

HEALTHCARE SOLUTIONS

Fit-testing, particle counting, flow instruments and fully customised environmental monitoring solutions for your healthcare requirements.

OCTOBER 2020



**kenelec
scientific**
measuring up

HEALTHCARE SOLUTIONS

TSI thermal mass flow meters incorporate a proprietary platinum film sensor design for measuring gas flows in applications demanding fast response, low pressure drop, and high accuracy over a wide flow range.

GENERAL PURPOSE FLOWMETERS



TSI 4000 SERIES

The TSI 4000 Series Mass Flowmeters can be used for a multitude of gas flow measurement applications. They provide accurate results with multiple data output options. The meters have an accuracy specified as two percent of reading with a quick four-millisecond response time ensuring accuracy in fluctuating flows.

Features

- 4 millisecond flow response
- High accuracy $\pm 2\%$ of reading
- High turndown ratio
- Low pressure drop
- Convenient analog output of flow rate
- 4040 handles 0 - 300 litres per minute
- 4140 handles 0 - 20 litres per minute

Applications

- Medical
- Industrial
- Laboratory

ACCESSORIES

Full range of parts and accessories on our website

SUITABLE FOR

TSI 4040 SERIES

TSI 4140 SERIES



TSI 4199 FLOWMETER BATTERY PACK

Flowmeter Battery Pack, includes six AA-size batteries.

SUITABLE FOR

TSI 4043

TSI 4045



TSI 1602345 FILTER .375 INCH, FNPT, HEPA GRADE, LOW PRESSURE DROP

Filter, 3/8" FNPT, HEPA Grade, Low Pressure Drop. For use with flowmeter models 4043, 4045.

SUITABLE FOR

TSI 4146



TSI 1040229 DAMPENING CHAMBER MODULE

Dampening Chamber Module for 4146 Primary Calibrator.

SUITABLE FOR

TSI 4040 SERIES



INLET FILTER – HIGH PRESSURE

High Flow Filter, HEPA, 3/8 inch female NPT connection. Max operating pressure 50 PSI @70 F. Used in higher pressure applications.

SUITABLE FOR

TSI 4140 SERIES



INLET FILTER – LOW PRESSURE

High Flow Filter, HEPA, 22mm OD and 22mm ID connection. Resistance ~ 1.0 cm H₂O @ 60 L/min. Used in low pressure applications.

PRODUCT COMPARISON



LOW FLOW 4140 SERIES

HIGH FLOW 4040 SERIES

Model	41401	4140	41403	4143	41433	40401	4040	4043	4045
Gas Calibration	Air	Air, O ² , N ₂	Air, O ² , N ₂ , N ₂ O	Air, O ² , N ₂	Air, O ² , N ₂ , N ₂ O	Air	Air, O ² , N ₂ , Air/O ² Mixture		
Inlet/Outlet Diameter	6.4 mm			9.53 mm		22 mm ISO tapered	12.7 mm	19.1 mm	
Flow Measurement	Range (Std L/min)	0.01-20				0-300	0-200	0-300	
	Accuracy (Air or O ²)	±2% of reading or 0.005 Std L/min*				±2% of reading or 0.05 Std L/min*			
	Accuracy (N ₂)	±3% of reading or 0.010 Std L/min*				±3% of reading or 0.1 Std L/min*			
	Accuracy (Air/O ² mixture)	N/A				N/A	±3% of reading or 0.1 Std L/min*		
	Accuracy (N ₂ O)	N/A	±3% of reading or 0.010 Std L/min*	N/A	±3% of reading or 0.010 Std L/min*	N/A			
Response	4 ms to 63% of full scale flow								
LCD Display Units	L/min, Std L/min, cm ³ /min, Std cm ³ /min					L/min, Std L/min			
Overall Dimensions	127 mm x 49 mm x 32 mm					182 x 63 x 53 mm			
Volume** Measurement	Range	0.01 – 99.9 liters							
	Accuracy	±2% of reading							
Pressure Measurement	Range	50-199 kPa absolute							
	Accuracy	±1 kPa							
	Response	<4 ms to 63% of final value for step change							
Temperature Measurement	Range	0-50°C							
	Accuracy	±1°C at flow greater than 1 Std L/min							
	Response	<75 ms to 63% of final value for step change							
Outouts	Analogue	0-10 VDC flow only, zero and span adjustable via RS232							
	Digital	RS232							
DC Power Input	7.5 VDC ±1.5 V, 300 mA max								
Mounting Threads	6-32, 6 mm					8-32, 6 mm			

*Whichever is greater **Supplied through RS232 port only.

Specifications subject to change without notice.

5000 SERIES, WHAT'S NEW?

- USB Communications and power
- Colour touch screen
- Changeable tube ends
- Bidirectional sensing
- Multiple gas calibrations to reduce lifetime calibration costs
- Differential Pressure sensing options
- Relative Humidity compensation options
- Datalogging options
- Companion software suite bringing many new features



TSI 5000 SERIES

The new 5000 series are the next generation of mass flowmeters for analysing gas flows. The 5200 Series flow body is designed with a reduced internal volume to minimize circuit dead space and provide highly accurate volume measurements at up to 30 litres per minute. The 5300 series is a general purpose flowmeter for flows as high as 300 litres per minute.

Features

- 4 millisecond bi-directional flow response
- High accuracy ($\pm 2\%$ of reading, $\pm 1.5\%$ of reading optional)
- Low pressure drop minimizes back pressure
- Wide dynamic operating range (1000:1 turndown ratio)
- Multiple gas calibrations available, user-selectable

Applications

- Product Development
- Manufacturing
- Quality Assurance

ACCESSORIES

Full range of parts and accessories on our website



SUITABLE FOR
TSI 5300 SERIES

INLET FILTER – HIGH PRESSURE

High Flow Filter, HEPA, 3/8 inch female NPT connection. Max operating pressure 50 PSI @70 F. Used in higher pressure applications.



SUITABLE FOR
TSI 5300 SERIES

INLET FILTER – LOW PRESSURE

High Flow Filter, HEPA, 22mm OD and 22mm ID connection. Resistance ~ 1.0 cm H₂O @ 60 L/min. Used in low pressure applications.



SUITABLE FOR
TSI 5000 SERIES

FLO-SIGHT PC SOFTWARE (ADV)

Allows users to control and operate their 5000 Series Flow Multi-Meter directly from their computer. Enables additional functionality and configuration options not available from the Meter itself.



SUITABLE FOR
TSI 5000 SERIES

DELUXE CARRYING CASE

9.5 x 13.75 x 4.75 inches, divided into 5 sections, padded. Compatible with all 5000 Series models.



SUITABLE FOR
TSI 5000 SERIES

WALL MOUNTING KIT

Includes wall back plate, meter plate, three (3) M3 x 8mm screws, and two (2) 8-32 x 3/8 inch screws.



SUITABLE FOR
TSI 5000 SERIES

TABLETOP STAND

Steel stand with rubber feet, includes three (3) screws (M3 x 8mm).

PRODUCT SELECTOR



LOW FLOW 5200 SERIES

HIGH FLOW 5300 SERIES

Flow Range	0-30 Std L/min	0-300 Std L/min
-------------------	----------------	-----------------

MODEL FEATURES	Base (5200, 5300)	Advanced (5210, 5310)	Humidity (5220, 5320)	High Accuracy (5230, 5330)	Wide Accuracy (5203, 5303)
Flow, Totalizer Measurements	X	X	X	X	X
Temperature, Absolute Pressure Measurements	X	X	X	X	X
Volume Measurement (Displayed on screen)		X	X	X	
Differential Pressure Measurement		X	X	X	
Data Logging		X	X	X	
Relative Humidity Measurement			X	X	
Humidity Compensation			X	X	
Higher Accuracy (1.7% of reading)				X	
Tabletop Stand Included				X	
Wide Accuracy Spec (3% of reading)					X

GASES TO BE MEASURED	Air, N ^{2*}	Air, O ₂ , Air/O ₂ mix, N ^{2*}	Air, CO ₂ , N ^{2*}	O ₂ Only	CO ₂ Only
5200 Series Low Flow					
Base Model	5200-1	5200-2	5200-3	5200-6	5200-7
Advanced Model	5210-1	5210-2	5210-3	5210-6	5210-7
Humidity Model		5220-2			
High Accuracy Model		5230-2			
Wide Accuracy Spec Model		5203-2			
5300 Series High Flow					
Base Model	5300-1	5300-2	5300-3	5300-4	5300-5
Advanced Model	5310-1	5310-2	5310-3	5310-4	5310-5
Humidity Model		5320-2			
High Accuracy Model		5330-2			
Wide Accuracy Spec Model		5303-2			

* Nitrogen gas is a correction from the air calibration

VENTILATOR TEST SYSTEMS

Without ventilator test instruments, biomedical equipment technicians (BMETs) and medical professionals – including doctors and nurses – cannot be sure that the medical equipment in use is functioning properly, putting everyone at risk, most importantly the life of the patient. TSI's Certifier® Gas Flow Analysers save you time and money in measuring a wide range of biomedical testing parameters including gas flow, volume, pressure, temperature and concentration, as well as breathing parameters, and offer the flexibility of testing a wide range of medical equipment including mechanical ventilators, anaesthesia machines, CPAPs and BPAPs, air oxygen blenders, insufflators and oxygen concentrators.



TSI 4070 CERTIFIER FA

The TSI 4070 Certifier FA Ventilator Test System is capable of testing multiple parameters of ventilator performance. It is designed to measure air, oxygen, and nitrous oxide flow and pressure in institutional, home care, field service, laboratory, and production applications. The 4070 is a battery-operated flow analyzer that can also test a variety of other medical equipment such as anesthesia gas delivery machines and oxygen concentrators.

Features

- Simple, easy to read, user interface
- Backlit LCD display
- Entire kit weighs less than 1.4 kg
- Volumes and flow in BTPS, ATP, or STP

Applications

- Ventilator testing
- Anesthesia gas delivery machine testing
- Oxygen concentrator testing



TSI 4080 CERTIFIER FA PLUS

The TSI 4080 Certifier FA Plus Ventilator Test System is the full-feature system capable of testing virtually all models of ventilators: adult, pediatric, anesthesia, neonatal and high-frequency. It can also test a variety of other medical equipment such as anesthesia gas delivery machines, insufflators and oxygen concentrators. Its compact size makes this ventilator tester ideal for use in field service, biomedical shops, and manufacturing.

Features

- Color touch screen graphical user interface
- Real-time graphing mode
- Bi-directional flow measurement
- Data storage using SD Flash card and internal memory
- Access stored data through USB interface

Applications

- Ventilator testing
- Anesthesia gas delivery machine testing
- Insufflator testing

FIT TESTING

Personal protective equipment is an important barrier between the wearer and potentially harmful substances or stimuli, and ensuring a proper fit is imperative to provide the user the safest level of protection. Kenelec Scientific provide real-time quantitative respirator fit testing instruments capable of testing the fit of all types of face masks, as well as hearing protection fit testers for 3M products.

RESPIRATOR FIT TESTING

Under Australian and NZ Standards, everyone using a mask in any workplace must be fit tested before starting, and at least annually thereafter. Without an enforced, documented fit testing program, your organisation could be found legally liable as an unsafe workplace.

RENT
ME



TSI 8038 PORTACOUNT PRO+ RESPIRATOR FIT TESTER

No other respirator fit tester can quantitatively fit test all types of respirators-gas masks, SCBAs, respirators, even N95, P1 and P2 disposable (filtering-facepiece) respirators.

Available to rent with the 8026 Particle Generator.

Features

- Fit test ANY tight-fitting respirator including N95, P2 and P1 disposables
- Faster fit testing time – down from 7 minutes 15 seconds to **2 minutes 29 seconds**
- Greater simplicity with the built-in N95 Companion™ technology

Applications

- Quantitative respirator fit testing (QNFT)
- Disposable filtering-facepiece fit testing for Series 100/99/ P3/HEPA masks
- Half mask fit testing
- Full-face mask fit testing

TSI 8048 PORTACOUNT RESPIRATOR FIT TESTER

The 8048 provides one consistent and objective testing experience across all respirator types, including all N95 filtering face pieces using N95-Companion™ technology. New features like FitCheck™ Mode and animated fit test steps now help users achieve a better fit for respirator wearers more quickly.

Features

- OSHA, CSA, HSE, and ANSI compliant for all respirators equipped with $\geq 99\%$ efficient filters
- Measures fit factors greater than 10,000
- Computes respirator fit factor using microscopic particles in ambient air
- Automates fit testing with FitPro Ultra Software

Applications

- Quantitative respirator fit testing (QNFT)
- Disposable filtering-facepiece fit testing for Series 100/99/ P3/HEPA masks
- Half mask fit testing

RENT
ME



*Screen not included, must be purchased separately

ROOM PRESSURE MONITORS & CONTROLLERS

Hospital room pressure monitors and controllers help keep patients and staff safe, and the PresSura range from TSI is the system of choice for hospital room pressure monitoring. For over 30 years, TSI products are online in isolation rooms, protective environments, operating rooms, and other controlled areas. The PresSura range is also extremely effective for laboratory monitoring and cleanroom monitoring.

PRESSURE CONTROLLER



TSI RPC30 PRESSURA HOSPITAL ROOM PRESSURE CONTROLLER

The PresSura™ Room Pressure Controller Model RPC30 is designed to maintain a constant pressure differential in hospital rooms. Backed by TSI's unique thermal-based pressure sensor, the PresSura products offer the most accurate, precise, and stable measurement available.

Features

- Audible and visual alarms warn staff of unsafe conditions
- Accurate pressure measurement based on TSI's thermal anemometry
- Continuously controls to design pressure setpoint by modulating a valve or damper
- Accepts measurements from temperature and relative humidity sensors
- Seamlessly integrates into building automation systems via BACnet or Modbus

Applications

- Airborne Infection Isolation (AII) Rooms – Negative Pressure
- Protective Environment (PE) Rooms – Positive Pressure
- Operating Rooms (ORs)



TSI NSD8 PRESSURA NURSES STATION MONITOR

The PresSura™ NSD8 Nurses Station Monitor accessory is designed as a remote interface for use with all TSI PresSura Room Pressure Monitors and Controllers. It displays room mode and alarm status for up to eight rooms. When a room is unoccupied, it can configure the room mode of connected PresSura Room Pressure Monitors and Controllers from Positive/Negative to No Isolation Mode.

Features

- Displays up to eight rooms at one time
- Compatible with all TSI PresSura Room Pressure Monitors and Controllers
- Audible and visual alarms
- Changes room mode to “No Isolation Mode” when pressure direction is not critical
- Autodiscover to automatically find connected PresSura Room Pressure Monitors and Controllers

MONITORING



TSI RPM PRESSURA HOSPITAL PRESSURE MONITOR

The PresSura™ RPM10 Room Pressure Monitor is designed to accurately measure pressure differentials in hospital isolation rooms and operating rooms. Backed by TSI's unique thermal-based pressure sensor, the PresSura products offer the most accurate, precise, and stable measurement available.

A local monitor provides easy visual indication of room status. If pressure is lost, the RPM10 activates audible and visual alarms, alerting staff to the alarm condition. The RPM10 features adjustable alarm delays to avoid nuisance alarms. When the room is unoccupied, the RPM10 can be changed to no isolation mode, deactivating all alarms.

The Model RPM20 is an excellent choice for monitoring multiple rooms, like a combination isolation room and ante room. It also accepts temperature and relative humidity inputs for comprehensive monitoring in Operating Rooms.

RPM10 SINGLE ROOM

Features

- Stand-alone room pressure monitor verifies HVAC system operation
- Audible and visual alarms warn staff of unsafe conditions
- Accurate pressure measurement based on TSI's proven thermal anemometry
- Accepts keyswitch to change room mode to neutral/no isolation
- Passwords prevent unauthorised access to monitor functions

Applications

- Airborne Infection Isolation (All) Rooms – Negative Pressure
- Protective Environment (PE) Rooms – Positive Pressure
- Compounding Pharmacies

RPM20 MULTIPLE ROOM

Features

- Audible and visual alarms warn staff of unsafe conditions
- Accurate pressure measurement based on TSI's thermal anemometry
- Capable of monitoring up to 2 isolation rooms and 1 ante room
- Accepts measurements from temperature and relative humidity sensors
- Seamlessly integrates into building automation systems via BACnet or Modbus

Applications

- Operating Rooms (ORs)
- Airborne Infection Isolation (All) Rooms
- Compounding Pharmacies

	RPM10	RPM20	RPC30
Maximum Rooms Monitored	1	3	1
Maximum Rooms Controlled	N/A	N/A	1
Configurable Room Modes	X	X	X
Visual and Audible Alarms with Delays	X	X	X
Alarm Relay Contacts	X	X	X
Controls Supply, Exhaust and Temperature			X
Accepts Flow Input / ACH	O	O	O
Door Switch Input	O	O	O
Temperature Switch Input		O	O
RH Input		O	O
BACnet MS/TP, Modbus Compatible	X	X	X
LonWorks Compatible		O	O
Compatible with TSI's Nurse's Station Monitor	X	X	X

X - Standard / O - Optional

CLEANROOM PARTICLE COUNTERS

The TSI range of AeroTrak® handheld, portable and remote aerosol particle counters provide the flexibility and features to confidently monitor your facility, from simple spot checking to meeting rigid cleanroom classification standards. With built-in redundancy to reliably monitor critical processes and demonstrate compliance, eliminate waste, interventions and interruptions. All TSI cleanroom particle counters comply with requirements of ISO 21501-4.

HANDHELD PARTICLE COUNTERS

TSI AeroTrak® Handheld Particle Counters offer many of the same advantages of comparable larger instruments to monitor cleanroom environments. Being lightweight and easy to carry, they are well-suited for cost-effective spot checking and are the ideal way to pinpoint sources of contamination, test filters or perform indoor air quality investigations.



TSI 9303 AEROTRAK® HANDHELD PARTICLE COUNTER

A low cost and versatile handheld particle counter.

Features

- Up to three channels of simultaneous data
- 1,500 sample record storage
- 250 location labels
- User selectable middle size channel

Applications

- Tracking down particle contamination sources
- Classifying clean areas
- Looking for filter leaks



TSI 9306 AEROTRAK® HANDHELD PARTICLE COUNTER

The most features and flexibility for handheld particle contamination monitoring.

Features

- Up to six channels of simultaneous data
- 10,000 sample record storage
- 999 location labels
- 250 zones
- Mass Concentration option

Applications

- Tracking down particle contamination sources
- Classifying clean areas
- Looking for filter leaks

FMS & CLEANROOM MONITORING

TRANSMITTERS



VAISALA HMT120/HMT130 HUMICAP HUMIDITY AND TEMPERATURE TRANSMITTERS

The Vaisala HUMICAP HMT120 and HMT130 transmitters are suitable for cleanrooms, museums, laboratories and data centers. Maintaining measurement traceability is easy due to field exchangeable intelligent measurement probes. These can be exchanged with minimal downtime and process disturbance. The humidity parameter options available are: relative humidity, dew point/frost point, wet bulb temperature, enthalpy, absolute humidity, mixing ratio, vapor pressure, and saturation vapor pressure.

Features

- 2-wire loop-powered or 3-wire voltage output configurations
- Resistant to dust and most chemicals
- USB cable available for a PC connection for maintenance
- Wall-mounted or with a remote probe
- Can be mounted outdoors using a Vaisala installation kit and the Vaisala Radiation Shield DTR502B

Applications

- Cleanroom Environmental Monitoring
- Health and pharmaceutical Monitoring
- Fridge/Freezer/Ultra Low Temperature Freezers

VAISALA HMW90 SERIES HUMICAP HUMIDITY AND TEMPERATURE TRANSMITTER

The wall-mounted Vaisala HMW90 Series HUMICAP® Humidity and Temperature Transmitters measure relative humidity and temperature in indoor environments, where high accuracy, stability, and reliable operation are required.

Features

- Both analog and digital output models available
- Accuracy up to $\pm 1.7\%RH$
- Comes with a calibration certificate
- Calculated humidity parameters (Td, x, h, Tw, a, T-Td)
- Humicap180R for best stability and reliability

Applications

- Museums and archive facilities
- Production and warehouse facilities
- Data centers

DATA LOGGERS



VAISALA HMT140 WI-FI HUMIDITY AND TEMPERATURE DATA LOGGER

The Vaisala HMT140 Wi-Fi data logger is designed for humidity, temperature, boolean and analog signal monitoring (current or voltage) in cleanrooms, warehouses, freezers, laboratories, blood banks and other life science applications. This battery-powered device simplifies installation and eliminates the need for power or network cables. Combined with viewLinc monitoring software, the HMT140 ensures continuous historical and real-time data with reliable remote alarming.

Features

- Connectivity provided through your existing Wi-Fi network
- Autonomous operation and local alarms ensure alerting capability regardless of network connectivity
- Local data storage provides continuous fail-safe operation – even during power or network outage
- Two inputs for voltage, current, contact, RTDs or temperature & RH
- Accurate and reliable multi-signal measurements from industry best sensors

Applications

- Cleanroom Environmental Monitoring
- Health and pharmaceutical Monitoring
- Fridge/Freezer/Ultra Low Temperature Freezers



VAISALA RFL100 LONG RANGE WIRELESS TEMPERATURE AND RELATIVE HUMIDITY DATA LOGGER

The RFL series data loggers use Vaisala's VaiNet wireless technology to monitor temperature in fridges, freezers, incubators, LN2 tanks, cold rooms, and very low temperature freezers. Each RFL data logger can communicate over 100 m indoors. Connectivity is provided by the VaiNet Access Point (AP10). The RFL100 temperature data loggers use fixed or cabled probes for a measurement range of -196 to +90 °C.

Features

- Dedicated mounting bracket with temporary and permanent mounting methods (including optional magnets)
- Each data logger uses standard alkaline batteries, typical battery life of 18 months, no need for costly battery replacements between recommended calibrations

Applications

- Cleanroom Environmental Monitoring
- Health and pharmaceutical Monitoring
- Fridge/Freezer/Ultra Low Temperature Freezers

SOFTWARE

VAISALA VIEWLINC MONITORING, ALARMING AND REPORTING SOFTWARE

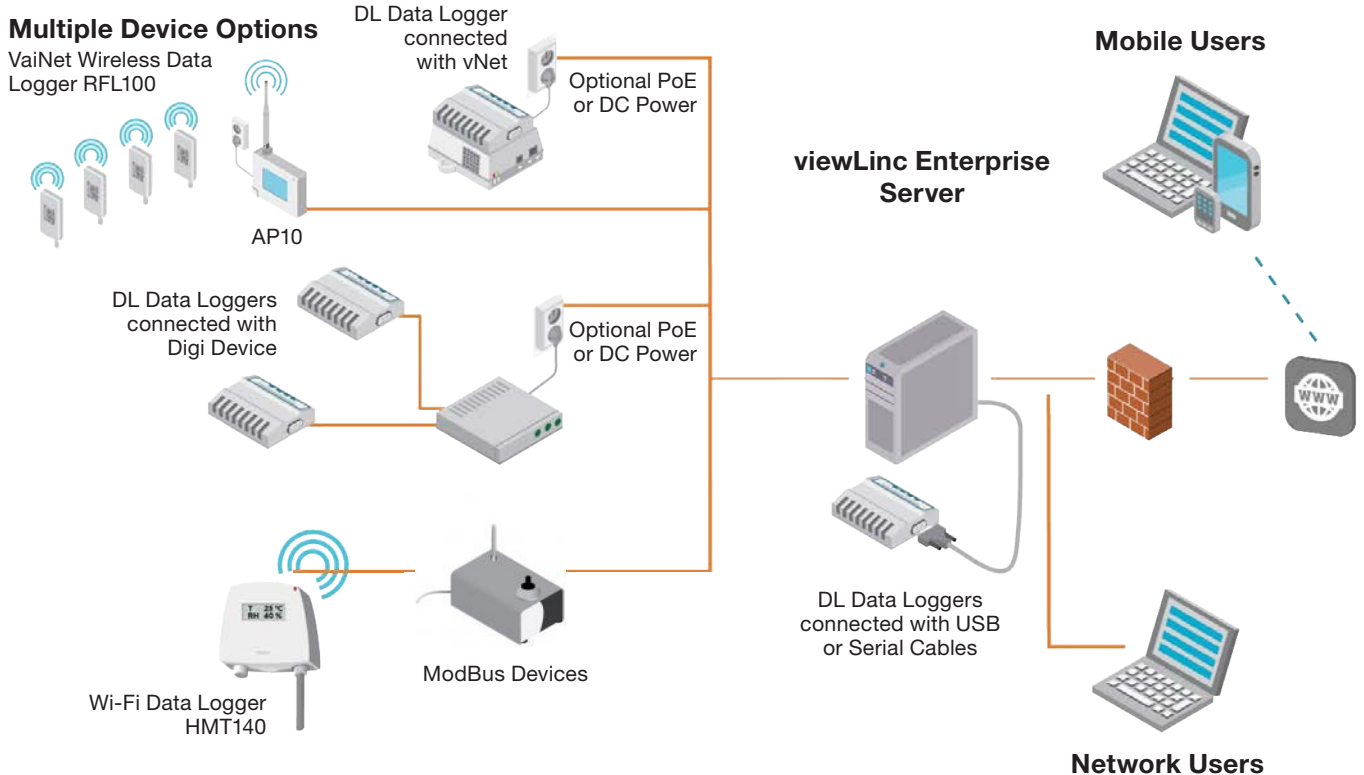
Continuous monitoring for temperature, humidity and other parameters. The viewLinc Enterprise Server software monitors temperature, relative humidity, CO2, differential pressure, level, door switches, and more offering low cost of ownership due to easy connectivity to your existing network, remote access, and scalability up to thousands of monitored locations. Multi-site monitoring is simple, global systems can be run off a single server location.

Features

- Eight language versions for enterprise-wide, multi-site use
- Preconfigured and custom reports
- Configurable alarm notifications: email, SMS, voice calls, signal towers, browser alerts
- Scheduled threshold alarming and alarm notification delivery times to accommodate maintenance periods or work shifts
- Licensed feature: Voice/SMS web service, third-party Modbus devices, Vaisala OPC UA Server, Web API

Applications

- Cleanroom Environmental Monitoring
- Health and pharmaceutical Monitoring
- Fridge/Freezer/Ultra Low Temperature Freezers



KENELEC SCIENTIFIC

Our company:

Established in 1962, Kenelec Scientific is one of Australia's leading scientific and environmental technology companies. Based in Melbourne, with distributors located throughout Australia and New Zealand, we are industry leaders in the supply of globally sourced, latest generation technologies at competitive prices.

Our services:

Sales

Buy the latest equipment from some of the most trusted brands in the industry.

Rental

Rent or rent-to-buy the latest instruments for the duration that you need them.

Calibration

Professional calibration of your instruments in our accredited laboratories.

Validation

Wide range of validation services to ensure compliance with regulations.

Service & Repairs

Local after-sales service and support from our experienced technicians.

Education

Product education and support available in-house, onsite or online.

Financing

Secure your equipment without relying on up-front capital funding.

More solutions:

In addition to the options in this catalogue, we also offer a number of other specialised monitoring solutions, as well as being able to build a system to meet your exact requirements. Get in touch or visit our website for more information.

Have you considered renting?

Renting can be a cost-effective solution to ensure you have the tools you need, when you need them.

As one of Australia's leading specialist suppliers of testing and monitoring equipment, Kenelec Scientific stock an extensive range of instruments with no minimum hire period to help your business perform at its best without the financial stress of needing to buy.

All of our units are regularly checked and calibrated by our experienced technicians to ensure accurate and reliable performance, and we are constantly updating our range so you have access to the best equipment in the industry.

We also offer up to 20% off our standard rental rates for instruments you rent while your own unit is being calibrated, and for equipment that is hired long-term.

Look for the symbol:



We look forward to
working with you.



Kenelec Scientific Pty Ltd | ABN 88 064 373 717
23 Redland Drive, Mitcham VIC 3132
p 1300 73 22 33 | e info@kenelec.com.au | w www.kenelec.com.au

KS BROCHURE | HEALTHCARE | OCT20

