (cont'd)

→ See also Pressure Vacuum Gauges/Recorders on pages 106-108.



### Crystal Engineering Hydraulic Comparator

**CEC,GAUGEAL NZ**

Allows your pressure gauge to be compared against a standard. Choose a Reference Gauge: 30Bar, 140Bar or 700BAR Hydraulic test gauge. All of which have IANZ endorsed calibration. Attach the Unit Under Test and the Reference Gauge, apply hydraulic fluid (water, oil, isopropyl alcohol) and then simply and easily apply pressure to chosen setpoints. Features main screw plus fine-adjust screw. Can be used with flexible hose and Ralston fittings when testing less than 350Bar.



### Druck DPI 611-2-NATA 2 Bar Pressure Calibrator

**DRU,DPI611-2-NATA (4736) AU**

**DRU,DPI611-2 MY • SG**

**DRU,DPI611-07G NZ**

Fully self-contained pressure test and calibration system combines pressure generation, signal measurement and loop power. Generates from 95% vacuum to 2 bar/30 psi pneumatic pressure with 0.0185% FS accuracy. Calculates PASS/FAIL errors and documents results. User Guide stored in the memory of the instrument, 3-touch set-up for any application.



### Druck DPI 611-20-NATA 20 bar Pressure Calibrator

**DRU,DPI611-20-NATA (4748) AU**

**DRU,DPI611-20 MY • SG**

**DRU,DPI611-13G NZ**

Fully self-contained pressure test and calibration system combines pressure generation, signal measurement and loop power. Generates from 95% vacuum to 20 bar/300 psi pneumatic pressure with 0.0185% FS accuracy. Calculates PASS/FAIL errors and documents results. User Guide stored in the memory of the instrument, 3-touch set-up for any application.

## Industrial Process Calibrators (cont'd)



**Druck DPI612 70Bar Pressure Calibrator**

**DRU,DPI612-70 MY • SG**

Fully self-contained pressure test and calibration system combines pressure generation, signal measurement and loop power. 0 to 70 bar, accuracy 0.005%FS. Calculates Pass/Fail errors and documents results. User Guide stored in the memory of the instrument, 3-touch set-up for any application.



**Druck DPI612 100 Bar Pressure Calibrator**

**DRU,DPI612-100 MY • SG**

Fully self-contained pressure test and calibration system combines pressure generation, signal measurement and loop power. 0 to 100 bar, accuracy 0.005%FS. Calculates Pass/Fail errors and documents results. User Guide stored in the memory of the instrument, 3-touch set-up for any application.



**Druck DPI 612 NATA 200 bar Pressure Calibrator**

**DRU,DPI612-200-NATA (4766) AU**

Fully self-contained pressure test and calibration system combines pressure generation, signal measurement and loop power. 0 to 200 bar, accuracy 0.005 %FS. Calculates Pass/Fail errors and documents results. User Guide stored in the memory of the instrument, 3-touch set-up for any application.



**Druck DPI612 350 Bar Pressure Calibrator**

**DRU,DPI612-350 MY • SG**

Hydraulic pressure calibrator including pump and current voltage standard. Pressure range 0-350bar (5000psi) +/- 0.005% FS. Voltage input +/- 30VDC +/-0.018% rdg +/- 0.005% FS. Current input +/-55mA +/-0.018% rdg +/- 0.005% FS. Temperature -10~30°C +/-1°C (ambient) switch open/closed. Voltage output 10VDC +/-0.1% or 24 V +/-1%. Current output 0~24mA +/-0.018% rdg +/- 0.006%FS. Data logger -8Gb. mA step & ramp configurable. Pressure port G 1/8 female (Quick-to-fit connection) and 1/8 NPT female adaptors, includes flexible hose kit. Pressure relief valve attached. Comes with rechargeable battery and charger.

## Industrial Process Calibrators (cont'd)



**Druck DPI612 700 Bar Pressure Calibrator**

**DRU,DPI612-700 MY • SG**

Fully self-contained pressure test and calibration system combines pressure generation, signal measurement, and loop power. Generates from 0 to 700 bar/10,000 psi hydraulic pressure with 0.005% FS accuracy. Calculates PASS/FAIL errors and documents results. User Guide stored in the memory of the instrument, 3-touch set-up for any application.



**Druck DPI620 GENII 350 Bar Pressure Calibrator**

**DRU,DPI620-350 MY • SG**

Advanced modular pressure calibrator with HART. Includes hydraulic pressure station with 1/8 BSP(G) or 1/4 NPT test port and 350 bar gauge and absolute pressure module, accuracy 0.005 and 0.015 %FS respectively. Provides simultaneous measurement and source capabilities for the setup, testing and calibration of process instruments including transmitters, transducers, gauges/Indicators, switches, proximity detectors, counters, RTDs, thermocouples and valve positioners.

**NEW!**



**Druck PV211 Pneumatic Hand Pump**

**DRU,PV211 MY • SG**

Pneumatic Hand Pump. 40bar pneumatic pressures and vacuum to -0.95bar. Comes with Precision Vernier for fine pressure adjustment.

**NEW!**



**Druck PV212 Hydraulic Hand Pump Kit**

**DRU,PV212 MY • SG**

Provides up to 700bar hydraulic pressure.



**Druck PV411A Multifunction Hand Pump Kit**

**DRU,PV411A (4789) AU • MY • SG**

Provides up to 700 bar hydraulic, 40 bar pneumatic pressures and vacuum to -950mbar. Built-in stroke adjuster, lower pressure fine control and tamper proof overpressure protection.



## Industrial Process Calibrators (cont'd)



### Endress & Hauser Pressure Transducers

- E&H,PMP-1BAR NZ**
- E&H,PMP-10BAR NZ**
- E&H,PMP-100BAR NZ**
- JUM,1030-0-10BAR NZ**

Pressure transducer with flushable diaphragm. Accuracy: 0.5% of FS. Operating temp: E&H -25~70°C; JUM -40° to 85°C. Response time is 90% of FS: E&H 20ms; JUM 30ms. Output: 4~20mA. Pressure connection: E&H 1/2" NPT; JUM 1/4" NPT.



### Emerson AMS Trex Device Communicator with HART

**EME,AMS TREX-LH (4792) AU • MY • SG**

Intrinsically safe HART device communicator. Allows technicians to configure, isolate, diagnose and repair problems while devices continue to run using the Loop power function and on board ammeter. Segment and loop diagnostic tools quickly validate loop and segment characteristics for easy troubleshooting. L "Device Communicator Plus Communication Module" and H "HART".



### Emerson AMS Trex Device Communicator with HART & FFbus

**EME,AMS TREX-LF (4793) AU/MY/SG**

Intrinsically safe HART and Foundation fieldbus device communicator. Technicians can configure, isolate, diagnose, and repair problems while devices continue to run using the Loop power function and on board ammeter. Segment and loop diagnostic tools quickly validate loop and fieldbus segment characteristics for easy troubleshooting. This model has options L "Device Communicator Plus Communication Module" and F "HART + Foundation Fieldbus".



### Emerson 475 Hart Communicator

**EME,475 MY • SG**

Will configure, test, and diagnose your HART® and Foundation FieldBus devices. Able to communicate with any device, by any manufacturer. Intrinsically safe. Easy upgrade over the Internet. Interfaces with AMS PC Suite Software.

## Industrial Process Calibrators (cont'd)



### Fitting Set with 700 Bar Hose

**FIT,HP MY • SG**

Fitting set (max pressure = 10,000 psi) for pressure calibrators. Comes with 700 Bar Hose, 20 bar Hose and various connectors. Female connector sizes: 1/4 inch BSP & NPT; 1/8 inch BSP & NPT; 3/8 inch BSP & NPT; 1/2 inch BSP & NPT.



### Fitting Set With 20 Bar Hose

**FIT,LP MY • SG**

Fitting set for pressure calibrators. Comes with 20 bar Hose and various connectors. Female connector sizes: 1/4 inch BSP & NPT; 1/8 inch BSP & NPT; 3/8 inch BSP & NPT; 1/2 inch BSP & NPT.



### Fluke 725 Process Calibrator

**FLU,725-NATA (4784) AU**

**FLU,725 MY • SG**

Dual measure/source process calibrator. Measure DC 30 V, resistance 3200 $\Omega$ , 24mA and more. Source/simulate DC 10V, 24mA, 3200 $\Omega$ , 12 types of TCs and 7 types of RTDs. Power transmitters with internal loop supply. View input and output values with split display.



### Fluke 726 Process Calibrator with NATA Certification

**FLU,726 MY • SG**

Precision multifunction process calibrator designed specifically for the process industry with broad workload coverage, calibration power, and accuracy in mind. Measures and sources almost all process parameters and can calibrate almost anything. Will also interpret results without the help of a calculator and store measurement data for later analysis.

## Industrial Process Calibrators (cont'd)



**Fluke 753 Documenting Process Calibrator**

**FLU,753 MY • SG**

Provides simultaneous source and measure volts, mA, thermocouples, RTDs, frequency, ohms and pressure to calibrate transmitters. It can power transmitters during test, using loop supply with simultaneous mA measurement; measure/source pressure; create and run automated as-found/as-left procedures to satisfy quality programs or regulations; record and document results. Holds up to a full week of downloaded procedures and calibration results. Features include autostep, custom units, user entered values during test, one-point and two-point switch testing, square root DP flow testing, programmable measurement delay etc.



**Fluke 754 Documenting Process Calibrator with HART**

**FLU,754 (4781) AU • NZ • MY • SG**

Handheld, multi-function documenting process calibrator with HART communication. Designed for the calibration, maintenance, and troubleshooting of test sensors, transmitters, and other instruments. Allows for the testing of all common process parameters including volts, mA, Resistance Temperature Detectors, thermocouples, frequency and ohms. Compatible with all Fluke 700Pxx pressure modules, this device also allows for custom units, user-entered values during test, one and two-point switch testing, square root DP flow testing, and programmable measurement delays. Features: Simultaneous source and measure capabilities. Create and run automated as found/as-left procedures. AutoStep - set an automated sequence of steps (with a delayed start if required). Records and documents results.



**Fluke 773 Milliamp Process Clamp Meter**

**FLU,773 (4779) AU**

Measure 4 to 20mA control lines, PLC loops, transmitters or any 4 to 20mA line without breaking the loop. Capable of 0 to 20.99mA and 24 to 100mA with clamp. Source and simulate mA and voltage signals in circuit. 4 to 20mA scaled o/p.

## Industrial Process Calibrators (cont'd)



### Fluke 789 Process Meter

**FLU,789 PROCESSMETER (4786) AU • MY • SG**

Compact digital multimeter and mA loop calibrator solution supplied with NATA accreditation. Features include standard multimeter functions with 2 to 20mA sink and source capability, with a 24V supply, HART 250 resistor and 20mA drive into 1200Ω. Simultaneous mA and % of scale readout on mA output. 25% manual step plus auto step and auto ramp on mA output. Min/max/average/hold/relative modes. Double size dual display. Accuracy, VDC 0.1% +1, VAC 0.7% +2, mA DC 0.05% +2, frequency 0.005% +1.



### Softing BC-700-PB Profibus Tester 5 PB-T5

**SOF,PROFIBUS-5 (4722) AU**

A powerful diagnostic and troubleshooting tool for testing cables, measuring signals and analysing the communication of PROFIBUS networks. It's battery-powered and provides a graphical display, allowing for quick results when working in stand-alone mode. In addition, the BC-700-PB supports the export of test results for advanced analysis.

## Wet & Dry Block Calibrators



### Fluke 9103 Dry Block Temperature Calibrator -25 to 140°C

**FLU,9103 NZ • MY • SG**

Dry well calibrator, temperature range -25 to 140°C. Is stable to  $\pm 0.02^{\circ}\text{C}$ , and its display is calibrated to an accuracy of  $\pm 0.25^{\circ}\text{C}$  at all temperatures within its range. Insert type A with hole sizes; 1/16", 1/4", 3/8", 3/16", 1/8", and 1/2".



### Fluke 9144 Dry Block Temperature Calibrator 50 to 660°C

**FLU,9144 NZ**

Dry well reference calibrator for calibration of temperature probes, including thermocouples, RTD's and PT100's. It is recommended to be used in conjunction with a calibrated reference probe: see Fluke 52 or Fluke 1523. Temperature range: 50° to 660°C. Accuracy  $\pm 0.35^{\circ}\text{C}$  50° to 420°C;  $\pm 1.0^{\circ}\text{C}$  420° to 660°C. Heating time: 15min to 650°C. Cooling time: 25min from 650°C to 100°C. Stabilization time 7min. Stability:  $\pm 0.04^{\circ}\text{C}$  50° to 400°C;  $\pm 0.05^{\circ}\text{C}$  above 400°C. Insert hole sizes 1/8", 3/16", 1/4", 3/8". 3mm, 4mm, 6mm, 8mm & 10mm. Well depth: 150mm. Includes PC software and interface cable.

## Wet & Dry Block Calibrators (cont'd)



Fluke 9170 Dry Block Temperature Calibrator-45 to 140°C  
NATA Certified

**FLU,9170-NATA (4825) AU**

**FLU,9170-R MY • SG**

Achieves extremely low temperatures reaching -45°C in normal room conditions. Has a large LCD display, numeric keypad, and an on-screen menu which allows the user experience to be easy and intuitive. The display shows the block temperature, cut-out temperature, stability criteria, and ramp rate. Comes with software that enables completely automated calibrations of RTDs, thermocouples, and thermistors. Metrology Wells have four different preprogrammed calibration tasks that allow up to eight temperature set points with ramp and soak times between each. Delivers exceptional uncertainty budgets and is perfect for a variety of pharmaceutical and other applications. Features: Display accuracy of  $\pm 0.25^{\circ}\text{C}$  full range. Temperature range -45°C to 140°C. Stability  $\pm 0.005^{\circ}\text{C}$  full range. Immersion depth 160mm (6.3 inches). Well diameter 30mm (1.18 inches).



Grant GR150-S5 Temperature Bath NATA Certification

**GRA,GR150-S5-NATA (4820) AU**

Water/oil bath and circulator for calibrating temperature probes and analytical procedures. Temperature ranges from ambient to 100°C with water and 150°C with silicon oil. Requires 3L oil (not supplied). Stability 0.005°C, uniformity 0.02°C and display resolution 0.1°C. Tank size 300mm W x 150mm D x 150mm H. Features include digital temperature controller and display, timer, alarms, offset adjustment and more.



Jofra CTC-1205A Dry Block Temperature Calibrator 1200°C

**JOF,CTC-1205A (4818) AU**

Range 100 to 1,205°C. Accuracy  $\pm 2^{\circ}\text{C}$ , stability  $\pm 0.1^{\circ}\text{C}$ . Immersion depth 110mm (with insulation plug 137mm). Supplied with insert with hole sizes 3.5, 5, 7 and 10mm.

## Wet & Dry Block Calibrators (cont'd)



Jofra CTC-650A Temperature Calibrator

**JOF,CTC-650A MY • SG**

Exceptionally fast and has deep immersion depths of 110mm (4.3 inch). Heats up to the maximum temperature in just 20 minutes. Temperature range: 33 to 650°C. Accuracy: 0.9°C. Stability: 0.1°C. Multi-Hole insertion tube: 1/4", 1/8", 3/8" and 3/16".



Jofra CTC-1200A Temperature Calibrator

**JOF,CTC-1200A MY • SG**

Compact temperature calibrator. Lightweight, portable for lab and general use. Temperature range: 572 to 2200°F (300 to 1205°C). Excellent Performance Characteristics. Accuracy:  $\pm 4.0^\circ\text{F}$  ( $\pm 2.0^\circ\text{C}$ ). Stability:  $+1.0^\circ\text{F}$  ( $+0.5^\circ\text{C}$ ). Stability Time: 20 minutes. Display in F or C to 0.1 resolution. Fast cooling and heating. User-selectable Slope Rates for controlled. Thermo switch testing. Self Diagnostics includes Semi-Auto Switch Test and Hysteresis Test. Size of thermowell/insert: 6.5mm & 10mm. 1/4" probe. 1/2" probe.

## High Speed Wave Recorder



Hioki MR8847-53 8 Analogue 16 Logic Channel Memory Recorder

**HIO,MR8847-53 (4122) AU • MY • SG**

Complete with 8 analogue and 16 logic channels (16 logic probes supplied). High-speed 20MS/s, Fully Isolated Memory recorder. Analog unit 8966 has max input of 400VDC. Analog unit 8966 has maximum rated voltage to ground: 300VAC/DC.



Hioki MR6000-01 8 Analogue 16 Logic Channel Memory Recorder

**HIO,MR6000-01 (4122) AU**

20M Sample 8 channels 12bit maximum rated voltage to earth: 300V AC, DC, 16 logic channels with voltage detection probes 150V or 15V threshold. Touch screen display with PC remote operation.

## Data Loggers



### DataTaker DT80 5 to 15 Channel Logger with USB Memory Stick Download

**DE,DT80 MY • SG**

Measures voltage, current, resistance and frequency. Up to 15 analogue ( $\pm 30V$ ) sensor inputs. Each channel is independent and supports: one isolated 3-wire or 4-wire input, or two isolated 2-wire inputs, or three common referenced 2-wire inputs. 12 flexible digital channels. Expandable to 300 analogue inputs. Store up to 10 million data points in user defined memory.



### DataTaker DT80M 5 to 15 Channel Logger with Built in Modem

**DE,DT80M (4234) AU • MY • SG**

Includes a built in GSM modem for internet access to the device supports 2G and 3G networks (GSM/GPRS/EDGE/WCDMA). Measures voltage, current, resistance and frequency. Up to 5 analogue ( $\pm 30V$ ) sensor inputs. Each channel is independent and supports: one isolated 3-wire or 4-wire input, or two isolated 2-wire inputs, or three common referenced 2-wire inputs. Store up to 10 million data points in user defined memory. Generally used at sample rates of 1Hz and slower.



### DataTaker DT80 Expansion Module

**DE,DTCEM MY • SG**

Channel expansion module for DT80 data loggers. Adds 20 full datataker channels to the logger.



### DataTaker DT85 48 Channel Logger with USB Memory Stick Download

**DE,DT85 (4233) AU**

Analogue inputs 32 isolated and 48 single ended inputs. 2 x 4 digital input types. 2 x serial sensor ports, Modbus capability, 4 x SDI12 channels, USB memory stick interface for easy data and programming etc. Operating time on the internal battery is 1s sample 2.4h. 5s sample 3 days, 1min sample 1 month.

## Data Loggers (cont'd)



### Escort Humidity & Temperature Logger - Set of 5

**ESC,HUM-KIT NZ**



Cost effective set of 5 temperature and humidity loggers. Relative Humidity: 0 to 100%, accuracy:  $\pm 2\%$  at 25°C. Temperature: -20° to 60°C, accuracy:  $\pm 0.3^\circ\text{C}$ , resolution: 0.1°C. Stores 32,000 readings. Includes USB programming base and software for programming and downloading data.



### Escort Five Channel Temperature Logger

**ESC,4 EXT NZ**



Five channel temperature logger (1 internal) with 3m long temperature sensors. Range: -20° to 60°C. Accuracy:  $\pm 0.5^\circ\text{C}$ . Resolution: 0.1°C. Stores 30,000 readings. Includes USB programming base and software for programming and downloading data.



### Grant Squirrel 2020 Data Logger

**GRA,SQ2020-1F8 MY • SG**

Measure voltage, current, and resistance. 16 single-ended inputs or 8 differential inputs. 2 high voltage channel (60 v). Includes SquirrelView software for logger configuration and USB data transfer. Stores up to 14 million data.



### Graphtec 10 Channel Data Logger

**GRA,GL240 NZ**



Portable, hand held, battery operated 10 channel data logger. 4.3" TFT colour LCD display for setting up and graphical display of logged data. DC current: 4-20mA (with shunt). DC voltage ranges: GL220: 20mV to 50V (GL240: 20mV to 100V). Thermocouples: J, K, T, R/S, B, E, N and W. 4 Pulse or Logic channels with cable supplied. Maximum sampling rate: 10ms (1 channel), 20ms (2 channels), 50ms (3-5 channels), 100ms (6-10 channels). Create your own units of measure by scaling inputs. Memory capacity: GL220: 2GB internal, USB port for external flash drive. (GL240: 4GB plus extra SD memory card slot, up to 32GB). Software supplied for customising and downloading data. USB interface.



## Data Loggers (cont'd)



### Hioki LR5001 Temperature & Humidity Loggers - Set of 5

**HIO,LR5001-KIT NZ**

**HIO,LR5092 NZ**

Ideally suited for short and long-term temperature and humidity logging. Software included to graph and print data and calculate maximum, minimum, and average values. Temperature range: -40°C to 85°C. Accuracy:  $\pm 0.5^{\circ}\text{C}$  at 0 to 35°C. Humidity range: 0% to 100%. Accuracy:  $\pm 5\%$  RH at 20° to 30°C / 10 to 50% RH. Recording Interval: 1 second to 60 minutes. Storage: 60,000 data points. Data transfer without interrupting the recording. IP54 rated. Optional extra: Hioki LR5092 Data Collector. Wirelessly transfer data from all 5 loggers onto this handheld unit (while they are still logging) then upload the data.



### Hioki LR8431-20 10 Channel Memory Logger

**HIO,LR8431-20 (4280) AU • MY • SG**

10 Channel Memory Logger with isolated channel to 60VDC which will take thermocouples. 10ms sampling USB interface and USB memory stick. Logging software included. Log directly to memory stick. Includes battery for 2.5hrs continuous operation.



### Hioki Kit of Three 9322 Differential Probe High Voltage True RMS Interface

**HIO,9322-KIT (4119) AU**

Used with many memory recorders, eg. Hioki 8835. Operating modes 3. DC mode for waveform monitor output DC to 3MHz, AC mode detection of power surge noise 1kHz to 10MHz. Rectified true RMS output of dc & ac voltages. 40Hz to 100kHz response speed 200ms or less. Max voltage DC 2kV, ac 1kV CATII, AC/DC 600V CATIII, balanced differential input 1/1,000 divider.



### Hobo Four Channel Temperature Logger

**HOB,UX120-014M NZ**

Four channel data logger for measuring and logging temperature. Four 3m type K thermocouple probes supplied. Easy-to-view LCD display confirms logger operation and battery status. Programmable start, stop, and restart push buttons or start at a preset time. Comes in a weatherproof case suitable for indoor and outdoor use. Thermocouple temperature range: -260 to 980°C. LCD screen displays probe and ambient temperatures. On-screen alarms notify you if temperatures exceeds high or low thresholds. Memory: up to 1.9M readings. Software supplied for programming and download via USB.

## Data Loggers (cont'd)

NEW!



### Hobo Humidity & Temperature Data Loggers - Set of 5

**HOB,UX100-011A NZ**

Compact pocket-sized loggers to record temperature and humidity with an easy-to-see display screen. Ideally suited for both short and long-term indoor recording with simple process to obtain data. Relative Humidity: 1% to 95%, accuracy:  $\pm 2.5\%$  from 10% to 90% Temperature:  $-20^{\circ}$  to  $70^{\circ}\text{C}$ , accuracy:  $\pm 0.21^{\circ}\text{C}$  from  $0^{\circ}$  to  $50^{\circ}\text{C}$ . Sampling Rate: 1 second to 18 hours, user selectable. Memory: 84,650 measurements. USB cable supplied to download data. Battery Life: up to 1 year with 1 minute logging rate and sampling interval of 15 seconds.



### Keysight 34980A Multifunction Switch/Measure Unit

**KEY,34980A MY • SG**

34980A multifunction switch/measure unit is a flexible, reliable switching and data acquisition platform. Suitable in design verification, automated test and data acquisition. 8-slot mainframe with 21 mix-and-match plug-in modules. Scans up to 1000 ch/sec. Built-in 6-1/2 digit DMM. LAN, USB 2.0, and GPIB connectivity, BenchLink data logger software for easy data collection and analysis. Includes 34934A Quad 4x32 Reed Matrix, 34937A, 32 channel form C/Form A general purpose switch and 34952A multifunction module with 32-bit DIO, 2-ch D/A and totalizer.



### Testo Savaris 2-H2 Temperature Humidity Loggers Kit of 10

**TES,SAV2-H2-10KIT (4250) AU**

Kit of 10 includes a preconfigured WiFi hotspot so the 10 loggers will save their data to the cloud. The logged data is available on line. The temperature sensor  $0\sim 40^{\circ}\text{C} \pm 0.3^{\circ}\text{C}$ . Humidity sensor  $0\sim 100\% \pm 2\%\text{RH}$ . 4mm diameter remote probe.



### Testo Savaris 2-T3 Temperature Loggers Kit of 10

**TES,SAV2-T3-10KIT (4253) AU**

Kit of 10 includes a preconfigured WiFi hotspot so the 10 loggers will save their data to the cloud. The logger data is available online. The temperature sensors are type K thermocouples 0.9m.

NEW!



### Testo 174H Temperature and Humidity Logger Kit of 20

**TES,174-KIT20 (4252) AU**

$-20\sim 70^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$   $0\sim 100\%\text{RH} \pm 4\%$  ( $2\sim 98\%\text{RH}$ ). 160000 readings up to 1min sample rate. 1 year battery life (@15min intervals).

## Data Loggers (cont'd)



### Testo 175-H1 Temperature & Humidity Logger

**TES,175-H1 (4251) AU • MY • SG**

Large Display. 3 year battery life, 1 million sample memory. RH 0~100% ±2%, temp -20~50°C ±0.4°C. Includes USB interface to download data.



### Testo 184 G1 Temperature, Humidity & Acceleration Data Loggers - Kit of 10

**TES,184G1-KIT10 (4252) SG**

Kit of 10 Temperature, Humidity & Shock Loggers. Simple to use with a tamperproof design. -20~70°C, 0~100%RH & 0~27g. HACCP Certified. Has built in USB port and will download to android or apple via USB. Battery life: 120 days (at +25 °C and 15 min. meas. cycle). Includes software for download of data to a PC. A PDF report with the transport data is created immediately on connection of the Testo 184 G1 data logger to the USB.



### Testo 184H1-KIT5 Temperature & Humidity Data Logger Kit of 5

**TES,184H1-KIT5 (4252) MY • SG**

Simple to use with a tamperproof design. -20~70°C, 0~100%RH. HACCP Certified. Has built in USB port and will download to Android devices using NFC. Battery life 120Days (15min sampling). Includes software for download of data to A PC. Saves data by default to a PDF file.



### Yokogawa MV2020 Twenty Channel Logger

**YEW,MV2020 NZ**

Twenty Channel Data Logger that accepts wide variety of inputs including thermocouples and RTD's. 10.4" TFT colour display for setting up and graphical display of logged data. DC voltage ranges: ±20mV to ±50V. Maximum sampling rate: 125ms. Thermocouples: J, K, T, R, S, B, E, N, W, L, U and WRe. RTD's: Pt100 and JPt100. Triggers include alarm, external contact, time and calculated data. 400MB internal memory, 2GB CF card. Detachable input terminals for easy wiring set-up. Supports data collection over ethernet networks. 2 USB ports: 1 for external flash drive, 1 for direct PC connection.

## Pressure Vacuum Gauges/Recorders



### Crystal XP2i Digital Gauge & Logger

**CEC,30BAR NZ**  
**CEC,140BAR NZ**  
**CEC,700BAR NZ**

Two tools in one; high accuracy pressure gauge and pressure data logger. Four models available: 20Bar, 30Bar, 140Bar and 700Bar. IANZ calibration. Recording intervals from 1 per second to 18 hours. Records at least 3000 pressure measurements. Temperature compensated. Intrinsically safe. Software supplied for data download and analysis in Microsoft Excel. Battery powered for up to 3 months.



### Crystal XP2i Digital Logging Pressure Gauge 7 Bar NATA Calibrated

**CRY,XP2I-100-NATA (4340) AU**  
**CRY,XP2I-100 MY • SG**

Range -1 to 7 bar (100 psi) Nata certified pressure gauge. Accuracy,  $\pm 0.1\%$  of reading between 20 to 100% of full scale,  $\pm 0.02\%$  of full scale between 0 to 20% of full scale. Generation 3 gauges have 32,000 point logging capacity at intervals from 1 second to 18 hours, ULP (Ultra Low Power) setting allowing logging for 1 year and PSV/PRV (Pressure Safety/Pressure Relief Value) mode increasing measurement rate to approx. 8x per second. Gen 2 gauges have 6,000 points and logging intervals from 1 second to 18 hours. Logs actual pressure, average pressure, average pressure with peaks and, on demand. Intrinsic and safety ratings registered under IECEx, ATEX and DNV standards.



### Crystal XP2i Digital Logging Pressure Gauge 20 Bar NATA Calibrated

**CRY,XP2I-300-NATA (4341) AU**

Range -1 to 20 bar (300 psi) Nata certified pressure gauge. Accuracy,  $\pm 0.1\%$  of reading between 20 to 100% of full scale,  $\pm 0.02\%$  of full scale between 0 to 20% of full scale. Generation 3 gauges have 32,000 point logging capacity at intervals from 1 second to 18 hours, ULP (Ultra Low Power) setting allowing logging for 1 year and PSV/PRV (Pressure Safety/Pressure Relief Value) mode increasing measurement rate to approx. 8x per second. Gen 2 gauges have 6,000 points and logging intervals from 1 second to 18 hours. Logs actual pressure, average pressure, average pressure with peaks and, on demand. Intrinsic and safety ratings registered under IECEx, ATEX and DNV standards.

## Pressure Vacuum Gauges/Recorders (cont'd)



**Crystal XP2i Digital Logging Pressure Gauge 70 Bar NATA Calibrated**  
**CRY,XP2I-1K-NATA (4342) AU**  
**CRY,XP2I-1K MY • SG**

Range 70 bar (1K psi) resolution 0.1m bar. Accuracy is 0.1% of reading, down to 20% of the range. Vacuum accuracy 0.25% of -1 bar (-14.5 psi). Generation 3 gauges have 32,000 point logging capacity at intervals down to 125 msec (in PSV mode). Generation 2 gauges have 6,000 point logging capability at intervals from 1 second. Logs actual pressure, average pressure, average pressure with max and min and on demand. 1/4 NPT connector. Intrinsic and safety ratings registered under IECEx, ATEX and DNV standards.



**Crystal XP2i Digital Logging Pressure Gauge 138 bar NATA**  
**CRY,XP2I-2K-NATA (4343) MY • SG**

138 bar (2,000 psi) Nata certified pressure gauge. Accuracy,  $\pm 0.1\%$  of reading between 20 to 100% of full scale,  $\pm 0.02\%$  of full scale between 0 to 20% of full scale. Generation 3 gauges have 32,000 point logging capacity at intervals from 1 second to 18 hours, ULP (Ultra Low Power) setting allowing logging for 1 year and PSV/PRV (Pressure Safety/ Pressure Relief Value) mode increasing measurement rate to approx. 8x per second. Gen 2 gauges have 6,000 points and logging intervals from 1 second to 18 hours. Logs actual pressure, average pressure, average pressure with peaks and, on demand. Intrinsic and safety ratings registered under IECEx, ATEX and DNV standards.



**Crystal XP2i Digital Logging Pressure Gauge 206 Bar NATA Calibrated**  
**CRY,XP2I-3K-NATA (4343) AU**  
**CRY,XP2I-3K MY • SG**

206.8 bar (3,000 psi) Nata certified pressure gauge. Accuracy,  $\pm 0.1\%$  of reading between 20 to 100% of full scale,  $\pm 0.02\%$  of full scale between 0 to 20% of full scale. Generation 3 gauges have 32,000 point logging capacity at intervals from 1 second to 18 hours, ULP (Ultra Low Power) setting allowing logging for 1 year and PSV/PRV (Pressure Safety/ Pressure Relief Value) mode increasing measurement rate to approx. 8x per second. Gen 2 gauges have 6,000 points and logging intervals from 1 second to 18 hours. Logs actual pressure, average pressure, average pressure with peaks and, on demand. Intrinsic and safety ratings registered under IECEx, ATEX and DNV standards.

## Pressure Vacuum Gauges/Recorders (cont'd)



Crystal XP2i Digital Logging Pressure Gauge 690 Bar  
NATA calibrated

**CRY,XP2I-10K-NATA (4344) AU**

**CRY,XP2I-10K MY • SG**

690 bar (10,000 psi) NATA certified pressure gauge. Accuracy,  $\pm 0.1\%$  of reading between 20 to 100% of full scale,  $\pm 0.02\%$  of full scale between 0 to 20% of full scale. Generation 3 gauges have 32,000 point logging capacity at intervals from 1s to 18H, ULP (Ultra Low Power) setting allowing logging for 1 year and PSV/PRV (Pressure Safety/Pressure Relief Value) mode increasing measurement rate to approximately 8x per second. Gen 2 gauges have 6,000 points and logging intervals from 1 second to 18 hours. Logs actual pressure, average pressure, average pressure with peaks and, on demand. Intrinsic and safety ratings registered under IECEx, ATEX and DNV standards.



Crystal XP2i Digital Logging Pressure Gauge 1 bar NATA

**CRY,XP2I-15-NATA (4338) AU**

Range: -1 to 1 bar (15 psi) NATA certified pressure gauge. Accuracy;  $\pm 0.1\%$  of reading between 20 to 100% of full scale and  $\pm 0.02\%$  of full scale between 0 to 20% of full scale. Generation 3 gauges have 32,000 point logging capacity at intervals from 1s to 18h, ULP (Ultra Low Power) setting allowing logging for 1 year and PSV/PRV (Pressure Safety/Pressure Relief Value) mode increasing measurement rate to approx 8x per second. Gen 2 gauges have 6,000 points and logging intervals from 1 second to 18 hours. Logs actual pressure, average pressure, average pressure with peaks, and on demand. Intrinsic and safety ratings registered under IECEx, ATEX, and DNV standards.

Watch how-to/information videos on any piece of equipment displaying this symbol. Visit the TechRentals YouTube page at [www.youtube.com/TechRentals](http://www.youtube.com/TechRentals)



## Flow Meters for Liquids and Gases



### Panametrics PT900 Ultrasonic Flowmeter

**PAN,PT900 (6100) AU • NZ • MY • SG**

Portable non-contact liquid flowmeter using transit time principle. Includes thickness gauge and 2 sets of transducers, one 12.5mm to 50mm the second 50mm to 600mm diameters & temperatures -20 to 210°C with clamping fixtures. Flow velocity range 0.03 to 12.2m/s. Accuracy typically 1%. Data logging to internal memory, accessed as external drive when plugged into a PC via USB. Setup and monitoring using Android device. Rechargeable NiMH batteries and AC power supply/charger. Typical battery life ~ 14 hours.



### Panametrics PT900 Energy Calculation Kit

**PAN,PT9E NZ**

Used in conjunction with the PT900 flowmeter to provide supply and return temperatures for flowing liquid. By monitoring these temperatures this allows the PT900 flowmeter to measure energy rate and totalised energy. A typical application is in heating & cooling systems. Temperature range: 0° to 149°. Accuracy: ±0.12°C. Fitted with 2 x clamp-on Pt100 RTDs and cables. Powered from flowmeter.



### Panametrics PT900E Ultrasonic Liquid Flow Energy Meter

**PAN,PT900E (6104) AU • MY • SG**

Portable non-contact liquid flowmeter using transit-time principle. Includes thickness gauge and 2 sets of transducers, one 12.5mm to 50mm the second 50mm to 600mm diameters & temperatures -20 to 210°C with clamping fixtures. Flow velocity range 0.03 to 12.2m/s. Accuracy typically 1%. Data logging to internal memory, accessed as external drive when plugged into a PC via USB. Setup and monitoring using Android device. Rechargeable NiMH batteries and AC power supply/charger. Typical battery life ~ 14 hours. Supplied with Energy measurement option to calculate energy flow rate and totalized energy using Analogue I/O. RTD temperature transmitter with range -10 to 150°C.



### Panametrics PT900 High Penetration Transducers

**PAN,PT-CRR05 (6101) AU**

The fixture is suitable for pipe larger than 150mm up to 1m. Transducer type #591 suitable for pipes from 150mm pipe to larger sizes -40-130°C.

## Flow Meters for Liquids and Gases (cont'd)



### Panametrics Large Pipe Transducer Set

**PAN,PT9-CRR-05-NT MY • SG**

Transducer for PT900 flowmeter for pipe larger than 600mm diameters. Comes with PT9-CRR-05-NT pair of 0.5MHz transducers (-40 to 150°C) and additional chain for pipe sizes up to 1200mm.



### Panametrics PT878GC Ultrasonic Gas Flow Meter

**PAN,PT878GC-01-MY MY • SG**

Portable non-contact gas flowmeter using transit-time principle. For operation with ultrasonic transducer-kits (PAN,GC-RL302 & PAN,GC-RL319) - available separately. Compatible with metal or plastic pipes in the range 20 to 300mm. Suitable for use with compressed air, natural gas and other gases. Readout for flow velocity, actual or standard volumetric flow or mass-flow in numerical or graphic format. Internal logging for 100K flow data points. Infrared communications port for download to PC or printer interface. Rechargeable battery for 8h continuous operation.



### Panametrics PT878GC-01 Ultrasonic Gas Flow Meter Kit

**PAN,PT878GC-01-KIT (6152) AU**

Portable non-contact gas flowmeter using transit-time principle. Compatible with metal or plastic pipes and supplied with transducer kit in the range 20~300mm. Suitable for use with compressed air, natural gas and other gases. Readout for flow velocity, actual or standard volumetric flow or mass-flow in numerical or graphic format. Internal logging for 100K flow data points. USB communications port for download to PC. Rechargeable battery for 8h continuous operation.



### Polysonics Hydra SX30 Dual Frequency Doppler Liquid Flowmeter

**POL,HYDRA-SX30-2 (6132) AU**

Dual frequency doppler ultrasonic non-contact flowmeter. Velocity range 0.06 to 10m/s, accuracy  $\pm 1\%$ . Pipe size range 12 to 5,000mm diameter. Data logging for 90,000 points, with PC software and interface cable for download via RS232C interface. Transducer temperature range -40 to 122°C. Analogue output 4 to 20mA. Battery operated, 12h continuous use (8h recharge).



## Combustion, Flue & Industrial Gas Analysers

→ See also Environmental Gas & Vapour Meters on pages 161-163.



### Novatech 1637-5 O<sub>2</sub> and CO<sub>2</sub> Analyser/Transmitter **NOV,1637-5 (5954) NZ**

Oxygen and carbon dioxide analyser designed for testing the head-space in packaging atmosphere, general industrial and research use. Oxygen sensor reading 1ppm to 100% with 1% accuracy. NDIR carbon dioxide analysis 0 to 100% ±3% of full scale. 2 x 4~20mA outputs, 1 common & 3 selectable alarm relays. Gas connection 1/8 Swagelok. Flow rate with internal pump 100 to 500cc/min. AC operation.



### Testo 300 Longlife Flue Gas Analyser **TES,300-LL NZ**

Portable industrial flue gas analyser for gas, liquid, and solid fuel burners. Provides a comprehensive analysis of the heating system. Create professional reports by pre-loading Customer information then email with data once the testing is complete. Fuel options: natural gas, butane, propane, light oil, kerosene, heavy oil, coke, wood pellets, anthracite and coke. Measures: O<sub>2</sub>, CO, CO<sub>2</sub> and Temperature. O<sub>2</sub>: 0 to 21 vol.%. CO: 0 to 8000ppm (H<sub>2</sub> compensated). CO<sub>2</sub>: calculated from O<sub>2</sub>. Display range 0 to CO<sub>2</sub> max. Temperature: 1000°C maximum. Display instantaneous values and trending function. Logs up to 1 million data points. 335mm probe supplied. Bluetooth data transfer to Printer (supplied).



### Testo 330 Flue Gas Analyser **TES,330-2LL NZ**

Portable industrial flue gas analyser for gas and liquid fuel burners (not suited for solid fuels). Provides a comprehensive analysis of the heating system and logs data. 20 fuel options pre-loaded including gases, light oil, diesel etc. Measures O<sub>2</sub>, CO, Temperature and Pressure. Calculates CO<sub>2</sub>, Efficiency, Excess air. Probe 300mm insertion, maximum temperature 500°C. Display provides instantaneous values and graphic representation of tuning. EasyHeat software and Bluetooth printer supplied.

## Combustion, Flue & Industrial Gas Analysers(cont'd)



### Testo 340 Portable Flue Gas Analyser

**TES,340 (5915) AU • MY • SG**

Includes O<sub>2</sub>, CO (H<sub>2</sub> compensated), CO<sub>2</sub> (calculated), NO & NO<sub>2</sub> sensors. 335 mm engine probe suitable for diesel and boiler testing with temperate probe, 350 mm pitot tube, Bluetooth printer, and easy emission software.



### Testo 350 Flue Gas Analyser

**TES,350 (5918) AU • MY • SG**

With built in Peltier gas preparation (chiller). Measures O<sub>2</sub>, CO, NO, NO<sub>2</sub>, and SO<sub>2</sub> concentrations. Calculates CO<sub>2</sub> concentration. Ranges: O<sub>2</sub> 0-25% vol, CO with H<sub>2</sub> compensation 0-10,000 ppm, NO 0-4,000ppm, NO<sub>2</sub> 0-500ppm, SO<sub>2</sub> 0-5,000 ppm.. Comes 0600 7555 Engine probe with temperature up to +1,000 °C. Easy emission software, Battery and AC mains operation.



### Testo 350XL Portable Flue Gas Analyser



**TES,350XL NZ**

Portable Flue Gas/ Combustion Analyser for emission testing and combustion analysis. Measures O<sub>2</sub>, CO, CO<sub>2</sub>, NO, NO<sub>2</sub>, and SO<sub>2</sub> concentrations, plus draught, temperature, excess air, and gross/ net efficiency values. Ranges: O<sub>2</sub> 0-25% volume; CO<sub>2</sub> measured by NDIR 0-50% volume; CO with H<sub>2</sub> compensation 0-10,000 ppm with measuring-range extension and selectable dilution factor; NO 0-4,000 ppm; NO<sub>2</sub> 0-500 ppm; SO<sub>2</sub> 0-5,000 ppm. Probes 335mm and 670mm insertion, maximum temperature 500°C and 1000°C respectively. Includes switch-off and rinse function for CO cell and fresh air rinse for longer term measurements. Internal memory for 250,000 readings. Software and printer provided.

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# Physical Measurement

- Pg. 115 Material Hardness Testers
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## Material Hardness Testers



### GE DynaMic Rebound Hardness Tester

**GE, DYNAMIC (4936) AU**

Makes hardness testing quick and easy. The simple operation of this unit allows the user to position the impact devices and read the hardness value, all in a matter of seconds. Provides readings in HV, HB, HRC, HRB, HS, HL, and M/mm<sup>2</sup>. This advanced unit will compensate for changes in testing direction. The Data Logger model can internally store hardness values along with statistical information. Features: Measurements can be conducted in any direction without the need for calibration. Rebound hardness testing standardised according to ASTM A956 and DIN 50156. Ergonomic, lightweight design (0.3kg). Test attachments for curved surfaces. Applications: Solid, coarse-grained components. Machine parts made of steel and cast aluminium alloys. Large series parts during production. Heavy forgings.

## Non-Destructive Testing

→ See also Non-Destructive Testing on pages 178-185.



### Defelsko 6000 Ferrous & Non Ferrous Coating Thickness Tester

**DEF, POS-6000 (4870) AU • NZ • MY • SG**

Ferrous/Non Ferrous metal coating thickness tester with storage of up to 100,000 readings. Supplied with external probe, calibration standards and carry pouch. Measurement range 0 to 1500µm or 0 to 60 mils (selectable). Tolerance ±1µm +1% of reading 0-50µm, ±2µm +1% greater than 50µm. Resolution 0.1µm. Backglow display, HiLo limits audible & visible alerts when measurements exceed specified limits. Continually displays updates average, standard deviation, min/max thickness and number of readings while measuring. Built in USB, Bluetooth and Wifi for downloading readings.



### PosiTector 200 B & C Ultrasonic Coating Thickness Gauge

**DEF, POS-200ADV (4880) AU • MY • SG**

Ultrasonic coating thickness gauge with type B & C Probes. Measures coating thickness over wood, concrete, plastics, composites etc. Will measure up to 3 individual layer thickness in a multi-layer system and features a graphic readout. Supplied with both B, 13 to 1000µm for wood, plastic and composites and C probes 50 to 3800µm for coatings on concrete, fibreglass etc. Accuracy is ±2µm +3% of reading.

## Non-Destructive Testing (cont'd)



Defelsko Positest Pull Off Adhesion Tester for Concrete & Metal

**DEF,POSITEST (4895) AU**

Measures the force required to pull a specified test diameter of coating away from its substrate using hydraulic pressure. Pressure is displayed in both MPa and PSI on a precision dial indicator and can be related to the strength of adhesion to the substrate. Suitable for coatings on both metal and concrete surfaces. Conforms with standards ASTM D4541 and ISO 4624.

NEW!



Fischer FMP30 Feritscope

**FIS,FMP-30 (4902) AU**

Suitable to measure ferrite content in austenitic steel and duplex steel. Supplied with Probe FGAB1.3-Fe and calibration standard set. Non-destructive measurement of the ferrite content in a range from 0.1 to 80 % Fe or 0.1 to 110 FN. Data memory up to 20,000 readings and 100 applications for measurement data and application-specific calibrations.



Mitutoyo Pro360 Digital Protractor model 950-317

**MIT,PRO360 (4907) AU**

Measures inclination values on an easy-to-read LCD. Measurements are generated by an electronic gravity sensor. Full 360° range (90° x 4). Alternate reference (zero), reading hold. Display remains upright to view at all angles. (950-317, Pro 360 Model). Accuracy:  $\pm 0.1^\circ$  Level  $\pm 10^\circ$ , Plumb  $\pm 10^\circ$ ,  $\pm 0.2^\circ$  Maximum error, Repeatability:  $\pm 0.1^\circ$  and Resolution: 0.1°.



Olympus OmniScan MX2 Phased Array Flaw Detector

**OLY,OMISCAN MX 2 (4901) AU**

Second generation OmniScan MX2 with 32:128PR phased array acquisition unit, including a UT conventional channel. Included weld software option, ToFD software option and Multigroup software option. Suitable for weld inspection, composite inspection, corrosion inspection etc.



Olympus 27mg Ultrasonic Pocket Thickness Gauge

**OLY,27MG (4910) AU - NZ**

Range 1~500mm, fast min mode. Resolution 0.01mm. Probe operates -20~150°C.

## Non-Destructive Testing (cont'd)



### Olympus 38DL Ultrasonic Thickness Gauge

**OLY,38DL (4905) AU**

Performs non-destructive measurements. Supplied with D790-SM and D7906-SM transducers suitable for steel. Capable of THRU-COAT and Echo-to-Echo measurements on painted and coated surfaces. This handheld device is commonly used to measure the remaining thickness of pipes, tubes, tanks, pressure vessels, hulls, and other structures affected by corrosion or erosion. Colour transreflective VGA screen, Rugged design for IP67. Data logging capability.



### Olympus 38DL Thickness Gauge Probe

**OLY,38DL PROBES (4908) AU**

Probes suitable for Olympus 38DL thickness gauge:

- 1 x M2008 Probe
- 1 x M202-RM Probe
- 1 x M1036 Probe
- 1 x M109-RM Probe



### Mitutoyo SJ-210-NATA Surface Roughness Tester

**MIT,SJ210-NATA (4906) AU**

Comprises LCD display and a detachable detector/drive unit. Parameters measured in Ra, Rq, Ry, Rz, Rt, Rp, R3z, Rk, Rpk, Rvk, S, Sm, Pc, mr, Mr1, Mr2, A1, A2, Vo units. Ranges: 350, 100, 50µm & 10µm, resolution from 0.01~0.4µm. Tip radius 5mm. Data output. NiCd batteries.



### PCWI 30kVDC Porosity (Holiday) Detector

**PCW,DC30 (4885) AU • NZ**

Detects pinholes in coatings above 150µm on metal substrates such as pipes and tanks. 0-30kV, 3.5 digit LCD display with battery indicator, display of voltage level. Alarm indicated on front panel, supplied with rechargeable battery, 10h charger, probe handle with neon and 2m length cable, 60mm connector for flat brushes, 7m earth cable with clamp, fan brush, 250mm flat brass wire brush, 450mm probe extension. Dry conditions.



### PCWI 40kV Pulse Porosity (Holiday) Detector

**PCW,P40-PULSE (4890) AU**

Physical porosity (Holiday) detector. Detects pinholes in coatings and wrapping above 150µm on metal substrates such as pipes and tanks. Can be used on dry or wet surfaces. 0~40kV output, 4 digit LED display of voltage, alarm sensitivity setting between dry and wet. Supplied with rechargeable battery, 10h charger, red probe handle and 2m length of rubber coated cable, 60mm connector for flat brushes, 7m earth cable with clamp, fan brush, 250mm flat brass wire brush, 450mm probe extension and 80mm probe extension.

## Non-Destructive Testing (cont'd)



### Testo Wood & Material Moisture Meter

**TES,616 NZ**

Fast and non-destructive observation of the material moisture of woods and building materials. Display is in percent by weight in comparison to the dry mass of the material. Equipped with 10 characteristics curves for soft wood, hard wood, chipboard, anhydrite screed, cement screed, lime sand brick, aerated concrete, concrete, vertical hole brick and solid brick. Measurement depth up to 5cm. Handy shape for optimum contact pressure, hold, max, min function. Illuminated digital display. Advantageous for measurements on exotic woods: non-destructive determination of wood moisture.

## Force Gauges



### Mecmesin AFG-1000NALC Force Gauge

**MEC,AFG-1000NALC (4428) AU**

Range 0~1000N accuracy 0.1%. 5 digit back lit display. Peak data sampling rate 5kHz. 120% overload warning, display invert (reverse) function, dual max, max tension & max compression plus current reading. Outputs: analogue, RS232 & Mitutoyo. Accessories: test hook, compression plate, 30mm extension rod, rotary coupling. Mounting tapped holes x 2, M5 x 0.8 x 5.5mm deep max. Optional smart sensors can be used, such as TW60 static torque wrench.

**NEW!**



### Ametek DFS3-200 Force Gauge

**AME,DFS3-200 (4429) AU**

Range - 0 to 1000N/0 to 100 Kgf. Accuracy 0.1% and resolution 0.01 in N and 0.001 in Kgf. Suitable for variety of application and measurements - Peak Tension and Compression, Break Tension and Compression, Load Average/Time. Comes as standard with a USB-C connection used for communication and charging with supplied cable and connection to PC with ForceTest software.

## Load Cells



### CAS ECB Counting Scales

**CAS,ECB150 NZ**

Counting Scales that provide 2 functions; Weight: scales that weigh up to 150kgs, in 10g increments; and Counting: test weigh a sample quantity, load all items and the scales will provide the total number of items. Ideal for stocktaking. Differs slightly from illustration - a folding upstand makes this unit portable.



## Load Cells (cont'd)



### EMC 2063 Weight Processor and Load Cells

#### **EMC,2063 NZ**

Self contained weight (or force) measuring system with selection of loadcells. Typical uses include the weighing of product (in suspended hopper), measuring the force (tensile or compressive) to cause product failure, measuring tensile force resulting from wind or traffic loading. Supplied and configured with your choice of loadcell. Instantaneous display, peak hold and totaliser. Zero and tare adjustment. 70mm LED main display (legible from 6m distance). LED sub display for secondary functions. 100Hz scanning frequency. Mains or battery powered. 0-20mA analogue output for connection to data logger (supplied separately). Housed in weather resistant enclosure (including battery and logger). Cells available; Compressive button cell: 5,000kg; S-type compressive/tensile cells with eyebolts: 100kg, 1,000kg, 5,000kg & 10,000kg.



### Futek IHH500 Pancake Load Cell 2T Capacity

#### **FUT,IHH500-2T (4416) AU**

The IHH500 Display & LCF400-FSH03132 loadcell operate at up to 2 tonnes (5,000lb) in compression and tension. The IHH500 hand-held display is a logging microcontroller which can store up to 21000 points, it is powered by a rechargeable battery which can last for up to 30 hours depending on battery condition and load. Will operate from its mains charger if needed. The system has a simple Tare function and can display Max Hold using a single front panel key. The lead that connects the loadcell to the display is 1.6m long. The load is connected via M12x1.75-Threads. The software is supplied on a USB flash drive/dongle.



### Futek IHH500 Pancake Load Cell 20T Capacity

#### **FUT,IHH500-20T (4418) AU**

The Futek IHH500 Display & LCF500-FSH02968 loadcell operate at up to 20 tonnes (50,000lb) in compression and tension. The IHH500 hand-held display is a logging microcontroller which can store up to 21000 points, it is powered by a rechargeable battery which can last for up to 30 hours depending on battery condition and load. Will operate from its mains charger if needed. Has a simple Tare function and can display Max Hold using a single front panel key. The lead that connects the loadcell to the display is 1.m long. The load is connected via M33x2-Threads. There are two eye bolts supplied with the system, however the eye bolt capacity is 7 ton. The software is supplied on a USB flash drive/dongle.

## Vibration Analysis

→ See also Sound, Noise & Vibration Monitoring on page 153-155.



### Bently Nevada TK3-2E Proximity Probe Test System

**BEN,TK3-2E (5085) AU • MY • SG**

Simulates shaft vibration and position for calibrating proximity probes. Uses a removable spindle micrometer assembly to check the transducer system and position monitor calibration. Features a universal probe mount that accommodates probe diameters. (5 mm to 19 mm).



### GDCD High Impact USB Accelerometer Data Logger X500-2

**GCD,X500-2 (5055) AU**

USB impact accelerometer provides 3 axis 512Hz sampling. Built in 2G micro SD card. 500g sensors.



### Madgetech 5g Transient Shock Transport Logger

**MAD,TSR101-EB-5 (5000) AU**

Includes a 5g triaxial Accelerometer. The extended battery option gives a 30 day battery life. It also includes the magnetic mount kit. Records detail of all shocks above a user selectable threshold from 1 Hz to 1024 Hz. Has a total of 340k measurements per axis. Resolution .01g accuracy 0.2g.

## Vibration Analysis (cont'd)



### Rion VA-12 Vibration Analyser

**RIO,VA-12 (5040) AU • NZ • MY • SG**

Includes magnetic pickup type. Stores measurements. Measures acceleration, velocity and displacement. Displays in either time or frequency domain. Display rms, peak and crest factor. Uses FFT to display power and vibration spectrum. Stores memory to SD.



### Spektra CV-10 Portable Vibration Calibrator

**SPE,CV-10 (5081) AU**

Complete with proximity probe adaptor and sweep frequency option. Suitable for accelerometers, velocity transducers and proximity probes. It can provide 5Hz to 10kHz vibrations. Maximum amplitude 20g (no load). Maximum payload 900gram.



### TMS Portable Vibration Calibrator including Wobulator Option

**TMS,9110D-WOB (5080) AU • MY • SG**

A compact and completely self-contained unit, suitable for electromechanical testing over a wide range of frequencies and amplitudes. This vibration reference source from TMS operates with digital closed loop control, for enhanced stability and accuracy. Applications Include: Field validation of vibration sensors, proximity probes and vibration monitoring equipment. Accelerometer checking. Velocity transducer testing. Calibrating data collectors and vibration switches. Features: Wide frequency range 7Hz to 10kHz (420 to 600,000 CPM). Internal memory (500 records). USB flash drive output. Customisable calibration certificates compliant with ISO 17025. Accelerometer calibration as per ISO 16063-21.

# PHYSICAL MEASUREMENT

## Speed Measurement



Stalker PRO II Radar Speed Gun Kit Including Large Display  
**STA,PROII-KIT (5722) AU**

Includes a radar gun, tripod & large 3.5 digit display with 20cm high digits. Includes 4 modes of operation; Carnival, Baseball, Tennis, and Vehicle modes. Operates at up to 1290 kph.

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# Construction

Pg. 125-128 Air Conditioning & Air Flow

Pg. 129 Air Conditioning Valve Balancing

Pg. 130-132 Concrete Testing Equipment

Pg. 133 Underground Service Location

Pg. 134-136 Utility Leak Detection

Pg. 137-139 Pipeline & Cavity Inspection

Pg. 139 Laser Levels

## Air Conditioning & Air Flow



### Alnor EBT731 Balometer Electronic Balancing Tool

**ALN,EBT-731 MY • SG**

Features a detachable multi-purpose digital manometer that can be used with the following test and balance tools, such as pitot, static pressure probe or a 16-point velocity matrix. Volume Range: 25 to 2,500 ft cube/min (42 to 4250 m cube/h) with capture hood. Velocity Range: 25 to 2,500 ft/min (0.125 to 12.5 m/s) with velocity matrix. Unit comes with 2ft x 2ft, 2ft x 4ft and 1ft x 4ft hoods.



### Alnor EBT731-STA Electronic Micromanometer

**ALN,EBT-731-STA MY • SG**

Features a detachable multi-purpose digital manometer, capture hood stand and a Smart Tablet loaded with LogDat™ Mobile App to enable remote display and logging of data. The EBT731-STA can also be used with the following test and balance tools, such as pitot, static pressure probe. Volume Range: 25 to 2,500 ft cube/min (42 to 4250 m cube/h) with capture hood. Unit comes with 2ft x 2ft, 2ft x 4ft and 1ft x 4ft hoods.



### DPM TT550C Digital Micromanometer

**DPM,TT550C NZ**

High Resolution micromanometer & accessories to measure differential air pressure and air velocity/flow. Differential pressure: 0.06 to 5000Pa in 3 ranges, plus mmH<sub>2</sub>O, inH<sub>2</sub>O and mBar. Applications include clean rooms, paint booths and warehouses. Accessories (incl. for high velocity & high temperature); Ellipsoidal pitot extendable to 1.2m, velocity 2 to 90m/s, for temperatures > 200°C; Straight dpm-i™ pitot, 0.27 to 30m/s, 300mm long, ideal for hard to access situations. Ane™ 100mm, 0.27 to 25 m/s, vaneless anemometer. Three pitot factors & four duct dimensions stored to simplify flow measurement. Programmable autozero frequency. Logs up to 2500 points. Software for downloading to PC. Battery powered.



### Druck DPI705 Pressure Gauge 7 Bar ABS

**DRU,DPI705-7BARA (5816) MY • SG**

Handheld digital pressure gauge range 0~7bar absolute, with remote sensor, accuracy 0.1%. Displays all common engineering units.

## Air Conditioning & Air Flow (cont'd)



### Testo 417 100mm Vane Anemometer

**TES,417 (5839) AU**

Vane anemometer 100mm head. Display velocity and temperature. Has averaging function to measure ducts. 0.3~20m/sec  $\pm$ (0.1m/s + 1.5% mv) Temperature 0~50°C  $\pm$ (0.5°C). 50Hr battery life.



### Testo 420 Air Balancing Flow Hood System

**TES,420 (5825) AU • MY • SG**

Includes 610x610, 360x360, 305x1220, 610 x 1220 hoods and stand and 500mm pitot tube. Measures 40~4000m<sup>3</sup>/hr  $\pm$ 3%, Temperature 0~70°C  $\pm$ 0.5°C -20~0°C  $\pm$ 0.8°C, 0~100%RH  $\pm$ 1.8%+3%Rdg, Differential Pressure -120~120Pa  $\pm$ 2%Rdg+.05Pa. Kit includes a stand and an Android or iPhone app can be downloaded for one man remote operation. Kit includes 500mm pitot tube.



### Testo 420 Accubalance Balometer

**TES,420 NZ**

**TES,420TRIPOD NZ**

Air balancing hood, 610x610mm, including removable differential pressure measuring instrument. Measures air volume flowing through registers, diffusers and grilles. Weighs only 2.9kgs. Range: 40~4000m<sup>3</sup>/hr. Differential Pressure: -120 to +120 Pa. Relative Humidity: 0 to 100%. Temperature: -20°C to 70°C. 2GB internal storage, approx. 18,000 measurements. Operating temperature: -5°C to 50°C. Bluetooth connectivity to your smartphone, android or iPhone. Optional Extras: Tripod (on wheels) available. 610 x 1200 hood.



### Testo 420 Differential Pressure Instrument

**TES,420DP (5814) AU**

Used for volume flow measurements, pitot tube measurements and pressure measurements for air conditioning and ventilation systems. Measuring ranges: Flow velocity: 0 to 14m/s, Pressure (absolute pressure): 70 to 110 kPa, Pressure (differential pressure): -120 to +120 Pa. Resolution: Flow velocity: 0.01 m/s, Volume flow: 1 m<sup>3</sup>/h. Pressure (absolute pressure): 0.1 hPa/0.1 mbar/0.01 kPa, Pressure (differential pressure) 0.00001 hPa/0.00001 mbar/0.0001mm H<sub>2</sub>O/0.000001 in H<sub>2</sub>O. Storage temperature: -20 to +60°C, operating temperature: -5 to +50°C.



## Air Conditioning & Air Flow (cont'd)



### Testo 400 Logger with Temperature/Humidity/Absolute Pressure Hot Wire Probe

**TES,400-HW (5840) AU**

Includes a Bluetooth extendable probe 0635-1571 measures Temperature -20~70°C, Humidity 5~95%, Abs Pressure 700~1100Hpa & Hot Wire air velocity 0~50m/sec. Extension 57cm~100cm. The instrument itself has Differential Pressure -100~200Pa and Absolute Pressure -700~1100HPa. Extensive communications capability including email, bluetooth, PC management software and even teamviewer for remote control.



### TSI VelociCalc 100mm Vane Anemometer with Volume Display

**TSI,8324 MY • SG**

With 100mm head, supplied with handle and 900mm articulated telescopic extension. Velocity measurement range 0.25 to 30m/s  $\pm 1\%$ ; temperature measurement range 0 to 80°C  $\pm 0.5^\circ\text{C}$ . Volume display range 0 to 4.36 x 10<sup>6</sup>m<sup>3</sup>/h with input for circular or rectangular duct dimensions. Variable time-constant; sample statistics average, max and min; and "sweep" mode for extended continuous sampling. Internal memory for single point measurements or time-based data logging, for up to 2849 samples and 1,000 test IDs, with serial interface, cable and software for data download. Direct data acquisition [polling] from PC terminal modes. Battery powered with auto-power-off, and optional AC adaptor.



### TSI VelociCalc 100mm Anemometer

**TSI,5725 (5838) AU • NZ**

Handheld 100mm reversible vane anemometer and temperature probe. Logs 12700 samples Displays velocity and temperature. Calculates volumetric flow rate when user inputs duct shape and size or area. Anemometer accuracy 1.0% of reading  $\pm 0.02\text{m/sec}$ . Temperature Accuracy  $\pm 1.0\text{DegC}$ . NATA calibration certificate included (AU only, NZ Traceable Calibration Certificate).



### TSI 8710 DP-CALC Differential Micro-Manometer

**TSI,8710 (5813) AU**

Micro-manometer for static or differential pressure, velocity, volumetric flow, atmospheric pressure and temperature. With statistical analysis, density correction, K factor and automatic actual/standard flow calculation. Differential pressure range  $\pm 3735\text{Pa}$ . Velocity display to 41m/s (range depends on probe). Supplied with static tip, pitot tube, velocity matrix and temperature probe. Datalogging (1,000 point) with RS232C interface and software. Rechargeable cells or AC adaptor.

## Air Conditioning & Air Flow (cont'd)



### TSI 9545A Hot Wire Anemometer

#### TSI,9545A NZ

Hot wire anemometer with digital display. Measures air velocity, temperature and humidity; and calculates flow, dew point and wet bulb temperature. Velocity measurement: 0 to 30 m/s, temperature range: -10° to 60°C, Relative humidity range: 0 to 95%. Probe: 1016mm when fully extended, Ø7mm at tip and Ø13mm at base, the last 197mm is articulated. Data captures 12,700+ samples and has automatic logging. LogDat2 downloading software included.



### TSI 9565A VelociCalc Air Conditioning Efficiency Meter

#### TSI,9565A (5849) AU • MY • SG

Efficiency measurement system for HVAC and related work, with hot wire anemometer, static and differential pressure, temperature and humidity measurement with heat flow efficiency calculation. Velocity (hot wire) 0 to 50m/s, accuracy  $\pm 3\%$ . Temperature -10 to 60°C, accuracy  $\pm 0.3$ . Wet bulb temperature 5 to 60°C. Relative humidity 0~95%RH, accuracy  $\pm 3\%$ . Dewpoint -15 to 49°C. Static/differential pressure -3,735 to 3,735Pa, accuracy  $\pm 1\%$ . Battery operated. USB & Bluetooth download.



### TSI TA465A Multi-Function Ventilation Meter

#### TSI,TA465A MY • SG

Portable, hand held, Multi-Function Ventilation Test Instruments. It comes with differential pressure. It also comes with the 966 articulate probe which measures air velocity, temperature and humidity. Calculations include air flow, heat flow, turbulence, wet bulb and dew point temperature. Velocity Measurement Range: 0 to 9,999 ft/min (0 to 50 m/s) Accuracy:  $\pm 3\%$  of reading or  $\pm 3$  ft/min ( $\pm 0.015$  m/s) Resolution: 1 ft/min (0.01 m/s) Temperature Measurement Range: 14 to 140°F (-10 to 60°C) Accuracy:  $\pm 0.5^\circ\text{F}$  ( $\pm 0.3^\circ\text{C}$ ) Resolution: 0.1°F (0.1°C) Humidity Measurement Range: 0 to 95% RH Accuracy:  $\pm 3\%$  RH Resolution: 0.1% RH.

## Air Conditioner Valve Balancing

→ See also Data Loggers: Testo Temperature & Humidity Loggers on pages 104-105.



### T&A Scope Balancing Meter 1000kpa

**TA,SCOPE (5801) AU • MY • SG**

Digital flow balancing instrument with color display. For cooling water valve balancing in air conditioning plants and similar applications. Allows for balancing of all hydronic valve types. Differential pressure range -0.5 to 20.5m water gauge at a total pressure of less than 200m. Resolution 0.001m. Flow resolution 0.001l/s. Battery operated.



### TA-Scope Balancing Instrument

**TA,SCOPE NZ**

Digital balancing instrument to measure and document differential pressure, flow, temperature and power in hydronic (cooling water) systems. Ideal for balancing new systems, trouble shooting existing systems and analysing ongoing system performance. Temperature Range: -20° to 120°C, accuracy <0.2°C. Total Pressure: max 2500 kPa. Differential Pressure: 0-200 kPa, accuracy 0.1 kPa or 1%, whichever is the greatest. TA Select PC software supplied.

New Look.  
Same Vision.



**TechRentals**

## Concrete Testing Equipment

→ See also Endoscopes, Borescopes & Visual Inspection on pages 85-86 and 185.



### Elcometer 331-SH Cover Meter with Half Cell Measurement **ELC,331-SH (4919) AU**

Displays the depth and orientation of the reo bars. Standard search head. 40mm diameter bar depth 15 to 95mm. 8mm diameter bard depth 8 to 70mm. Rechargeable battery allows 32h of continuous operation (20h with backlight). Autosizing of bars or orthogonal measuring of bar sizes. Internal storage of readings of depth of cover in batches which can be downloaded to PC with supplied software. XP and Vista supported.



### Hilti PS1000 X-scan Concrete Scanner **HIL,PS1000 (4924) AU**

Concrete Scanner supplied with PLC 600 layout tablet. Locate rebars, tendons, metal and plastic conduits, glass-fibre cables, voids, and wood in dry concrete structures at depths of up to 300 mm(450mm with expert mode). PLC 600 layout tablet suitable for 3d view and analysis on site.



### Proceq GPR-Live PRO Concrete Ground Penetrating Radar **PRO,GPR-LIVE-PRO (4922) AU • MY • SG**

Portable ground penetrating radar (GPR) for concrete testing. Conducts wide frequency spectrum measurement with Line and Area scan modes. Features a compact, wireless probe with standard rechargeable AA batteries. Software supplied with iPad for easy analysis of data on-site. Additional capabilities like Pro time-slice view, 3D view, Data sharing and reporting, augmented reality and secure cloud features are available.

## Concrete Testing Equipment (cont'd)



### Proceq GPR-Live Concrete Ground Penetrating Radar

**PRO,GPR-LIVE(4923) AU**

Portable ground penetrating radar (GPR) for concrete testing. Conducts wide frequency spectrum measurement with Line and Area scan modes. Features a compact, wireless probe with standard rechargeable AA batteries. Proceq GPR Live Basic app supplied with iPad for easy analysis of data on-site.



### Proceq Resistivity Meter

**PRO,RESIPOD (4925) AU**

Can determine the likelihood of corrosion and the corrosion rate in concrete. 0 to 1,000k $\Omega$  measurement range. USB interface, USB charging. Waterproof.



### Proceq Profoscope Rebar Locator & Cover Meter

**PRO,PROFOSCOPE (4926) AU • NZ • MY • SG**

Rebar locator and covermeter. Short range measurements to 95mm. +/-3mm accuracy. Long range 185mm accuracy  $\pm$ 4mm. The unit will determine the position of the rebars, the mid point between rebars, Concrete cover, estimation of bar diameter & the orientation of the rebar. Powered by 2 x AA batteries. Battery life 15h with backlight 55h without.



### Proceq PL-200PE Ultrasonic Concrete Test System

**PRO,PL-200PE (4927) AU**

Can determine depth of perpendicular cracks, slab thickness from a single side and it can also locate and measure voids, pipes, cracks parallel to the surface. It will estimate the 'internal' compressive strength of the concrete.



### Proceq SilverSchmidt UN Concrete Test Hammer

**PRO,SIL-UN (4928) AU**

Requires no corrections for angle of test, simple one button operation, datalogging capability with USB download with detailed reporting capability. Impact Energy 2.207Nm. Compressive strength range 10~170MPa. Battery Life >1000 Impacts before recharging is required.

## Concrete Testing Equipment (cont'd)



### Defelsko Positest Concrete Moisture Meter

**DEF,POS-CMM (4950) AU • MY • SG**

Concrete moisture meter using the electrical impedance to measure concrete moisture. Designed to do area scans the kit includes a telescopic extender. Measure 0~6% moisture content of concrete, 0~4% carbide method equivalent or 0~100% RH. Accuracy  $\pm 0.5\%$  moisture content of concrete.



### Protimeter Moisture Measurement System

**PRO,MMS-PLUS (4955) AU**

Moisture meter for detection of moisture in non conductive solid materials such as wood and masonry. Two measurement modes, search for qualitative measurements and measure mode for precise and localised moisture content. Supplied with pin type probes, deep wall probes, hygrometer probe and extension cord for RH, ambient temperature or dew point temperature. Hygrostick probe supplied for surface temperature measurement. Logging software and RS232 computer interface supplied.



### Protimeter Moisture Measurement System

**PRO,MMS2 (4956) AU**

Moisture meter for detection of moisture in non conductive solid materials such as wood and masonry. Two measurement modes, search for qualitative measurements and measure mode for precise and localised moisture content. Supplied with pin type probes, deep wall probes, hygrometer probe and extension cord, for RH, ambient temperature or dew point temperature. Hygrostick probe supplied for surface temperature measurement. Also includes IR measurement capability. Logging software and USB interface computer interface supplied.



### Testo Wood & Material Moisture Meter

**TES,616 NZ**

Fast and non-destructive observation of the material moisture of woods and building materials. Display is in percent by weight in comparison to the dry mass of the material. Equipped with 10 characteristics curves for soft wood, hard wood, chipboard, anhydrite screed, cement screed, lime sand brick, aerated concrete, concrete, vertical hole brick and solid brick. Measurement depth up to 5cm. Handy shape for optimum contact pressure, hold, max, min function. Illuminated digital display. Advantageous for measurements on exotic woods: non-destructive determination of wood moisture.

## Underground Services Location

→ See also Endoscopes, Borescopes & Visual Inspection on pages 85-86 and 185.



### C.Scope DXL4 and SGV4 Cable and Pipe Locator

**CSC,DXL4-SGV4 (3719) AU • MY • SG**

Cable and pipe avoidance and location tool with depth measurement. Simultaneous dual 33+131kHz frequency will assist in the detection of smaller buried pipes and cables such as telecoms, cast iron and street lighting spurs. 4 available power levels up to 1 watt and depth detection approximately 3 meters (depending on soil type and operating mode). Four detection modes; Power, Radio, Generator and Allscan. Features a Dynamic Swing Sensor to aid in cable and pipe location.



### C.Scope MXL4-MXT4 Cable and Pipe Locator

**CSC,MXL4-MXT4 NZ**

Traces path of energised cables, conductive pipe or cable and in “radio mode” searches for re-radiated signals, common in underground services. Four detection modes; Power, Radio, Generator and Allscan. Features a Dynamic Swing Sensor to aid in cable and pipe location. Simultaneous dual 33+131kHz frequency will assist in the detection of smaller buried pipes and cables such as telecoms, cast iron and street lighting spurs. Lower frequencies aid location of correct cable in areas where cables are co-located. Multi-frequency generator with 6 signal outputs: 512Hz, 640Hz, 8kHz, 33kHz, 131kHz, simultaneous 33+131kHz. Transmitter: operates with direct connection, tongs or induction. Can determine depth of cable: up to 2m in radio mode, other modes up to 3m. Radio detection mode: 33kHz sondes. Alarm indicates shallow cables (under 300mm). Direct connection current feature aids in locating correct pipe. Automatic daily self-test to confirm working condition.



### Dynatel 2273 Buried Cable and Fault Locator

**DYN,2273 NZ**

Used to find cables to 2.5 metres deep underground or in walls. Traces path of energised cables and conductive pipe or cable using multi-frequency tone generator. Can also be used to find breaks in cables and “short to earth” problems using an A-frame accessory.



### Vivax VLOCPRO2 Pipe & Cable Location System

**VIV,VLOCPRO2 MY • SG**

Pipe and cable locator with intuitive menu system, colour display, peak, null, left/right and orientation (compass) response to support your preference. Configured with 6 location frequencies, power and radio modes. 10 W transmitter can apply the location signal by connection, induction and signal clamp. Depth detection up to 6 to 9 m in broad-peak mode.

## Utility Leak Detection

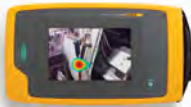
NEW!



### Flir Si124 Partial Discharge & Air Leak Detector

**FLI,Si124 NZ**

2kHz to 65kHz adjustable frequency ultrasonic imager. Performs 2 separate/distinct functions. Firstly locates pressurised leaks in compressed air systems. It filters out industrial background noise to produce precise acoustic images for locating leaks. Instantly view the leak rate (l/min or CFM) and estimate yearly energy cost. Secondly displays partial discharge problems in high-voltage electrical systems. It can classify partial discharge types in day or night, allowing quick replacement of defective components. Automatic detection: 50/60 Hz. Classifies Positive and negative corona, Floating discharge, Surface or internal discharge. Automatic AI-based severity assessment including recommended actions.



### Fluke ii900 Ultrasonic Industrial Imager

**FLU,II900 (3805) AU • MY • SG**

Displays the location and magnitude of compressed air leaks. Operates from 2kHz~52kHz will detect leaks of .0025L/sec at 7bar from 10m. Sunlight readable display. Frequency band selection. 6hrs of battery life. Recharge time 3hrs.

NEW!



### Fluke ii910 Precision Acoustic Imager

**FLU,II910 (3805) AU • MY • SG**

Suitable to locate partial discharge, corona discharge as well as gas and vacuum leaks. Frequency range 2kHz to 100kHz and detection range 0.5 to > 120m. Internal memory with the capacity for 999 picture files and 20 video files. 6hrs of battery life. Recharge time 3hrs. Updated with new MecQ™ modes.



### Trotec LD6000 Leak Detection Set

**TRO,LD6000 NZ**

Portable acoustic detection system for locating leaks in underground pipes, supplied with both a wind protected microphone and high attenuating earphones. Ideal for plumbers and drainlayers for locating leaks in underground pipes. High-resolution colour graphic touchscreen display. Numerous pre-programmed common applications for quick access. Long-term measuring with logging function, data extracted through software via USB. Battery powered 4x type LR14 C 1.5V (up to 14h non-stop & 40h normal operations). IP54 protection.



# SEE WHAT YOU CAN'T HEAR.



The Fluke ii910 Precision Acoustic Imager with MecQ™ is a powerful solution that can significantly reduce unplanned downtime by locating potential issues in conveyor systems so they can be addressed on your maintenance schedule.

See potential issues before they cause unplanned downtime with quick and easy visual detection.

SCAN FOR MORE  
INFORMATION!



# CONSTRUCTION

## Utility Leak Detection (cont'd)



### UE Systems UP3000 Digital Ultrasonic Leak Detector UES,UP3000 (3810) AU • NZ

Ultrasonic inspection system. Displays dB levels. Readings can be stored and downloaded. A tone generator is supplied together with a stethoscope probe and a rubber focusing probe. Interface software to download readings is also supplied.



### UE System UP9000 Digital Ultrasonic Leak Detector UES,UP9000 MY • SG

A complete digital ultrasonic inspection and information storage/retrieval system. With the acoustic isolating headphones and frequency tuning, background noises such as machinery and plant are filtered out making it easier to pinpoint any leaks. The range of quickly interchangeable modules as well as the balanced pistol-grip design make the Ultraprobe 9000 useable in a wide variety of situations and perfect for many different tasks.

*Leica*  
Geosystems

 Trimble

## 3D Reality Capture Solution

Take a 3D snapshot of your site with the Leica BLK360, Leica RTC360 or Trimble X7 laser scanners from TechRentals.



## Pipeline & Cavity Inspection



### GE Everest PTZ-140 Camera Head

**GE, EVEREST PTZ-140 (5129) AU**

140mm diameter colour camera module (fits through a 140mm opening) and features a 360°pan, 234° tilt, 36x optical and 12x digital zoom, high-intensity lighting and waterproof packaging to 45m or 4.5 bar (65 psi). Requires the GE, EVEREST CA-ZOOM to operate.



### GE Everest PTZ-70 Camera Head

**GE, EVEREST PTZ-70 (5130) AU**

70mm in diameter (fits through a 76mm opening) and features 10x optical zoom and 4x digital zoom for a total of 40x zoom. Eight 5-watt LED lights with variable intensity control, 360°continuous pan direction and 270°tilt capability. Waterproof to 45m or 4.5 bar (65 psi). Requires the GE, EVEREST CA-ZOOM to operate.



### GE Everest Ca-Zoom

**GE, EVEREST CA-ZOOM (5131) AU**

Ca-Zoom and hand-held controller is a portable, case-mounted, camera controller with real-time, multitasking software operating system which supports file storage on 64MB of internal flash memory and CompactFlash removable storage media. Provides for integrated image capture and full motion video recording capabilities, on-board file manager and annotation. Includes connectors for camera, handheld controller, video input/output, USB streaming, and keyboard for text generation. Supplied with 30m camera head cable and extension pole 1.8 to 3.6m. Camera heads must be chosen separately, see model GE, EVEREST PT-70 and GE, EVEREST PTZ-140.

## Pipe & Cavity Inspection (cont'd)



### Wohler L200 Locator

**WOH,L200 NZ**

A lightweight receiver for graphically and audibly locating the head of the Wohler VIS350 inspection camera whether underground, in walls, under floors or in a roof space. Attached to a telescopic handle and moved across the surface to pinpoint the camera beneath. Detects 8.9kHz. Bright LED display. Battery powered with charger. Supplied with headphones.



### Wohler VIS350 Pan & Tilt Inspection Camera

**WOH,VIS350 NZ**

Self-contained portable 30m flexible push-rod inspection camera system for the internal inspection of pipes, ducts, chimneys, drains, voids, inside/behind walls etc. Includes video display, distance marking, video recording, WLAN interface option to view in smartphone and a choice of two-colour cameras. Camera 1: Ø40mm 130° field of view. Operated remotely from the control unit, ill pan 180° and rotate 360°. IP67 rated. Camera 2: Ø25mm views straight ahead and will not tilt or pan, but at 25mm will access more confined spaces. IP68 rated. 145° Image acquisition angle diagonal. LEDs for illumination in dark environments. Inclination and rotation indication. Battery or AC powered.



### Wohler VIS-350 Service Camera Visual Inspection System 30m

**WOH,VIS350 PLUS MY - SG**

30 meter compact colour video inspection system with 26mm forward facing camera head waterproof according to IP68 (up to 3 bar-30m depth) and a 40mm Pan Tilt colour camera, waterproof according to IP67 (up to 1m) with a viewing angle of 120 degrees. Adjustable illumination, camera orientation/gravity and degree of inclination display, 8.9kHz sonde in each camera detectable with the L-200 locator down to approximately 1.5m (depending on soil type). Memory storage 1hr/Gb. Applications include damage analysis in water/drainage/sewer pipes, inspection of hollow spaces, ventilation, machines, control panels, exhaust systems and production surveillance.

## Pipeline & Cavity Inspection (cont'd)



**Wohler VIS-350 Service Camera Visual Inspection System 30m**  
**WOH,VIS350-PT (5142) AU**

30m compact colour video inspection system with 26mm forward facing camera head waterproof according to IP68 (up to 3bar-30m depth) and a 40mm pan tilt colour camera, waterproof according to IP67 (up to 1m) with a viewing angle of 120°. Adjustable illumination, camera orientation/gravity and degree of inclination display, 8.9kHz sonde in each camera detectable with the L-200 locator down to approximately 1.5m (depending on soil type). Memory storage 1hr/ Gb. Applications include damage analysis in water/drainage/sewer pipes, inspection of hollow spaces, ventilation, machines, control panels, exhaust systems and production surveillance.



**Wohler VIS 500 Service Camera Visual Inspection System**  
**WOH,VIS500 (5142) AU • NZ • MY • SG**

30m compact colour video inspection system with 26mm forward facing camera head waterproof according to IP68 and a 40mm pan tilt colour camera, waterproof according to IP67 with a viewing angle of 130°. TFT display with Lithium Ion Battery life up to 6 hours. Supplied with L200 locator. Applications include damage analysis in water / drainage / sewer pipes, inspection of hollow spaces, ventilation, machines, control panels, exhaust systems and production surveillance.

## Laser Levels



**Leica Disto D8 Digital Laser Tape Measure**  
**LEI,DISTOD8 NZ**

A laser distance measuring instrument. 6.1cm colour display and 4x zoom function allows quick and easy targeting. Measures up to 200m with supplied target plate, 100m without plate. Clearly visible laser dot for indoor/outdoor use. Typical measurement accuracy  $\pm 1\text{mm}$ . 360° inclinometer to measure angles. Advanced trigonometrical functions. Tripod available on request.



# Survey & Spatial

Pg. 141 Robotic Total Stations

Pg. 142 Laser Scanners

Pg. 144-145 GPS Network Rovers - For use inside CORS -Telstra areas

Pg. 146 GPS Bases & Rovers - For use outside CORS -Telstra areas

Pg. 147 Mapping GPS

Pg. 147 Traverse Kits

Pg. 148 Bipods & Tripods

## Robotic Total Stations

All robotic kits include prism, tablet controller and rangepole.  
Complimentary tripods and bipods on request.



### Topcon LN-150 Robotic Total Station **TOP, LN150 (5441) AU**

Entry-level robotic accurate to a few mm with 100m range. An extremely easy to use Robotic Total Station ideal for those needing high accuracy. Range 0.9 to 130 m, accuracy +/- 3mm. Easy operation for the non-surveyor. Features: Self Leveling for easy setup. Setup over a point, or observing 2+ known points. Uses the same easy to use Magnet Field software as the Topcon GPS systems. Ideal for pick-up or layout to a few mm accuracy.



### Trimble S5 1" Robotic with TSC7 Controller **TRI, S5\_1SEC\_TSC7 (5444) AU**

The Trimble S5 offers the ideal package of exclusive Trimble features and proven technology to help you work efficiently and accurately. Features: TSC7 Controller with 7" screen and Trimble Access. Trimble DR Plus for long range reflectorless and superior accuracy. MultiTrack Target "Traklight". One second angular accuracy.



### Trimble S9 1sec Monitoring Robotic Total Station **TRI, S9\_1SEC (5447) AU**

Designed for monitoring, tunnelling, and other highly specialised applications. Features: 1 second angular accuracy. High precision EDM. Complete with Vision and Finelock.



### Leica TS16 1sec Robotic Total Station with CS20 Controller **LEI, TS16\_1SEC\_CS20 (5438) AU**

Benchmarked for surveying accuracy. Whether you want to stake-out an object on a construction site, need accurate measurements of a tunnel or a bridge, or survey a parcel of land - you need reliable and precise data. Automatically adjusting to any environmental conditions; locks onto your, and only your, target.

Features:

- The latest CS20 controller with Leica Captivate
- Powersearch for finding your prism easily
- Reflectorless range greater than 500m
- 1 second angular accuracy

## Laser Scanners

All laser scanner kits include carbon fibre tripod & tablet controller.  
Complimentary heavy wood tripods on request.

**NEW!**



### Leica BLK360 G2 Laser Scanner

**LEI,BLK360 G2 (1037) AU**

Advanced precision imaging laser scanner. At the push of a button, users can capture a full scan with spherical images in only twenty seconds—over five times faster than the original BLK360. The VIS technology automatically combines your scans on-site to speed up your workflow and help you make sure your datasets are complete. BLK360 data is valuable for many uses, from traditional AEC, to mind-bending VFX and VR. Users can easily transfer and work with it in their software ecosystem to create immersive and highly accurate deliverables and experiences.



### Leica BLK360 Laser Scanner

**LEI,BLK360 (1040) AU**

Captures the world around you with full-colour panoramic images overlaid on a high-accuracy point cloud. Simple to use with the single push of one button. Is the smallest and lightest imaging laser scanner of its kind. Anyone who can operate an iPad can now capture the world around them with high resolution 3D panoramic images.



### Trimble X7 Laser Scanner

**TRI,X7 (1036) AU**

A new all-in-one laser scanning solution. The scanning system delivers powerful performance with simple operation. This is ideal for the surveyor, and non-surveyor alike. Features: Export a combined Point Cloud straight from the tablet in the field. Automated survey grade self-leveling. Trimble Registration Assist for automatic registration. Complete with Tripod and T10 Tablet



### Leica RTC360 Laser Scanner

**LEI,RTC360 (1038) AU**

3D reality capture solution is simply the fastest, most productive and most powerful laser scanner on the market. Highly portable, highly automated, intuitive and designed for maximum productivity. Use the included iPad to automatically record your moves from station to station to pre-register your scans in the field without manual intervention.





# Rent2Buy

Flexible. Cost Effective.  
Worry-Free.

TechRentals' **Rent2Buy** lets you buy the rented equipment upon the completion of your agreed minimum rental term. This is the perfect plan that lets you preserve capital, claim tax deductions\*, and have full service and technical support along the way.

*\*Please gain independent professional taxation advice.*

## GPS Network Rovers

### For use inside CORS-Telstra Areas

These Kits include CORS-Telstra access, tablet controller & rangepole.  
Complimentary bipods on request.



#### Leica GS16 Network Rover with Controller

**LEI,GS16-NET (5327) AU**

A compact and self-learning GNSS smart antenna. Featuring Leica's RTKplus GNSS engine, this receiver is able to be more selective about what signal it uses and intelligently adapts to changing conditions by selecting the optimal signals to deliver the most accurate positions. Paired with Leica's SmartCheck RTK quality control, the GS16 offers some of the highest standards in GNSS measurement. Includes a CS20 controller running Leica Captivate software and rangepole.



#### Leica GS18 Network Rover with Controller

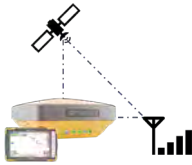
**LEI,GS18 ROVER-NET (5326) AU**

A compact and self-learning GNSS smart antenna. Featuring Leica's RTKplus GNSS engine, this receiver is able to be more selective about what signal it uses and intelligently adapts to changing conditions by selecting the optimal signals to deliver the most accurate positions. Paired with Leica's SmartCheck RTK quality control, the GS18 offers some of the highest standards in GNSS measurement. Includes a CS20 controller running Leica Captivate software and rangepole.



Keep up-to-date on our latest equipment, news, and video tutorials! Follow TechRentals on LinkedIn, X, Instagram, and subscribe to our YouTube Channel.

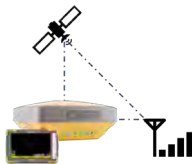
## GPS Network Rovers (cont'd)



### Topcon HiPerSR Network Rover with Controller

#### **TOP,HIPERSR-NET (5330) AU**

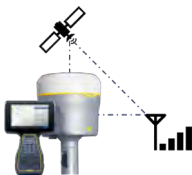
A lightweight and completely integrated GNSS receiver (GPS plus Glonass) for real-time cm level accuracy anywhere within a GPS network where there is mobile signal. It is an ultra-lightweight and easy to use network rover. Weighs only 800gm and has an IP67 environmental rating means you can rely on its performance even in the harshest conditions. Ultra-lightweight and easy to use network rover for simple or complex surveying tasks. This 100% integrated receiver operates cable-free, with no antennas, battery doors or connectors to worry about. It connects via Bluetooth to the FC-5000/FC-6000 controller running Magnet Field software. Features: Easiest to use and lowest rental rate of any GNSS Rover. Ideal for a non-surveyor wanting simple site positioning. Lightweight with carbon fiber pole. Ideal for simple pick-up and stakeout surveying tasks. Large 7" map display.



### Topcon HiPerSR Network Rover with Controller, Pocket 3D

#### **TOP,HIPERSR P3-NET (5331) AU**

A lightweight and completely integrated GNSS receiver (GPS plus Glonass) for real-time cm level accuracy anywhere within a GPS network where there is mobile signal. It is an ultra-lightweight and easy to use network rover. Includes Pocket3D software.



### Trimble R12 Network Rover Controller

#### **TRI,R12 ROVER-NET (5333) AU**

Building upon the foundation laid by the R10-2 and HD-GNSS, the Trimble R12 GNSS receiver is engineered for improved performance in challenging GNSS conditions. Push your GNSS surveying further than you ever thought possible with Trimble's latest developments in GNSS signal management. Features: TSC7 Controller with Trimble Access. Trimble's new ProPoint processing engine better maintains high GNSS performance in sky-obstructed urban and natural environments. Includes VRSNow network RTK access.

## GPS Bases and Rovers

**I** For use outside CORS-Telstra Areas.

Base-only or Rover-only kits available. Base kits includes long-life battery and tribrach. Rover kits includes tablet controller and rangepole. UHF radio licences available for short term rents. Complimentary bipods on request.

**NEW!**



### Leica GS18 UHF Base

**LEI,GS18 BASE-UHF (5340) AU**

A self-learning GNSS smart antenna. Inherits all features of the Leica GS18 T except tilt compensation. An excellent companion to a surveyor that primarily works with a network RTK such as HxGN SmartNet. Like most of the Leica Geosystems GNSS smart antennas, the GS18 works as a rover and a base.



### Trimble R12 LT UHF Base

**TRI,R12 BASE-UHF (5342) AU**

Designed for use with a tripod and broadcasts RTK corrections using an internal 2W UHF radio. Pair with a Trimble UHF Rover kit to achieve cm-level RTK positions when working outside of CORS network areas. Use with an optional Trimble TDL450 UHF Repeater kit to increase radio range. Features: Includes tribrach, adapter, base pole extension, 6Ah battery. Configure Base using WebUI or controller. Complimentary tripod available on request



### Trimble R12 LT UHF Rover with Controller

**TRI,R12 ROVER-UHF (5344) AU**

Complete with ProPoint GNSS signal processing enables industry-leading GNSS performance in sky-obstructed urban and tree-covered environments. Pair with a Trimble UHF Base kit to achieve cm-level RTK positions when working outside of CORS network areas. Features: Includes TSC7 tablet controller and pole. Trimble Access and Roads software. Requires nearby GNSS Base with UHF radio (or other BYO correction service) for cm-level RTK accuracy.

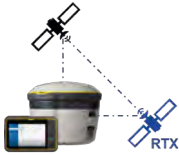


### Trimble TDL 450H UHF Repeater

**TRI,REPEATER-UHF (5346) AU**

450H repeater can typically rebroadcast the Trimble R10-2 signal another 5 to 8km from the Base station. Features: Digital display. 2W to 35W output (ACMA license required). Typically place 5 to 10m from the Base, or where the base radio becomes weak.

## Mapping GPS



### Trimble R2 RTX Rover with Controller

**TRI,R2-RTX (5371) AU**

A compact, durable GNSS receiver that provides an easy-to-use solution for GIS or survey professionals who need to collect highly accurate data in a wide range of geospatial applications. Combined with the Trimble T7 and Trimble Access, or BYO own field tablet and software, this is an easy to use rover solution. Perform DGPS work outside of Telstra areas with Trimble RTX corrections delivered via satellite data link. RTX works anywhere on land with a good view of the sky, down to 2cm horizontal 5cm vertical. Can also receive UHF radio corrections. Optional backpack mount available.

## Traverse Kits

High precision prisms, holders and tribrachs. These kits allow you to achieve the best possible accuracy with your total station. Swap target and robotic for easy reverse measurements. Leica kit includes 2 sets. Trimble kit includes 1 set.



### Leica Traverse Kit with 2 Targets

**LEI,TRAVERSE (1166) AU**

Can be used with the Leica Robotic Total Stations for use as a backsight or for precise traversing. Features: Matches the height of the Leica Instruments. Easy backsights or false centre traversing. Contains 2 x Targets, laser plummet in a single carry case. Provided with 1 or 2 Heavy Duty Tripods if needed.



### Trimble Traverse Kit

**TRI,TRAVERSE (1168) AU**

The Trimble Traverse Kit can be used with the S-series Robotic Total Station for use as a backsight or for precise traversing and surveying tasks. Features " Matches the height of the S-Series Roboticals " Easy backsights or false centre traversing " Provided with a Heavy Duty Tripod if needed.

## Bipods and Tripods

**Need an extra set of legs?** All of our kits are available with a manufacturer tripod or range pole rod. Additional bipods, tripods & staffs are complimentary with any corresponding survey equipment rental – simply let our team know when you book.



# DUST MONITORING

## Ensure Worker and Community Health with TechRentals' Dust Monitoring Solutions

With bad air quality causing health problems for workers, community complaints, and the closure of sites, it is important to monitor the amount of dust your work site is producing.

TechRentals can provide easy to deploy and cost-effective dust monitoring equipment! The equipment is tested and fully assembled with all the accessories needed. We also have technical support available to help answer any questions you may have.

You can view the full range of our dust monitoring equipment on **pages 151-152 of the catalogue.**

SCAN FOR MORE INFORMATION!





# Environmental & OHS

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## Airborne Dust & Particle Meters



Aerqual Dust Sentry Profiler Outdoor Dust Monitor

**AER,DUST-PROFILER (5851) AU**

Will monitor data and store the information in the cloud. This instrument will log PM1 200ug/m<sup>3</sup> range, PM2.5 2000ug/m<sup>3</sup> range, PM10 5000ug/m<sup>3</sup> range 5000ug/m<sup>3</sup> & TSP range 5000ug/m<sup>3</sup>. Accuracy +/-5ug/m<sup>3</sup> + 15% of reading. Lowest detection limit <1ug/m<sup>3</sup>.



Aeroqual Dust Sentry Outdoor Dust Monitor

**AER,DUST-SENTRY NZ**

**AER,DUST-WEATHER NZ**

Robust weather-proof (lockable) dust monitor. Records the data and stores the information in the cloud, enabling real-time access. Equipped with a PM10 filter (other filters can be supplied if required). Range 0~60mg/m<sup>3</sup> accuracy +/-2ug/m<sup>3</sup> + 5% of reading. Lowest detection limit <1ug/Set email/SMS alerts on parameters to easily identify exceedances. Requires AC power. Ideally suited for perimeter/fenceline monitoring for a variety of applications e.g. construction, deconstruction, waste management, landfill, roadsides, base level monitoring to meet consent conditions etc. Weather station available as an optional extra.



TSI 8530 DustTrak II Desktop Aerosol Monitor

**TSI,8530 (5873) NZ • MY • SG**

Portable dust and particle monitor, light scatter photometer. Measures concentrations of a single dust fraction corresponding to either PM1, PM2.5 or PM10. Aerosol concentrations .001~150mg/M<sup>3</sup>. Used for industrial/occupational hygiene surveys, indoor air quality monitoring, outdoor environmental monitoring, baseline trending and screening etc. Includes AutoZero Module

## Airborne Dust & Particle Meters (cont'd)



### TSI DustTrak DRX 8533 Aerosol Monitor

**TSI,8533 (5870) NZ • MY • SG**

Portable dust and particle monitor, light scatter photometer. Measure concentrations corresponding to PM1, PM2.5 and PM10. Aerosol concentrations .001 to 150mg/m<sup>3</sup>. Used for industrial/occupational hygiene surveys, indoor air quality monitoring, outdoor environmental monitoring, baseline trending and screening etc. Will size particles in 4 sizes PM1, PM2.5, PM4 and PM10. Includes AutoZero Module

### TSI 8535 Environmental Enclosure for DustTrak

**TSI,8535 NZ**



Custom designed weatherproof environmental enclosure for use with the TSI,8530 or TSI,8533 DustTrak Airborne Particle Counters. Using this enclosure enables accurate and precise measurements to be taken in harsh industrial workplaces, construction and environmental sites, and other outdoor applications. Includes a 360° omni-directional sampling inlet specifically designed to sample efficiently in a broad range of wind conditions. Sampling conditions: wind speed 0 to 36kph; operating temperature 0 to 50°C. Battery run time: 24 to 40 hours (typical). 2 batteries included. Solar power option available when this enclosure is used in conjunction with the TSI 8530 or 8533 airborne particle counters.



### TSI Aerotrak Handheld Particle Counter 9306 V2

**TSI,9306 AU • MY**

Generates Pass/Fail reports for ISO 14644-1, EU GMP Annex1 and FS209E. Count particle sized 0.3~25um, flow rate 2.83L/min. Counts 6 channel sizes. Includes data storage and download.

## Sound, Noise & Vibration Monitoring

→ See also Vibration Analysers on pages 120-121.



### ARL,NGARA Environmental Noise Logger

**ARL,NGARA (5690) AU • NZ**

**ARL,COMMS NZ**

Class 1 environmental noise logger designed for unattended monitoring that offers full measurement flexibility. Can be configured to record all sound continuously so noise data can be post-processed. Also capable of providing logged data, WAV data, and alarm/triggered details. The on-board LCD and push-button interface makes for simple control and configuration of the logger. Features: Class 1 Sound Level Meter. Includes Class 1 Acoustic Calibrator. 20 to 120dB measurement range. A and C frequency response. Capable of storing raw audio data to USB storage. The ARL,COMMS NZ 3/4G Kit allows the Ngara to be interrogated while in-situ, csv data downloaded and instrument reprogrammed. It requires mains power to the modem at site. Solar power option available.



### ARL,NGARA Environmental Noise Logger with Modem

**ARL,NGARA-4G (5691) AU**

A Class 1 environmental noise logger designed for unattended monitoring. Offers full measurement flexibility. Can be configured to record all sound continuously so noise data can be post-processed. Is also capable of providing logged data, WAV data, and alarm/triggered details. Includes a 4G modem and provides email alarms for noise exceedance. Full data upload to the Noise Cloud is an option. Solar Panels for extended deployment are available. Features: Class 1 Sound Level Meter, includes Class 1 Acoustic Calibrator, 20 to 120dB measurement range, 4G modem with email alarms included, solar panels for extended deployment available. Option for Noise Cloud.

### ARLFirefly Acoustic Post Processing Software

**ARL,FIREFLY NZ**

Powerful post-processing software package for use with the ARL Ngara Real time sound logger to enable large blocks of Ngara data to be analysed. Create 1/1 and 1/3 Octave statistics. Zoom on regions of interest. Replay audio at a specific time of interest. Interprets the data and displays graphically. Compare multiple sessions simultaneously. Create statistics to the time and frequency weightings of your choice. Export graphs and results to a number of formats, ready for inclusion in reports.



## Sound, Noise & Vibration Monitoring (cont'd)



Casella 350 Personal Sound Exposure Meter

**CAS,CEL-350 NZ**

**CAS,CEL350ISKIT NZ**

**CAS,DBADGE2PRO-KIT NZ**

Intrinsically safe, noise dosimeter for measuring personal workplace noise exposure. Pin or clip to the shoulder of the person being measured. Ideal for OH&S surveys. Operating range: 65 to 140 dB. Built-in display provides status information and key measurement data. Visual "LED light" alarm when exposure levels are exceeded. Time history of noise is logged in 1 minute values of average exposure and peak value. Comes with Class 2 Calibrator for auto-calibration prior to use. Keypad can be locked. Insight software supplied for graphical display and analysis of noise history, and automatic report generation. Battery Powered, 28 hour life. Single unit(s) or a kit of 3. Also available is the dBadge2PRO Kit, which has the following additional features: Audio recording and Octave Band Frequency Analysis.



Profound Vibra Cloud Ground Vibration Logger

**PRO,VIBRA-CLOUD (5025) AU · NZ**

Designed for long-term ground vibration logging. It is ideal for applications in the construction industry where safety and environmental considerations must be taken into account. Includes SMS alarms and is IP65 rated. Cloud access optional. Download of data is possible without interrupting ongoing measurements and the unit is configured to meet DIN 4150 (part 2, 3 and SBR - part A and B), 'Vibration in buildings - Effects on structures' and 'Effects on persons in buildings' standards.



Profound Vibra Wireless Alarm

**PRO,VIBRA-ALARM (5026) AU**

Add one or more visual alarms to a PRO,VIBRA-CLOUD. These rechargeable alarms wirelessly link with one or more Profound ground vibration monitors. With a 5/8" mounting thread these alarms can be mounted on a standard tripod.

## Sound, Noise & Vibration Monitoring (cont'd)



Geophone Mounting Plate - Ground/Floor

**PRO,VIBRA-MPLATE (5027) AU • NZ**

Machined Stainless Steel Mounting plate for Geophone when deployed on horizontal surface. Ball joint allows geophone to be levelled. 3 reversible feet. Rounded end for deployment on hard surfaces. Spike end for deployment on soft surfaces, such as soil or through carpet.



NTI XL2+M2230 Sound Level Meter & Acoustic Analyser

**NTI,XL2+M2230 (5605) MY • SG**

Type 1 Sound Level Meter & Acoustic Analyser, includes real time analyser with 1/1 or 1/3 octave-band resolution. Build in FFT Analyser, Polarity, Delay Time and Audio Analyser. Frequency 5Hz to 20kHz, sound pressure level up to 137 dB. All data is save to SD card. Standards compliance check to IEC 61672, IEC 60651, IEC 60804, IEC 61260.



Rion Type 1 Sound Level Meter

**RIO,NL-52EX NZ**

**RIO,NL-52EX-RT NZ**

Both models are Rion NL-52 Precision integrating sound level meters (SLM) with extended functionality, "RT" model also includes octave analysis and reverberation functions, refer below. Both are IEC type 1 (class 1) specification and IANZ calibration. Frequency range: 20Hz to 20 kHz. Weightings: A, C, & Z. Time weighting: fast & slow. Measurement ranges: A-weighting 25 to 138dB, C-weighting 33 to 138dB, Z-weighting 38 to 138dB. Peak sound level 141dB. Measurement functions include: Lp, Leq, Le, Lmax/Lmin, Ln, Lceq, Lcpeak, Lzpeak, Laieq, Laimax, Latm5 etc. 3" LCD for graphical display of results. Manual or auto storage to SD card. Alkaline batteries (24h). Supplied with Pulsar 105 field calibrator. "RT" model also includes: NX-42RT for real-time 1/1 Octave and 1/3 Octave band analysis. NX-42RV for reverberation time measurement calculations at T20/T30, or user defined intervals. Reverberation time-decay curves can be saved.



Rion NL52EX SLM with NX42RT Octave and 1/3 Analyser

**RIO,NL52EX-NX42RT (5670) AU**

Type 1 Sound Level Meter, including the Octave and 1/3 Octave measurement option NX42RT. Can be used to check NC levels for compliance checking. Includes a NATA calibrated calibrator. All data is saved to an SD card.

## Gas Detectors

NEW!



### BW Ultra 4 Gas + PID Pumped Gas Detectors

**BW,ULTRA-PID (5921) AU**

A pumped portable five-gas detector. Provides the functionality of a standard 4 gas detector (LEL, O<sub>2</sub>, CO, H<sub>2</sub>S). With a PID installed in the 5th sensor spot you get the ability to detect toxic gases far below their explosive limit. Sensors: Flammables (catalytic LEL sensor): 0- 100% LEL, 1% LEL resolution. Oxygen: 0.0% - 25.0% vol, 0.1% vol resolution. Hydrogen Sulphide (H<sub>2</sub>S): 0.0ppm -100ppm, 0.1/1ppm resolution. Carbon Monoxide (CO): 0 - 2000ppm, 1ppm resolution. VOCs: 0 - 1000ppm, 1ppm resolution. TechRentals supplies this gas detector in a Confined Space Gas Monitoring Kit. Sample probe and tubing for regular use also 3m sampling hose. IRDA Adapter and download. 14Hr battery life.

NEW!



### BW Ultra 5 Pumped Gas Detector with Ammonia

**BW,ULTRA-NH3 (5922) AU**

A pumped portable five-gas detector. The BW Ultra provides the functionality of a standard 4 gas detector (LEL, O<sub>2</sub>, CO, H<sub>2</sub>S). This configuration has an Ammonia (NH<sub>3</sub>) sensor installed in the 5th sensor position. Sensors: Flammables (catalytic LEL sensor): 0- 100% LEL, 1% LEL resolution. Oxygen: 0.0% - 25.0% vol, 0.1% vol resolution. Hydrogen Sulphide (H<sub>2</sub>S): 0.0ppm -100ppm, 0.1/1ppm resolution. Carbon Monoxide (CO): 0 - 2000ppm, 1ppm resolution. Ammonia (NH<sub>3</sub>): 0 -100ppm, 1ppm resolution. TechRentals supplies this gas detector in a Confined Space Gas Monitoring Kit. Sample probe and tubing for regular use also 3m sampling hose. IRDA Adapter and download. 14Hr battery life.

NEW!



### BW Ultra 4 Gas + CO<sub>2</sub> Pumped Gas Detector

**BW,ULTRA-CO2 (5923) AU**

A pumped portable five-gas detector. Provides the functionality of a standard 4 gas detector (LEL, O<sub>2</sub>, CO, H<sub>2</sub>S). This configuration has a Carbon Dioxide (CO<sub>2</sub>) sensor installed in the 5th sensor position. If CO<sub>2</sub> is a risk it must be monitored with a dedicated sensor. Sensors: Flammables (catalytic LEL sensor): 0- 100% LEL, 1% LEL resolution. Oxygen: 0.0% - 25.0% vol, 0.1% vol resolution. Hydrogen Sulphide (H<sub>2</sub>S): 0.0ppm -100ppm, 0.1/1ppm resolution. Carbon Monoxide (CO): 0 - 2000ppm, 1ppm resolution. Carbon Dioxide (CO<sub>2</sub>): 0ppm - 50,000ppm, 100ppm resolution. TechRentals supplies this gas detector in a Confined Space Gas Monitoring Kit. Sample probe and tubing for regular use also 3m sampling hose. IRDA Adapter and download. 14Hr battery life.

## Gas Detectors (cont'd)



**BW GasAlertMicroClip X3 confined space 4 Gas Detector**  
**BW,MICROCLIP (5937) AU • MY • SG**

Microclip X3. Continuous LCD shows real time gas concentrations. Simple 1 button operation. Measures: H<sub>2</sub>S 0 to 100ppm (1ppm resolution), CO 0 to 500ppm (1ppm resolution), O<sub>2</sub> 0 to 30% (0.1% resolution) and combustible gases 0 to 100% LEL (1% resolution Methane), 0 to 5% v/v (0.1% resolution). Alarms: visual, vibrating and audible (95dB), Low, High, STEL, TWA and OL (over limit). Lithium polymer battery life 12hrs (typical) recharge time <3hrs.



**BW Bump & Logging Download for BW,MICROCLIP**  
**BW,BUMP (5938) AU • MY • SG**

Automatic calibration testing and data management system for the BW microclip gas detection equipment. Carries out fully automatic "hands-free" calibration and functional bump test. It also enables data collected during operation of the BW microclip to be downloaded.



**BW IntelliDox Bump and Calibration Station for BW,CLIP4**  
**BW,INTELLIDOX-CLIP4 (5931) AU**

Bump and Calibration station for BW Clip4.



**Draeger XZONE 5500 Area Gas Monitor - 4 Gas**  
**DRA,XZONE-5500 (5960) AU • MY • SG**

In combination with X-am 5100 4 gas detector. Pumped area gas monitor with up to 120h battery life. Catalytic LEL, CO, H<sub>2</sub>S, O<sub>2</sub>.

## Gas Detectors (cont'd)



MX4 Ventis Personal Gas Monitor

**ISC, MX4 NZ**

Personal gas monitors for use in hazardous areas and confined spaces, designed to simultaneously and continuously monitor for four gases: Oxygen, Carbon Monoxide, Hydrogen Sulphide, and Combustible gas (LEL). Alarm limits set to Department of Labour Workplace Exposure Standard. Alarms include audible (95dB), vibrating and screen alerts. Weight: 182g. Impact resistant housing. Li-Ion battery for up to 12hr continuous monitoring. Spare set of batteries included. Simple user interface. Intrinsically safe EEX IA T4 rated. Continuous data-logging at 10s intervals with three month cyclic memory.



MX4 Ventis Slide-on Pump

**ISC, MX4PUMP NZ**

Attaches to the ISC MX4 pump for testing confined spaces prior to entry. Use this slide-on pump to complete the pre-entry tests, then remove the pump and you have a personal gas monitor for use in hazardous areas and confined spaces. 5m tube supplied for pre-entry testing. Rated to pump up to 15m. Li-Ion battery for up to 18hrs continuous use.

**NEW!**



Rae Systems PPB PID VOC

**RAE, PPB3000 NZ**

Handheld Volatile Organic Compound (VOC) gas monitor. Its Photoionization Detector's (PID) extended range of 1ppb to 10,000ppm makes it an ideal instrument for applications from HazMat, industrial hygiene, to Indoor Air Quality and military applications. Range: 1ppb to 10,000ppm. Real-time wireless data transmission through built-in Bluetooth & RAElink3 link. Integrated Correction Factors list of 220 compounds. Includes flashlight for dark conditions. Large graphic display presents gas type, correction factor & concentration. IP-67 rated.



## Gas Detectors (cont'd)



MiniRAE 3000+ PID for VOC Detection

**RAE, MINIRAE3000+ (5906) AU**

**RAE, 3000 (5912) MY • SG**

Photoionization Detector's (PID) extended range of 0 to 15,000 ppm. VOC reading range at 0 to 999.9ppm with resolution of 0.1ppm and range at 1,000 to 15,000 with resolution of 1ppm. Battery operated est. 16h of operation. Data logging: Standard 6 months at one-minute intervals.



RKI Eagle2 Gas Detector,

Confined Space plus Photoionisation (PID)

**RKI, EAGLE2 (5930) AU**

Measures 4 confined space gasses  $CH_4$ ,  $O_2$ ,  $H_2S$  and  $CO$  plus a PID. Alkaline 18 hours or Ni-MH 20 hours capability. Powerful long-life pump up to 38m range. Low flow pump shut off and alarm. Datalogging standard. IrDA communications port. Autocalibration/ single gas calibration. Internal hydrophobic dust filter. External probe with hydrophobic filter. Ergonomic RFI/EMI/chemical/weather resistant enclosure. Intrinsically safe design, CSA approval.

## Radiation Monitoring & Protection

→ See also E & H Field Strength Meters on pages 13-14.



### HPI Cypher 5000 Digital Radiation Alert Monitor

**HPI,CYPHER5000 (5583) AU**

Alpha, Beta, Gamma and X-ray radiation monitor. Meter, LED, audible indication and detachable probe. Range 0.1 to 1,000,000 CPM; Accuracy 1% or 2 digits.



### Narda RadMan 2XT ICNIRP 1998/Occupational

**NAR,RADMAN-2XT (5558) AU**

Personal occupational limit monitor and leakage detector for monitoring RF signals in mobile, telecom, broadcast and industrial applications. Easy to use: 5G Ready, mounting adaptor for harnesses with safety lanyard, integrated automatic sensor test, highly visible alarm LEDs, loud buzzer plus vibration alarm, 800h of operation on a single charge. Compliant: Wide frequency monitoring up to 60GHz, ICNIRP compliant for frequencies 900kHz to 60GHz, ICNIRP 2020 compliant for frequencies above 27MHz, detection of short pulsed signals, data logger for permanent recording.



### Narda RadMan Personal RF Field Radiation Monitor

**NAR,RADMAN (5557) AU · NZ · MY · SG**

Personal occupational limit monitor and leakage detector for monitoring RF signals in mobile, telecom, broadcast and industrial applications. Frequency range H field 27MHz to 1GHz; E field 1MHz to 40GHz. 5G Ready.

## Environmental Gas & Vapour Meters

→ See also Combustion, Flue & Industrial/Gas Analysers on pages 111-112.



### Aeroqual Logging Ozone Monitor - Indoor Air Quality Use

**AER,500L (5958) AU**

Portable ozone monitor fitted with low concentration-range detection head. Operating range 0~0.5ppm ozone with display in ppm or mg/m<sup>3</sup>. Gas sensitive semiconductor (GSS) sensor for accurate low-level measurements, T90 response approximately 100s. Operation from mains power supply or battery pack (4h operation). Internal data logging for 8000 points with software and cable for download to PC, or data logging direct to PC. Application for indoor air quality measurements.



### Aeroqual Portable Monitors

**AER,500LHN1 Ammonia NZ**

**AER,500LECN1 Carbon Monoxide NZ**

**AER,500LEF Formaldehyde NZ**

**AER,S500LMT1 Methane NZ**

**AER,500LEND1 Nitrogen Dioxide NZ**

**AER,500L Ozone NZ**

**AER,500LPM Particle Monitor NZ**

**AER,500LESO Sulphur Dioxide NZ**

Portable monitors suitable for indoor and outdoor air monitoring. Applications include: personal exposure monitoring, health and safety compliance, indoor air quality testing, process monitoring and source and leak detection. Log up to 8188 records. High and low audible alarm. Sensors available: Ammonia (NH<sub>3</sub>) 0-1,000ppm, Carbon Monoxide (CO) 0-100ppm, Formaldehyde (CH<sub>2</sub>O) 0-10ppm, Methane (CH<sub>4</sub>) 0-10,000ppm, Nitrogen Dioxide (NO<sub>2</sub>) 0.1ppm, Ozone (O<sub>3</sub>) 0-10ppm, Particle Monitor (PM2.5 & PM10) and Sulphur Dioxide (SO<sub>2</sub>) 0-10ppm. Other sensors available on request.

### Gastec H2S Data Loggers

**GAS,GHS-8AT-EX(500) NZ**

**GAS,GHS-8AT-EX(3000) NZ**



Portable H<sub>2</sub>S gas logger designed to be located close to the source of Hydrogen Sulphide (H<sub>2</sub>S). Often used in the wastewater industry e.g. within sewerage pumping stations, manholes and inside sewer collection lines. Robust unit, corrosion-resistant and able to log data for extended periods of time. Range: 0-500 ppm or 0-3,000ppm. Accuracy: ±5% of F.S. Increments: 1ppm (500ppm) or 25ppm(3,000ppm). Data logging interval: 1, 5, 10, 15, 30 and 60 minutes. LCD Display: Shows concentration, temperature, time, battery life, remaining data capacity in days. Memory: Up to 45,960 points (approx. 31 days logging at 1 min intervals). Battery life: up to 3 months. Rated IP66/67.

## Environmental Gas & Vapour Meters (cont'd)



OdaLog NO<sub>2</sub> & CO Area Monitor

**APT,ODA7000CP NZ**

Portable multi-gas monitor for area air-quality measurement, logging or personal monitoring in areas such as car-parks, loading areas and related zones. Configured for carbon monoxide [from petrol vehicles] and nitrogen dioxide [from diesel vehicles]. Ranges CO 0~500ppm [to 1ppm] and NO<sub>2</sub> 0~50ppm [to 0.1ppm]. Dust and water sealed to IP66. Intrinsically safe: rated for general or mines use. Logging interval: from 1 sec to 1 hour. Logging memory: up to 500,000 readings. Integral infrared communications interface, with software and IrDA USB adaptor for configuration and download. Rechargeable: approx 7 days operation on full charge.



OdaLog H<sub>2</sub>S Area Monitor

**APT,ODALL-H2S-200 NZ**

Portable multi-gas monitor (intrinsically safe), portable H<sub>2</sub>S gas logger designed to be located close to the source of Hydrogen Sulphide (H<sub>2</sub>S). Often used in the wastewater industry e.g. within sewerage pumping stations, manholes and inside sewer collection lines. Robust unit, corrosion-resistant and able to log data for extended periods of time. Range: 0-200 ppm. Accuracy: 0.1 ppm 1% Full Scale. Data logging interval: from 1 second to 1 hour. Memory: Up to 42,000 data points. Software supplied for setup and data download. Battery life: up to 12 months. Rated IP66/68.



OdaLog G20 H<sub>2</sub>S 200ppm

**TFS,ODAG20-H2S-200 (5980) AU**

Next generation of IECEx certified portable gas loggers, now with Smart Sensor technology to enable predictive maintenance and health indication with a long deployment period of up to 90 days. G20 is designed to be corrosion-resistant and rugged enough to withstand environments with high hydrogen sulfide emissions, such as sewerage pumping stations, receiving manholes and sewer collection lines. With Modbus, Bluetooth and a capability to log 10 million data points, G20 is a versatile solution for portable gas logging applications. Features: ATEX, IECEx Certified. Versatile Communications: USB, Modbus, Bluetooth. Smart Sensor with predictive maintenance and health indication. Long deployment period of up to 90 days. 8 GB SD Card allows 10 million data points. Accompanied with OdaNx™ software for data analysis.

## Environmental Gas & Vapour Meters (cont'd)



### HalTech HFX205 Formaldehyde Meter

**HAL,HFX205 NZ**

Reads and displays the formaldehyde concentration in ppm or mg/m<sup>3</sup>. Designed for use in a wide variety of applications e.g. paint, construction, dye stuffs, paper manufacture, medical, food, cleaning, synthetic resins, textile treatment, horticulture and cosmetics. Range: 0 to 100ppm. Response time: <30 seconds. Resolution: 0.01 ppm. USB interface for data download or real time monitoring. User defined excess limit warning. Self-calibrating.



### IonScience Gascheck G3 Helium Leak Detector

**ION,GASCHECKG3 (5907) AU • MY • SG**

Microthermal conductivity gas detector. Reading in cc/s, g/yr, mg/m<sup>3</sup> or ppm. Detects most gases however particularly suited to ammonia, argon, butane, helium, hydrogen & SF<sub>6</sub>. Calibrated against Helium. Battery Life 40h. Sensitivity (cc/s) He 1x10<sup>-5</sup>, CH<sub>4</sub> 5x10<sup>-5</sup>, R12 5x10<sup>-5</sup>, Ar 1x10<sup>-4</sup>. Accuracy 5% of displayed reading + 1 digit. Response 1s. Flow rate 2cc/min. Operating -20 to 60°C.



### PPM HTV-M Formaldehyde Meter

**PPM,HTV-M MY**

Portable Formaldehyde meter for measuring airborne formaldehyde in the workplace. Electrochemical sensor, with internal pump for rapid response. Operating range 0 to 10 ppm with readout on 4 digit LCD display. Kit includes field calibration standard. Operates from 9V alkaline battery or dc adapter if used as a continuous data logger. The mini USB allows data to be downloaded to PC using the htV-m software.



### RAE Systems PPB PID VOC

**RAE,PPB3000 (5928) NZ**

Handheld volatile organic compound (VOC) gas monitor. Its Photoionisation Detector's (PID) extended range of 1 ppb to 10,000 ppm makes it an ideal instrument for applications from HazMat/Homeland Security, industrial hygiene, to Indoor Air Quality and military applications.

## Air Quality & Heat Stress

NEW!



### Microsense M1500 Personal Air Sampling Pump

**MIC,M1500 NZ**

Portable air sampling pump to capture particulates in your workplace air for testing and analysis by a Laboratory. The Pump is programmable for flow rate or fixed volume of air to pass through a capture filter. Once complete the filter sample cartridge can be sent to a Laboratory for analysis. Comes with an integrated calibrator for flow rate testing prior to use. Ideal for OH&S surveys. Flow range: 20-1,500mL/min. Rechargeable lithium battery.

NEW!



### MicroSensor M5000 Air Sampling Pump

**MIC,M5000 NZ**

Portable air sampling pump to capture particulates in your workplace air for testing and analysis by a Laboratory. The Pump is programmable for flow rate or fixed volume of air to pass through a capture filter. Once complete the filter sample cartridge can be sent to a Laboratory for analysis. Comes with an integrated calibrator for flow rate testing prior to use. Ideal for OH&S surveys. Flow range 1,000 to 5,000mL/min. Rechargeable lithium battery.



### QUESTEMP II Personal Heat Stress Monitor

**QUE,TEMPII NZ**

Personal heat stress monitor provides protection by detecting the individual's physiological heat response. User-selected alarm trip points provide an audio alert to workers experiencing elevated core temperatures. Minute-by-minute data logging documents personal heat exposure. Range and accuracy:  $\pm 0.1^{\circ}\text{C}$  from  $32^{\circ}\text{C}$  to  $40^{\circ}\text{C}$ . Intrinsically safe. Kit includes control module, cable to ear sensor, thermoplastic ear mould assembly, Digital Oral Thermometer, software and serial cable. Expanding foam earplugs and thermometer sheaths available as consumables.



### Fluke 975 AirMeter Indoor Air Quality Monitor

**FLU,975 MY**

Indoor Air Quality (IAQ) monitoring, measure temperature, humidity,  $\text{CO}_2$  and CO concentrations. Humidity range 10 to 90%, temperature range  $-20$  to  $50^{\circ}\text{C}$ . CO measurement range 0 to 500 ppm and  $\text{CO}_2$  range 0 to 5000 ppm. Dew point temperature and wet bulb temperature is calculated. Data logging for 25,000 data point with 1min to 1h interval. Comes with USB cable for download interface and software viewing and reporting. Battery operated.

## Air Quality & Heat Stress (cont'd)



TSI Q-TRAK IAQ Monitor CO<sub>2</sub>, CO Temperature & Humidity Logger  
**TSI,7575 (5862) AU • NZ • MY • SG**

Portable indoor air quality meter/logger complete with IAQ probe model 982. Measures CO<sub>2</sub> 0~5000ppm ±3%, temperature 0~60°C ±0.6°C, humidity 0~95% ±3%, CO 0~500ppm ±3% and barometric pressure 517. 15~930.87mmHg ±2%. Calculates dew point, wet bulb and percent outside air. Displays 5 measurements simultaneously. User selectable logging interval and start stop times. Stores 39 days data at 1min intervals 56,035 data points. This unit also has external thermocouple measurements.



TSI 7575 Q-Trak Indoor Air Quality Monitor with VOC Sensor  
**TSI,7575-VOC NZ**

Portable indoor air quality meter/logger. Simultaneously measures CO<sub>2</sub>, low concentration (ppb) VOC, temperature, humidity and barometric pressure. Calculates percent outside air, wet bulb and dew point temperatures. 5 line display. CO<sub>2</sub>: 0 to 5000 ppm, accuracy ±3% +3 ppm whichever is greater. VOC: 10 to 20,000ppb. Temperature range: -10 to 60°C, Accuracy ±0.5°C. Relative Humidity: 5 to 95%, accuracy ±3% RH. Barometric pressure: 69kPa to 124kPa ±2%. Logging intervals from 1s to 1hr. 63,000 data point logger. Probe: 25mm diameter x 165mm length. Supplied with software and USB cable for uploading result. AC or battery powered.

## Moisture & Humidity Meters



GE Panametrics PM880 Industrial Moisture Analyser  
**PAN,PM880 (5911) AU**

Intrinsically safe moisture analyser for compressed air systems, non-corrosive gases & hydrocarbons such as natural gas (IS certification to ATEX and CSA). Displays dew point, moisture concentration, pressure & temperature. Dew point calibrated measurement range -80 to 20°C with data to -110°C. Pressure range 7 to 69 Bar limited by sensor, gauge and safety-valve (operating range from 5µHg). Temperature range -30 to 70°C. Gas flow operating range from static to 10,000cm/s velocity. Supplied with compact sample system with gauge, safety-valve, sampling valves and fittings (1/4" Swagelok). Data logging of up to 100K moisture points, with infrared port and software for download. Battery powered only (15-24h operation) with second battery and charger (note charger is not IS).

## Moisture & Humidity Meters (cont'd)



Testo 635-2 Humidity, Temperature & Dewpoint Meter

**TES,635-2 (5859) AU • NZ**

Portable humidity meter fitted with robust stainless probe with sintered filter-cap for general or duct measurements to 120°C, and fast-action K-type surface temperature probe. Displays relative humidity, absolute humidity, dew point, degree of humidity, enthalpy, temperature, and differential temperature (dewpoint~surface). Operating range 2~98%RH ( $\pm 2\%$ ). Air temperature -20~120°C ( $\pm 0.2/0.5$ ). Surface temperature -60~300°C ( $\pm 0.1$ ). Internal memory for 10,000 values with USB interface, cable and software for download and presentation. Battery operated.



Testo 635-2 Temperature & Dewpoint Meter for Compressed Air Systems

**TES,635-2-HPD (5912) AU • MY • SG**

Portable humidity meter fitted with 0636 9836 HPD pressure dewpoint probe for measurements in compressed air systems, -60 to +50°C tpd, 0~100%RH. Internal memory for 10,000 values with USB interface, cable and software for download and presentation. Battery operated. Maximum pressure 15bar.



Vaisala DMP80 Dewpoint Meter

**VAI,DMP80 NZ**

High precision dew point meter and probe designed for use in extreme conditions including dew point down to -70°C, temperature down to -0° and pressure to 20Bar. The probe may be inserted directly into pressurized processes and it responds rapidly from ambient to process conditions. Typical industrial dew point applications include compressed air lines (using sampling cell), sealed units e.g. transformers, metal treatment, manufacturing processes as well as food and plastics drying. DMP80B Probe Dew Point range: -70°~+60°C; Accuracy:  $\pm 2^\circ\text{C}$ . Temperature range: 0°~ +60°C; Accuracy:  $\pm 0.2^\circ\text{C}$ . Relative Humidity: 0-70% RH. Operating Temperature range: -10°~+60°C. Response Time: Dry (-70° to 0°C) 5 to 10 sec; Wet (0 to 60°C) 45 sec to 8 min. Logging capacity: up to 5.5m data points. Logging interval: 1s to 12h. Data can be logged and transferred to a PC via USB-C supplied. IP Rating: Meter IP40; Probe IP66. Battery Life: up to 10 hours. Sampling Cell DSC74 with Quick Connector and Leak Screw included.



## Water Quality Meters



HI-9829 WQM 4m Cable - Temp, EC, pH, ORP, DO & Turbidity  
**HAN,9829-4M (6026) AU**

For discharge and surface waters requiring the measurement of Turbidity the HI-9829 is the go to instrument. A compact submersible sonde integrated onto a 4m cable that measures Turbidity temperature, electrical conductivity, pH, oxidation reduction potential and dissolved oxygen. Supplied calibrated with calibration report. Field replaceable C size alkaline batteries. Automatic data logging to the meter. Compatible flow cell included in pump kits.



Hamilton Beverly Dissolved Oxygen Meter  
**HAM,BEVERLY (6040) AU**

Designed for dissolved oxygen measurement in at-line and laboratory use in small and midsize breweries as well as in the beverage industry to provide excellent reliability in a rugged design, and purpose built to handle the environmental extremes encountered in everyday brewing operations.



TPS 90FL-T Multi-function Water Quality Meter & Logger  
**TPS,90FL-T (6000) MY • SG**

Field meter and logger for water quality measurements. Configured with independent probes for pH, conductivity/salinity (TDS)/ temperature, dissolved oxygen (DO) and turbidity. Cables 5m with probe holder and safety harness. LCD display readout with simultaneous display of all measurements. Manual, "notepad" storage or automated data logging for up to 1,808 sets of readings by time and date. RS232C interface, with WinTPS software included. Supplied with rechargeable battery, and clip-lead for operation from a 12V source such as a car battery.



YSI Professional Plus pH, Salinity & Conductivity Meter  
**YSI,PROPLUS NZ**

Multi use instrument. Supplied with temperature, pH, Conductivity and Salinity sensors. 2000 data-set memory with GLP event logging. Interval or single event logging capability. Rugged construction with IP67 waterproof case. Incorporates a back lit display and keypad. The graphic display comes with a detailed Help. Temperature range: -5 to 70°C. Conductivity range: 0 to 200mS/cm (autorange), Accuracy: ±0.5% of reading or 0.001mS/cm whichever is greater (20m cable). Salinity: range 0 to 70ppt, Accuracy: ±1.0% of reading or 0.1ppt whichever is greater. pH: range 0 to 14 units, Accuracy: ±0.2 units. 20m cable with probe.

## Water Quality Meters (cont'd)



YSI ProSolo Optical Dissolved Oxygen & Conductivity Meter  
**YSI, PROSOLODCT NZ**

Measures dissolved oxygen (DO) in mg/L or percent saturation, and conductivity. Also provides simultaneous readings of O<sub>2</sub> & temperature. Dissolved O<sub>2</sub> readings are automatically compensated for temperature. Useful for any application requiring accurate, real-time salinity-compensated DO measurements. DO Range: 0 to 50 mg/L. DO Accuracy: 0 to 20 mg/L ± 0.1 mg/L or ± 1% of reading, whichever is greater; 20 to 50 mg/L ± 8% of the reading. Conductivity Range: 0 to 200 mS/cm. Temperature Range: -5° to 70°C. 100,000 data-set memory. 10 metre cable with probe.



YSI ProSolo Dissolved Oxygen Meter  
**YSI, PROODO NZ**

Measures dissolved oxygen (DO) in mg/L or percent saturation. Provides simultaneous readings of O<sub>2</sub> & temperature. Dissolved O<sub>2</sub> readings are automatically compensated for temperature. Range: 0 to 50 mg/L. Accuracy: 0 to 20 mg/L ± 0.1 mg/L or ± 1% of reading, whichever is greater; 20 to 50 mg/L ± 15% of the reading. Temperature Range: -5° to 70°C. 5,000 data-set memory. 10 metre cable with probe.

## Water Samplers/Pumps



Hach AS950 Water Sampler  
**HAC, AS950 (6650) AU**

Advanced water sampler for fully programmed collection. Samples are collected in up to 24, 1 litre disposable plastic containers based on a set time period. Fitted with NEMA 4X, 6, (IP67) sealed controller featuring a built-in pump.

## Lux Meters



Hagner EC1-X Lux Meter NATA Calibrated

**HAG,EC1-X (5600) AU**

Digital illuminance meter with NATA certification. Measures from 0.1~200,000 lux. Has a remote measurement head on 2m cord. Accuracy  $\pm 3\%$  of range  $\pm$  last digit. Battery operated.



Topcon IBM-9A Luminance Meter

**TOP,IBM-9A NZ**

Portable luminance meter with 6-digit display for measurement of LCDs, OLEDs, LEDs, robotic sensors and various lighting installations including street, tunnel, airport and medical lighting. Can also provide transmittance measurement. Built-in keyboard for inputting correction factor and reference illuminance for deviation/percentage measurement, and also calculate luminous intensity. Comes with a 2° measuring, 5° viewing field detector. Silicon photodiode sensor with automatic 5-step or manual range selection. Built-in USB interface and analogue output. 2m extension cable to detach detector unit from display unit included. Tripod mount and battery powered. Range: 0.01 to 280,000 cd/m<sup>2</sup>. Accuracy:  $\pm 2\%$  of reading. Measuring distance: 350mm to infinity. Minimum spot diameter: 10mm.



Topcon IM-2D Illuminance (Lux) Meter NATA Calibrated

**TOP,IM-2D-NATA (5606) AU • MY • SG**

Digital illuminance meter with NATA certification. Measuring range from 0.1~19,999lx. Accuracy 5%,  $\pm 1$  digit. Autoranging with silicon sensor. Battery operated.

## Lux Meters (cont'd)



Hioki FT3424 Digital Illuminance (Lux) Meter

**HIO,FT3424 NZ • MY • SG**

Complete with manual and auto ranging capability. 4 digit LCD ("2000") for 5 measuring ranges: 20/200/2,000 lux in 1-count steps, 20,000 lux in 10-count steps, and 200,000 lux in 100-count steps with accuracy of  $\pm 3\%$  of reading. Response time in autorange mode is 5s, and in manual mode it is 2s. Features autozero, hold, and backlight functions with delay for taking readings in low light. Memory function with 99 storage can be downloaded to a PC via USB connection. Analogue output - 2V/range FS. Connection cable to allow separation of sensor unit and meter provided. Battery powered.



Hioki FT3425 Digital Illuminance (Lux) Meter

**HIO,FT3425 NZ • MY • SG**

Complete with manual and auto ranging capability. 4 digit LCD ("2000") for 5 measuring ranges 20/200/2,000lx in 1-count steps, 20,000lx in 10-count steps and 200,000lx in 100-count steps with accuracy of  $\pm 3\%$  of reading. Response time in autorange mode 5s & 2s in manual range mode. Autozero, hold, backlight function with delay for taking reading in low light. Memory function with 99 storage, can be downloaded to PC via USB connection. Analogue output - 2V/range FS. Connection cable to allow separation of sensor unit and meter provided. Battery powered.

## Weather Stations



Vaisala WXT536 Weather Transmitter

**VAI,WXT536 (5886) AU**

A fully Solid-State Weather Transmitter. It measures: Wind Speed, Wind Direction, Rainfall, Temperature, Humidity and Air Pressure.

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# ENVIRONMENTAL SITE ASSESSMENT

Pg. 173-174 Groundwater

Pg. 175 Water Quality

Pg. 176 Gas

## Groundwater



### QED Micropurge Kit - 60m **QED,MPKIT-60M (6620) AU**

Allows you to reliably conduct industry standard low flow groundwater sampling to a depth of 60m. The Solinst Tagline is easier to clean and safer to handle than bare wire hangers. The laser etched markings every 5cm cable allows you to accurately position the pump at the correct depth. The kit includes: QED MicroPurge MP10 controller with gas hoses. QED Sample Pro Bladder Pump, with push fit fittings. Solinst 100m Tagline. Solinst 100m Tagline. Air Compressor or CO2 Regulator and Cylinder. Consumables available including Sample Pro Replaceable Bladders, Bonded LDPE Twin-Tubing, HDPE Tubing for PFAS sampling and CO2 cylinders. Add an In-Situ AquaTROLL WQM and a Solinst Interface meter for the full low flow sampling solution.



### QED Micropurge Kit - 180m **QED,MPKIT-180M (6630) AU**

Specialist low-flow pumping kit for deeper wells. QED MP10H with gas hoses. 300 psi Nitrogen Regulator. QED ST1102PM Stainless Steel Well Wizard. 250m Solinst Tagline. SS Weighted Drop Tube assembly for 100m drop tube. Consumables available including Bonded LDPE Twin-Tubing, 1/2" LDPE Drop Tube, Swagelok Ferrules and Nitrogen cylinders. Add a water quality meter and 250m Solinst 101D Drawdown meter for the full low flow solution.



### Solinst 401 Mk4 Peristaltic Pump **SOL,PERI-PUMP (6640) AU**

Provides the simplest solution for sampling ground water where the depth to water is less than 8m. Flow rates as low as 40mL/min up to 900mL/min are possible when used with 3/8" silicone tubing in the pump head and 1/4" down well tubing. Supplied with SLA battery, charger.

# ENVIRONMENTAL SITE ASSESSMENT

## Groundwater (cont'd)



60m Solinst 122 Interface Meter - IP  
**SOL,IP-122-60M (6730) AU**

Has the functions of a water level meter with the added ability to gauge the thickness of floating and sinking product (LNAPL & DNAPL). This IP has a 10mm width PVDF flat tape with laser marked meter, centimetre and millimetre markings. Certified Intrinsically safe to ATEX standards, the grounding tape must be used in potentially explosive atmospheres. Used for gauging the depth to water in groundwater bores it is an essential instrument when conducting low flow sampling.



250m Solinst 101D Water Level DrawDown Meter  
**SOL,WLM-101D-250M (6740) AU**

Water Level Meter with Drawdown functionality is used for measuring the water level in deeper bores. The Drawdown functionality is useful when you want to limit the maximum drop in the water while purging or pump testing. Has a combined on/off and sensitivity adjustment dial. The probe is 16mm in diameter by 137mm long, rated to 300m submersion and connected to a 10mm wide flat laser marked tape. The unit is powered by an easily replaceable 9V alkaline battery.



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## Water Quality



### Eutech TN100 Turbidity Meter

**EUT,TN100 (6028) AU**

The microprocessor-based waterproof TN100 meter is an easy-to-use turbidimeter that meets the rigor of rugged field applications. It is a "must-have" for anyone monitoring turbidity on the go. Using an Infrared light source, it delivers laboratory accuracy with a resolution of 0.01 NTU across an extended range of up to 20 NTU (Nephelometric Turbidity Units). Turbidity Range: 0 to 1000 NTU. IP67 Waterproof and dustproof, and it floats.. Cleaning and maintenance is simple. Automatic Push-Button Calibration (4 points) for unprecedented full-range accuracy. Sturdy carrying kit complete with 4 calibration standards, 3 empty cuvettes, batteries and comprehensive instruction manual.



### AquaTROLL 500 with pH/ORP/EC/DO/Temp sensors

**INS,AT500(6030) AU**

A multiparameter water quality meter measures Conductivity, pH, ORP, Dissolved Oxygen and temperature. A 5m cable connects the sonde to a Bluetooth communications device. Take readings in the Vu-Situ App on the included tablet or connect to your own device so you can email prepared low flow reports. The sensors are designed for long term use and have excellent stability. The optical dissolved oxygen sensor means long term stable operation without recalibration. A flow cell is included for low flow sampling.



### Lovibond MD100 Chlorine Duo

**LOV,MD100-CL-DUO (6029) AU**

A single parameter colorimeter for water quality analysis. This line of rugged, waterproof instruments is lightweight and ideal for field testing or for use in the laboratory. Chlorine is one of the most popular water quality testing parameters and the MD 100 Chlorine Duo Colorimeter offers a testing solution to fit a wide variety of industries and applications. Pre-programmed with three testing ranges for testing Free, Total and Combined Chlorine. All testing ranges use the DPD method and utilize tablet or VARIO Powder Pack reagents, depending on the range selected.

# ENVIRONMENTAL SITE ASSESSMENT

## Gas



GA5000 Landfill Gas Analyser

**GEO,GA5000 (5908) AU**

A landfill and contaminated land portable gas analyser, with available gas measurements of CH<sub>4</sub>, CO<sub>2</sub>, O<sub>2</sub>, H<sub>2</sub>S and CO. It is easy to use and calibrate, benefitting from our market leading reliability and helping you to standardise monitoring routines, whilst supporting environmental legislation compliance.



SEM5000 Laser Methane Detector

**GEO,SEM5000 (5905) AU**

A portable methane detector used to improve reading accuracy and to reduce potentially harmful greenhouse gases. Thanks to patented laser technology, the Geotech SEM5000 is selective, specifically to methane and is able to detect emissions from 1-10000ppm or from 0.1% to 100% v/v concentration.



MiniRAE 3000+ PID for VOC Detection


**RAE,MINIRAE3000+ (5906) AU**

**RAE,3000 (5912) MY · SG**

Photoionization Detector's (PID) extended range of 0 to 15,000 ppm. VOC reading range at 0 to 999.9ppm with resolution of 0.1ppm and range at 1,000 to 15,000 with resolution of 1ppm. Battery operated est. 16h of operation. Data logging: Standard 6 months at one-minute intervals.



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- Water Quality Instruments



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INFORMATION!





# Non-Destructive Testing (NDT)

Pg. 179-180 Flaw Detectors

Pg. 180 Phased Array

Pg. 180 PMI, XRF & LIBS Units

Pg. 181-182 Hardness & Holiday Testers

Pg. 182-184 Thickness & Coating Thickness Gauges

Pg. 185 Videoscopes and Boroscopes

NDT Category is currently available in Malaysia & Singapore, however, if you are interested in NDT equipment and are outside these locations please don't hesitate to contact us.

## Flaw Detectors



### GE Mentor EM Dual Eddy Current Flaw Detector

**GE, MENTOR-EM-DUAL MY • SG**

GE Mentor EM Dual Eddy Current Flaw Detector. Dual Probe Module; Connectivity Module with USB and X & Y Encoder Inputs and TTL Outputs. Supplied with Weld Scan Kit contains:

- 632-266-008 ECLN--PRB 3/8" WLDSCN 4PL
- 632-265-009 ECLN--PRB 5/8" WLDSCN 4PL
- 632-134-000 ECP, 130P3, 82μH, 35KHZ-250KHZ
- 074-140-022 ECLN--CBL 4.9' DIFF



### Olympus Epoch 650 Ultrasonic Flaw Detector

**OLY, EPOCH650 MY • SG**

Designed to meet the requirements of EN12668-1. Full screen A-scan mode and Standard dynamic DAC/TCG and onboard DGS/AVG. Supplied with AM4R-8X9-70, CN4R-10, AM4R-8X9-45, AM4R-8X9-60, A550S-SM probes. Optional Gage View and Corrosion module software included.



### Olympus MultiScan MS5800 Tube Inspection System

**OLY, MS5800-ER1U MY • SG**

A multi-technology system offering these technologies: Eddy Current, Magnetic Flux Leakage, Remote Field, IRIS Ultrasound. Suitable for Condensers, Feedwater Heaters, Heat Exchangers, Air Conditioners, Boilers, Air Coolers.



### Olympus OmniScan MX2 Phased Array Flaw Detector

**OLY, OMNISCAN MX2 MY • SG**

Second generation OmniScan MX2 with 32:128PR phased array acquisition unit, including a UT conventional channel. Included weld software option, ToFD software option and Multigroup software option. Suitable for weld inspection, composite inspection, corrosion inspection etc.

# NON-DESTRUCTIVE TESTING

## Flaw Detectors (cont'd)



### Olympus Nortec 600D Eddy Current Flaw Detector

#### **OLY,NORTEC 600D MY • SG**

EN-15548 compliant Eddy Current Flaw Detector. 10Hz to 12MHz frequency capacity. Automatic internal balancing (BNC connector). Weld Inspection Kit Containing 1 each of WLD-5-63, WLD-8-55, NEC-2236 SRSM-51020S/WLD, WLD-SAMPLE & CN16-4L-6 included.



### GE/Krautkramer USM 36 Ultrasonic Flaw Detector

#### **GE,USM36 MY • SG**

USM 36 DAC Ultrasonic Testing Package with evaluation using AWS, DAC, JISDAC and TCG. Supplied with MB 4 S/Straight beam probe. MWB 45-4/ Angle Beam Probe, MWB 60-4/ Angle Beam Probe, MWB 70-4 / Angle Beam Probe and Probe MSEB 4-E TR-Prob. Applications include Weld Inspection, Precise Thickness Measurement, Inspection of Forgings and Inspection of Special Materials.

## Phased Array



### Olympus Cobra Scanner

#### **OLY,COBRA SCANNER MY • SG**

Manual scanner used with Omiscan Phased array units. COBRA scanner holds up to two PA probes for inspections on pipes with outside diameters ranging from 0.84 in. to 4.5 in. (21 mm to 114 mm) Suitable to perform circumferential weld inspections on small-diameter pipes.

## PMI, XRF & LIBS Units



### Olympus Vanta Element Handheld XRF Analyser

#### **OLY,VANTA ELEMENT SG**

Handheld X-Ray Fluorescence (XRF) analyzer provides elemental analysis for alloy grade ID. Rugged and suitable for demanding PMI applications. Data exportable via USB.

## Hardness & Holiday Testers



### Elcometer 266 DC Holiday Detector

**ELC,266 MY • SG**

Can be used to test porosity on coatings up to 7mm thick and is ideal for inspecting coatings on pipelines and other protective coatings. Features a built-in voltage calculator which will determine and set the correct test voltage based upon the test standard and the thickness of coating being tested. Comes with a DC30 (0.5 - 30kV) DC probe handle.

**NEW!**



### Fischer FMP30 Feritscope

**FIS,FMP-30 MY • SG**

Suitable to measure ferrite content in austenitic steel and duplex steel. Supplied with Probe FGAB1.3-Fe and calibration standard set. Non-destructive measurement of the ferrite content in a range from 0.1 to 80 % Fe or 0.1 to 110 FN. Data memory up to 20,000 readings and 100 applications for measurement data and application-specific calibrations.



### GE DynaMic Rebound Hardness Tester

**GE,DYNAMIC (4936) MY • SG**

Makes hardness testing quick and easy. The simple operation of this unit allows the user to position the impact devices and read the hardness value, all in a matter of seconds. Provides readings in HV, HB, HRC, HRB, HS, HL, and M/mm<sup>2</sup>. This advanced unit will compensate for changes in testing direction. The Data Logger model can internally store hardness values along with statistical information. Features: Measurements can be conducted in any direction without the need for calibration. Rebound hardness testing standardised according to ASTM A956 and DIN 50156. Ergonomic, lightweight design (0.3kg). Test attachments for curved surfaces. Applications: Solid, coarse-grained components. Machine parts made of steel and cast aluminium alloys. Large series parts during production. Heavy forgings.

NDT Category is currently available in Malaysia & Singapore, however, if you are interested in NDT equipment and are outside these locations please don't hesitate to contact us.

# NON-DESTRUCTIVE TESTING

## Hardness & Holiday Testers (cont'd)



### Mitutoyo SJ-210-NATA Surface Roughness Tester

**MIT,SJ210-NATA (4906) MY • SG**

Comprises LCD display and a detachable detector/drive unit. Parameters measured in Ra, Rq, Ry, Rz, Rt, Rp, R3z, Rk, Rpk, Rvk, S, Sm, Pc, mr, Mr1, Mr2, A1, A2, Vo units. Ranges: 350, 100, 50um & 10um, resolution from 0.01~0.4um. Tip radius 5mm. Data output. NiCd batteries.



### Proceq Equotip Live UCI Hardness Tester

**PRO,EQUOTIP UCI MY • SG**

Portable Hardness Tester. Battery operated with test probe on a flexible lead. Probe type D is standard catering for most materials. Measurement Ranges: Steels 80-650 Brinell, 80-940 Vickers, 20-68 Rockwell C. Aluminium Castings 20-160 Brinell, Cast Iron 90-380 Brinell, Brass 40-170 Brinell, Copper Wrought Alloys 43-315 Brinell. Test hardness must not exceed 940 HV.

## Thickness & Coating Thickness Gauges



### Cygnus 1 Intrinsically Safe Ultrasonic Thickness Gauge

**CYG,1 IS MY • SG**

Rugged, durable, shock-proof construction, stable calibration - linear accuracy - no zero adjustment. For use in Zone 0, Zone 1 hazardous areas, also approved for use in MINES. Supplied with heavy duty remote 2.25MHz x 13 mm (1/2") diameter probe. Accuracy  $\pm 0.1\text{mm}$  ( $\pm 0.004\text{"}\text{}$ ) or 0.1% of thickness measurement, whichever is greatest, when calibrated in accordance with Cygnus Instruments calibration procedure. Resolution 0.1 mm (0.005") or 0.05 mm (0.002").



## Thickness & Coating Thickness Gauges (cont'd)



### Cygnus Underwater Ultrasonic Thickness Gauge

**CYG,UTG KIT MY • SG**

Rugged, durable, shock-proof construction, Stable calibration - linear accuracy - no zero adjustment. Heavy duty sealed unit with double 'O' ring protection. RINA Type-Approved (Certificate No. 2009DGPO787. Supplied with heavy duty remote 2.25MHz 13 mm (0.5") diameter probe. Accuracy 0.1mm (0.005") when calibrated in accordance with Cygnus Instruments calibration procedure. Resolution 0.1 or 0.05mm selectable (0.005 or 0.002").



### Defelsko 6000 Ferrous & Non Ferrous Coating Thickness Tester

**DEF,POS-6000 (4870) MY • SG**

Ferrous/Non Ferrous metal coating thickness tester with storage of up to 100,000 readings. Supplied with external probe, calibration standards and carry pouch. Measurement range 0 to 1500 $\mu$ m or 0 to 60 mils (selectable). Tolerance  $\pm 1\mu$ m +1% of reading 0-50 $\mu$ m,  $\pm 2\mu$ m +1% greater than 50 $\mu$ m. Resolution 0.1 $\mu$ m. Backglow display, HiLo limits audible & visible alerts when measurements exceed specified limits. Continually displays updates average, standard deviation, min/max thickness and number of readings while measuring. Built in USB, Bluetooth and Wifi for downloading readings.



### PosiTector 200 B & C Ultrasonic Coating Thickness Gauge

**DEF,POS-200ADV (4880) MY • SG**

Ultrasonic coating thickness gauge with type B & C Probes. Measures coating thickness over wood, concrete, plastics, composites etc. Will measure up to 3 individual layer thickness in a multi-layer system and features a graphic readout. Supplied with both B, 13 to 1000 $\mu$ m for wood, plastic and composites and C probes 50 to 3800 $\mu$ m for coatings on concrete, fibreglass etc. Accuracy is  $\pm 2\mu$ m +3% of reading.

# NON-DESTRUCTIVE TESTING

## Thickness & Coating Thickness Gauges (cont'd)



Olympus Ultrasonic Thickness Gauge including Transducers  
**OLY,38DL (4905) MY • SG**

Performs non-destructive measurements. Supplied with transducers that can measure the thickness of steel, cast, corroded steel, rubber, fibreglass and composites. Comes with dual and single element transducers including D7906-SM, M1036, and M2008 M109-RM (including delay line M202-RM), and is capable of THRU-COAT®; and Echo-to-Echo measurements on painted and coated surfaces. This handheld device is commonly used to measure the remaining thickness of pipes, tubes, tanks, pressure vessels, hulls, and other structures affected by corrosion or erosion. Features: Thickness range from 0.08mm to 635mm. Colour transreflective VGA screen. Rugged design for IP67. Data logging capability.



Olympus 27mg Pocket Thickness Gauge  
**OLY,27MG (4910) MY • SG**

Range 1~500mm, fast min mode. Resolution 0.01mm.  
Probe operates -20~150°C.

NDT Category is currently available in Malaysia & Singapore, however, if you are interested in NDT equipment and are outside these locations please don't hesitate to contact us.



Watch how-to/information videos on any piece of equipment displaying this symbol. Visit the TechRentals YouTube page at [www.youtube.com/TechRentals](http://www.youtube.com/TechRentals)

## Videoscopes & Boroscopes



**Olympus IPLEX G Lite 3.5 meter Handheld Videoscope**  
**OLY,IPLEX-GL 3.5 MY • SG**

IPLEX G Lite 3.5 meter, 4mm diameter handheld videoscope. With an integrated control unit and LCD monitor for one handed operation. Intuitive icons for menu control, 130 deg articulation (up, down, right, left) and 120 deg FOV, HD still image and HD video recording capabilities, compliant to IP55 and insertion tube operable underwater to 3.5m (excluding stereo tip adapters not included).



**Olympus IPLEX-GT 10 Portable Industrial Videoscope**  
**OLY,IPLEX-GT 10 (5103) MY • SG**

Battery powered videoscope. 10m insertion tube, 6mm diameter, 4 way, 90° articulation and 120° FOV. Applications include inspection of heat exchangers, turbines, gearboxes, automotive parts and aircraft. Still and video recording to USB flash, approx 3,400 images and 30 mins per 1GB.



**Olympus IPLEX RT 7.5m Portable Industrial Videoscope**  
**OLY,IPLEX-RT 7.5 (5186) MY • SG**

Designed for the visual inspection of heat exchangers, turbines, gearboxes, automotive parts, aircraft, and other industrial machinery. This lightweight videoscope comes with a 7.5m long, 6mm diameter tungsten braided insertion tube. The insertion tube will withstand high temperatures, with 100°C articulation and a 120°C field of view. Handles bright and sharp still images as well as high quality movies, which can all be downloaded via USB. Navigating through the functions of the unit is simple with the InHelp™ Inspection Assist Software and on-board instruction manuals. Features: Insertion tube temperature resistant up to 100°C. 6.5" LCD monitor. Compliant to MIL-STD-810F/G, MIL-STD-461F, and IP55. Weighs just 2.9kg.

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