COMARK
A Fluke Company

Comark Instruments
Measuring and monitoring temperature within healthcare and industry

The Professionals' Choice

Why Comark?
Comark's range of thermometers lead the industry

Thermometers and temperature probes, data loggers and pressure meters for a range of applications which include scientific research, pharmaceuticals, public health, horticulture, building management, industrial, H & V and refrigeration.

Whatever your requirements, it's likely that Comark can supply the most appropriate solution. Comarks' products support a range of applications including scientific research, pharmaceuticals, public health, horticulture, building managements, industrial and refrigeration.

We pride ourselves on delivering a comprehensive product range from hand held instrument and data loggers through to sophisticated wireless monitoring systems which employ ground-breaking technology to achieve unprecedented performance levels in almost any industry application where temperature, humidity or pressure is monitored or checked.

All components are produced from high grade materials and many products now have BioCote® antimicrobial impregnated into their surfaces to provide an extra line of defence where cross-contamination is a potential hazard.

Comark is certified to ISO 9001 and operates appropriate internal quality management systems. Many instruments are IP rated to classify the degree of protection against dust and water and the CE Mark (usually printed on the back of the instrument) certifies that the product meets European Health and Safety Regulations. If required, a certificate of calibration can be supplied by Comark's own UKAS accredited temperature and humidity calibration laboratory. All of this, plus first class technical service and support, knowledgeable qualified staff, and some fifty plus years' experience delivering the best solutions – that's why you should specify Comark.

All Comark instruments come with a minimum 1 year warranty unless otherwise stated and all comply with appropriate industry standards.

Contents

For temperature measurement applications when only the best will do.

These instruments are built to withstand rough treatment and feature easy-to-clean dust and waterproof cases with sealed soft touch keypads and BioCote® antimicrobial for increased protection when used in areas where cross-contamination could be an issue.

Each instrument is compatible with a wide range of Comark probes, covering both general and specialist applications, depending on the sensor type.

Professional Thermometers

N9005
Dual Sensor Thermometer

This Type T/K thermocouple thermometer is rated IP67 and provides exceptional instrument accuracy. A cell-phone style menu allows selection of scales, clock adjustment and setting the count-down timer.

- -200°C to 1372°C range, depending on sensor
- Accuracy ±0.1% ±0.2°C across the full measurement range.
- Countdown timer with selectable audible alarms
- Permanent clock display
- Selectable auto switch off – choose 3, 10 or 30 minute interval
- Data hold
- Sub-miniature probe connector
- Scales °C, °F
- Rated IP67

N9002
Differential thermometer with multi-sensor compatibility

Compatible with 8 thermocouple types – K, N, T, J, R, S, E and B. Twin sub-miniature probe connectors allow differential temperatures to be measured, with readings displayed in °C, °F or K. It can also be used as a conventional thermometer when a single probe is connected.

- -200°C to thermocouple limit
- Single and dual differential inputs
- Maximum and minimum temperature memory
- Data hold
- Selectable 3, 10 or 30 minute auto switch off
- Scales °C, °F and K
- Rated IP67
- Calibration – BS EN 60584
- Thermocouples (ITS90)
- Accuracy < ±0.1% ±0.2°C Type K, full range
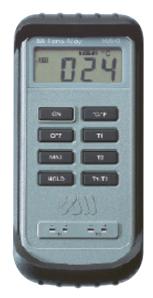
N9002 HVAC Kit

A handy kit for use in industrial, heating, ventilating, air conditioning and refrigeration applications. Kit contains:

- 1 x N9002 Differential Thermometer
- 1 x LC98 Case
- 2 x SK29M Pipe Probes
- 1 x SK21M Surface Probe
- 1 x AK21M Air Probe

Specialist Thermometers

KM340
Differential Thermometer with Type K Sensor

This is a differential measurement thermometer is ideal for HVAC applications, particularly for flow and return measurements and radiator output checks. It measures two temperature inputs and calculates the difference between them.

It can also be used as a conventional single probe thermometer.

- Range: -50°C to +1300°C
- Two sub-miniature probe connectors
- Max/min temperature memory
- Data hold
- Scales °C or °F
- Resolution 1°

KM330
Thermometer with Type K Sensor

An economically priced thermometer with a Type K sensor which extends the upper measurement range to 1300°C. It incorporates a useful maximum temperature memory function and comes complete with a slip-on rubber boot.

- Range: -50°C to +1300°C
- Sub-miniature probe connector
- Selectable 0.1°/1° resolution
- Max temperature memory
- Data hold
- Scales °C or °F

KM330 Thermometer Kit

Housed in a carry pouch, the kit contains:

- 1 x KM330 Thermometer
- 1 x SK21M Surface Probe
- 1 x AK28M Air Probe
- 1 x Carrying Pouch

For details of other thermometer kits, please see:

www.comarkinstruments.com

C28 Thermometer with Type K Sensor

This Type K thermocouple thermometer has an easy-to-use keypad and a large, clear LCD display with a permanent clock. A cell-phone style menu allows the auto switch-off to be changed to 3, 10 or 30 minutes and the countdown timer to be set – the timer can also be stopped during countdown. The case incorporates a built-in protective boot and is waterproof to IP67 standard.

- Range: –200°C to +600°C range
- Countdown timer with audible bleep
- Permanent clock display
- Selectable alarm
- Auto switch-off
- Data hold
- Sub-miniature probe connector
- Scales °C, °F.

C28 Legionella Kit

Kit for HVAC and other applications where the air and water temperature monitoring requirements of L8 Approved Code of Practice need to be met. Thermometer and accessories are housed in a hard carry case.

- 1 x C28 Thermometer
- 1 x PRO1 Penetration Probe
- 1 x SK21M Surface Probe
- 1 x AK28M Air Probe
- 1 x PW70T Probe Wipes
- 1 x MC28 Carry Case
- 1 x UKAS Certificate on PRO1 probe only at points of 0, +70 and +100°C.

C26 Thermometer with Type T Sensor

The C26 is economically priced, gives a fast response, and is suitable for a wide range of applications over the mid temperature range up to 400°C. It is housed in a robust IP67 rated case with a built-in protective rubber boot.

- –200°C to +400°C range
- Fast response
- Sub-miniature probe connector
- Large LCD display
- Countdown timer
- Permanent clock
- Scales °C, °F
- Data hold
- Auto switch-off

Accuracy and speed of response, plus ATEX certified Intrinsically Safe options are the factors which define Comark pressure meters.

The C950x range of pressure meters is suitable for gauge or differential pressure and positive or negative (vacuum) pressure measurement. These instruments are ideal for applications like H & V, process pressures, laboratories and clean rooms, through to service and maintenance and the calibration of other instruments.

The C955x range is identical to the above in terms of specifications but all instruments are ATEX certified Intrinsically Safe (I.S.) for working in hazardous environments. Certified to
⟨Ex⟩ II 1 G EEx ia IIC T4 Baseefa03ATEX0079.

All C95xx models also have average reading function and over-range indication. The C95xx/SIL offers silicone protection as an option. This allows liquid pressures to be measured without the risk of sensor corrosion. Simply order the version with 'SIL' in the order code.

Four models are offered in each range with measurement parameters 0 to 2PSI, 0 to 5PSI, 0 to 30PSI and 0 to 100PSI. Readings can be displayed in up to 11 different scales depending on the model. See table for options.

Standard instruments

Order codes: C9551, C9553, C9555, C9557

Standard instruments with Silicone Protection

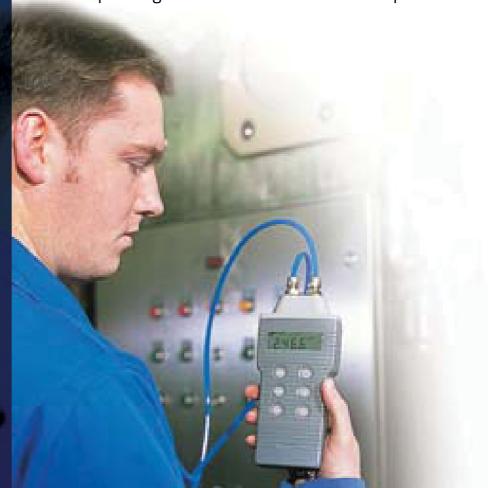Order codes: C9551/SIL, C9553/SIL, C9555/SIL, C9557/SIL

Instrinsically Safe Instruments

Order codes: C9501/IS, C9503/IS, C9505/IS, C9507/IS

Pressure Meters

SCALE	Standard Intrinsically Safe	C9551 C9501/IS	C9553 C9503/IS	C9555 C9505/IS	C9557 C9507/IS
PSI	Range	0 to ±2.031	0 to ±5.076	0 to ±30.46	0 to ±101.05
	Resolution	0.001	0.001	0.001	0.01
mbar	Range	0 to ±140	0 to ±350	0 to ±2100	0 to ±7000
	Resolution	0.1	0.1	0.1	1
Bar	Range	–	–	0 to ±2.100	0 to ±7000
	Resolution	–	–	0.001	0.001
inH2O	Range	0 to ±56.2	0 to ±140.5	0 to ±843.1	0 to ±2810
	Resolution	0.01	0.01	0.1	0.1
inHg	Range	0 to ±4.134	0 to ±10.34	0 to ±62.01	0 to ±206.7
	Resolution	0.001	0.001	0.01	0.01
mmHg	Range	0 to ±105.0	0 to ±262.5	0 to ±1575	0 to ±5250
	Resolution	0.01	0.01	0.1	1
Torr	Range	0 to ±105.0	0 to ±262.5	0 to ±1575	0 to ±5250
	Resolution	0.01	0.01	0.1	1
Pa	Range	0 to ±14000	–	–	–
	Resolution	1	–	–	–
KPa	Range	0 to 14.00	0 to ±35.00	0 to ±210.0	0 to ±700.0
	Resolution	0.001	0.01	0.01	0.1
mmH2O	Range	0 to ±1428	0 to ±3569	– –	– –
	Resolution	0.1	1		
cmH2O	Range	0 to ±142.8	– –	0 to ±2141	0 to ±7138
	Resolution	0.01		0.1	1
Kgcm-2	Range	0 to ±143	0 to ±0.357	0 to ±2.141	0 to ±7.138
	Resolution	0.001	0.001	0.001	0.001

DILIGENCE EV
Temperature and Humidity Monitoring

Mapping Kit

Using Diligence EV Data Loggers, temperature mapping can be carried out in storage areas such as fridges, freezers and cold rooms.

- 10 x N2011 Data Loggers
- 10 x UKAS Certificates at -20°, 0°C and +8°C
- 1 x N2014 Data Logger
- 1 x N2000ADP/T Adaptor for multiple probes
- 3 x AT26M Air Probe
- 3 x UKAS Certificates at -40°C and -80°C
- 1 x N2000CRU USB Computer Interface
- 1 x Case

Diligence EV Measurement Range

- N2011

  Temperature -40° to +70°C
- N2012

  Internal sensor -40° to 70°C

  External sensor -40° to 150°C
- N2013

  Temperature -20° to +60°C

  Humidity 0 to 97% RH, non-condensing
- N2014

  Type K -200° to +1372°C

  Type T -200° to + 400°C
- N2015

  4 to 20mA

EVt2

Multi-Use logger makes it easy to comply with HACCP requirements by monitoring the temperatures of meat, seafood and produce shipments 24/7.

- Review maximum, minimum and average trip temperatures plus total time in alarm, right on the screen
- Accept or reject a shipment in seconds
- Download data to a PC for permanent HACCP records
- Single button starts/stops logging
- Up to 3,000 readings with 1 sec to 99 hour intervals
- Special software for 21 CFR Part 11 compliance
- BioCote® antimicrobial protection
- Waterproof and rugged with IP67 case

See www.comarkinstruments.com for more information on the Diligence EV Range

Comark Diligence EV Data Loggers measure both humidity and temperature when monitoring food in storage, transit or processing as well as pharmaceutical and general industrial applications. Models with thermistor sensors offer highest accuracy. K or T-Type thermocouples provide a wide measurement range. With the addition of the N2000BOX, the N2012 can measure up to five separate channels with a single logger using four external probes and one internal sensor. With the N2000ADP/K, the N2014 can measure up to four channels using three external thermocouple probes and one internal sensor.

N2011

N2012

N2013

Features:

- Tough, moulded cases, dust and waterproof to IP67 standards
- Large memory capacity of up to 16,000 readings
- Ability to log over multiple periods
- Windows™ based Evolution software for fast data download and analysis
- LED indication of active logging and temperature or humidity alarm conditions
- LCD displays for instant checks on current readings and alarms
- Additional beeper warning of temperature and humidity alarm conditions
- Single-button control of main functions
- Ability to scroll LCD display between readings from all sensors in use
- Wide range of Comark temperature probes available

N2014

N2015

32K Memory Specifications:

1 channel	16,000 samples
2 channels	8,000 samples
3 channels	5,300 samples
4 channels	4,000 samples
5 channels	3,200 samples
Communications	Via infrared interface
Download Time	3 minutes for 10,000 readings (typical)
Logging Frequency	Programmable between 1 second and 99 hours
Battery Life	Up to 5 years
LED Indication	Red = Alarm, Green = Logger active

PROFESSIONAL WIRELESS SYSTEM

RF500 Wireless Temperature and Humidity Monitoring

This system provides effortless 24/7 monitoring of temperature, humidity and door events. Low power RF technology with built-in mesh networking, and transmitters with bi-directional communications offer:

- Accurate, tamper-proof records
- Secure multi-user access to data via the internet at any time
- Alarm notification via email, phone or sms* (*SMS requires 3rd party provider)
- Transmitters that are waterproof and accurate with long battery life
- Compliance with legislative and regulatory requirements
- Plus, it's easy to install, use and maintain

Manual checks on temperature and humidity are a thing of the past.

The RF500A employs a system of transmitters and probes to automatically collect and transmit data to a Gateway unit which manages the system and stores the data.

The RF500A Gateway requires no specialist PC software. It connects directly to the local area network permitting 24/7 single or multi-user access via the internet at any time. The system provides a full audit trail, electronic signatures and data protection to meet the requirements of 21CFR Part 11.

In the event of readings falling outside pre-set limits, alarm notification via screens, SMS, email or voice contact you immediately, so immediate corrective action can be taken.

Advanced features include:

ADR – Automatic Data Retrieval.
In the event of a power failure, data is stored in the RF500A transmitter then automatically transmitted to the Gateway as soon as the network is restored, so no data is lost.

Mesh Network – established through powered transmitters.

This enables the system to automatically adjust to any changes in the environment, rerouting signals as required to ensure that the data is always returned to the Gateway.

Transmitters are fully waterproof and include an LCD for instant data display, an LED for local alarm indication and a low battery indicator.

Transmitters

- RF512 has an internal temperature sensor plus connectors for two external thermistor probes and an external door sensor.
- RF513 has integral temperature and humidity sensors and a connector for an external door sensor.
- RF515 has inputs for current and voltage so can be connected to a control loop and programmed to measure an extensive range of parameters.
- RF516 is a precision temperature transmitter with an internal temperature sensor plus connectors for one external PT100 probe and an external door sensor.

RF542
Network logger

- Connect via a port to LAN or WAN anywhere.
- Expand your monitoring system using your existing network.
- The RF500A Gateway hosts any combination of RF500 transmitters.   This includes RF542 data logger wired to the network and RF wireless transmitters stationed within radio range of the Gateway.
- 24/7 Email and SMS alerts.
- Temperature Range: -40°C to +125°C
- System accuracy with external thermistor : -20°C to +70°C ±0.5°C

Features:

RF500A Gateway

Channels	Up to 256
Transmitters	Up to 64
Storage capacity	Up to 10 years of storage
RF frequency	2.4 GHz using IEEE 802.15.4
Battery life	1 hour (rechargeable)
Power sources	110–240V adaptor, rechargeable Ni-Mh battery
Clock accuracy	4ppm (2 minutes per year)
Dimensions	L 259mm x W 189mm x H 92mm
Weight	1.3kg

Transmitters – RF512, RF513, RF516

Temperature measurement range

- Internal Thermistor Sensor
  RF512, RF516   -30° to 70°C
- Integral Thermistor Sensor
  RF513   -30° to 70°C
- External Thermistor Sensor -40° to 125°C
- External Pt100 Sensor -200° to 400°C

System accuracy with standard sensors:

Temperature

- External thermistor: -20°C to +70°C ±0.5°C
- External thermistor: full range ±1°C
- Internal thermistor :   -20°C to +70°C ±0.5°C
- PT100:   full range ±0.05°C plus probe

Humidity	10 to 90% RH ±3%
Logging memory	32,000 records
Logging frequency	Programmable between 1 and 60 minutes
Monitoring frequency	1 minute
Battery type	Replaceable Lithium 'C' Cell (Part No RFBATT)
Battery life	Up to 2 years (when used at 23°C/73°F) room temperature)
Dimensions	L 170mm x W 83mm x H 34mm
Weight	270g

1. Large LCD allows local view of temperature, RH (RF513), and door opening information plus alarms and RF status
2. LEDs for active/alarm indication
3. Antenna
4. Selectable scales °C or °F, %RH or DP (RF513)
5. Compact, waterproof case with BioCote® antimicrobial surface protection
6. Door event sensor connector
7. AC/Mains power connector
8. Secure Lumberg connector for probes

See www.comarkinstruments.com for more on the Professional Wireless System

DILIGENCE PLUG AND PLAY WiFi SYSTEM

1 year FREE Cloud Trial

RF311-T Temperature Data Logger

Measures the temperature of the environment in which it is situated.

- Range: -20 to +60°C

RF314-TC Temperature Data Logger with Thermocouple Probe

Measures the temperature of anything, using either a J, K, N or T probe.

- -270 to +1300°C
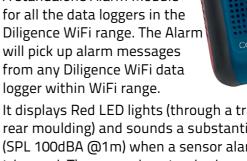
RF312-TP Temperature Data Logger with Thermistor Probe

Measures the temperature of anything using a thermistor probe.

- -40 to +125°C

RF324 Alarm Module

A standalone Alarm Module for all the data loggers in the Diligence WiFi range. The Alarm will pick up alarm messages from any Diligence WiFi data logger within WiFi range.

It displays Red LED lights (through a translucent rear moulding) and sounds a substantial alarm (SPL 100dBA @1m) when a sensor alarm has been triggered. There are nine standard sounds to choose from.

RF313-RH Temperature and Humidity Data Logger

Measures the temperature and humidity of the environment in which it is situated.

- -20 to +60°C
- 0%RH to 100%RH

Use Diligence WiFi Loggers to monitor areas such as walk-in and reach-in refrigerators and freezers, cold storage areas, blast chillers, and hot holding cabinets.

- RECHARGEABLE. A full charge lasts 3-12 months
- Easy to self install out of the box
- Connects to existing WiFi networks, no hard wiring required
- Quick to mount in any location
- Use Diligence WiFi secure software to view data and report
- Reliable temperature data 24 hours a day, 7 days a week
- Built-in visual WiFi Signal Meter

Temperature and humidity monitoring with Comark Cloud - the easy route to HACCP compliance reporting and quality assurance

Safety regulations apply to any operation wheregoods are prepared, displayed or stored ensuring high quality products for your customers every time. Your safety plan (HACCP) covers the storage of components and finished products, including storage and transport conditions. Managing this can be daunting and time-consuming.

Using Diligence WiFi data loggers with Comark Cloud makes that task of continuously monitoring food service environments easier by providing automated temperature and humidity monitoring, and alerts 24 hours a day, 7 days a week.

Together they can be used to monitor and report on one location or multi-site operations. No more missed records, no more time consuming paperwork!

Access your Comark Cloud account from wherever you are in the world using any internet enabled device. This could be a PC at the office or at home, an iPad™, tablet or mobile phone with a web browser. The Comark Cloud supports IE7 and above, and the latest Chrome, Firefox and Safari browsers.

All your food service areas can be monitored from freezers, chillers and refrigerators through to cooking and holding temperatures, safe in the knowledge that alerts will notify you if anything does go wrong.

You can receive alerts by email and SMS text* (*SMS requires 3rd party provider) which enable you take immediate action to prevent the loss of costly stock.

See www.comarkinstruments.com for more on the Diligence EV Range

Temperature and measurement instrument performance is vital in almost every application, especially in the food industry.

Performance can be affected by many factors including use and abuse and the age of the instrument. Regular, professional calibration checks are recommended, with certification as required, especially for companies with HACCP procedures and other quality systems. In the meantime, calibration can be monitored with Comark simulators, reference thermometers and validation equipment.

Phone us on 0207 942 0712 to find out more about our service facility and UKAS calibration laboratory

KM820/VKIT
Validator Calibration
Check Kit

Calibration Equipment

KM820/VAL
Temperature Validation Cup

Use this heavy duty aluminum cup to check the calibration of infrared or contact thermometers.

KM20REF
Reference Thermometer Kit

Use this high-accuracy reference thermometer for checking the calibration of all types of thermometer and probe combinations.
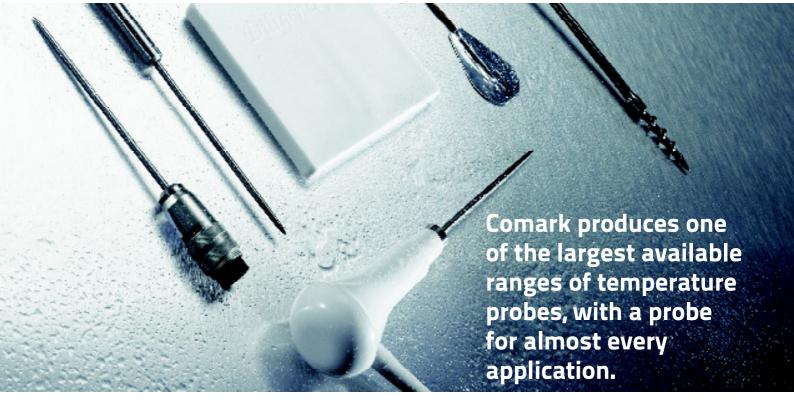
- Displays temperature in centigrade
- Supplied with 5-point UKAS Calibration Certificate with points at -18°C, 0°C, +8°C, +70°C, +100°C.
- Auto switch-off feature
- Supplied with carrying case

The KM20REF High Accuracy Reference Thermometer can be used in-conjunction with the KM820/VAL Validation Calibration Check Unit to calibrate contact and infrared thermometers.

Thermometer Test Caps

Each cap simulates a specific temperature to check your thermistor thermometers. Each cap has a UKAS Certificate of Calibration.

Name	Point
TX21L	−18°C
TX22L	−5°C
TX23L	0°C
TX24L	+3°C
TX25L	+63°C
TX26L	+70°C

Comark produces one of the largest available ranges of temperature probes, with a probe for almost every application.
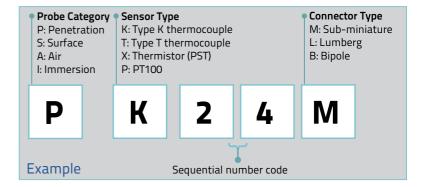
Comark can certify temperature probes, individually or, as recommended, with an instrument to record system accuracy.

Certificates of calibration are supplied through the Comark in-house UKAS accredited temperature calibration laboratory and the in-house NPL traceable laboratory.
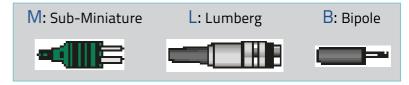
The Comark Service Team or your local distributor can offer advice on probes and certification and can provide detailed quotations.

Comark Order Codes

Probe Category	Sensor Type			Connector Type
P: Penetration	K: Type K thermocouple			M: Sub-miniature
S: Surface	T: Type T thermocouple			L: Lumberg
A: Air	X: Thermistor (PST)			B: Bipole
I: Immersion	P: PT100			
P	**K**	**2**	**4**	**M**

Example   Sequential number code

Connector Types

M: Sub-Miniature   **L**: Lumberg   **B**: Bipole

Probe leads

Comark probe leads are matched to the intended applications for the probe. The materials used are:

PVC – PVC coiled leads provide ease of use in ambient temperatures of up to +70°C.
FEP and PTFE – These materials are especially suited to food probes and can be used in sub-zero temperatures. Steel braided PTFE leads provide greater strength.
Fibreglass (FG) – Fibreglass insulated leads are used for special application probes where the lead could be subjected to very high ambient temperatures of up to +400°C.

Temperature Probes

Penetration Probes	Sensor	Connector	Temp Range °C	Response Time (secs) †	Stem Length (mm)	Stem Dia (mm)	Lead Length (m)	Lead Material	Name
	K	M	−50°C to +250°C	2.0	100	3.3	1.0	PVC	PK24M
General purpose probe.									
	K	M	−50°C to +250°C	10.0	500	9.5/6.0	1.0	PVC	PK32M
Heavy duty tarmac probe.									

Surface Probes	Sensor	Connector	Temp Range °C	Response Time (secs) †	Stem Length (mm)	Stem Dia (mm)	Lead Length (m)	Lead Material	Name
	K	M	−50°C to +250°C	0.2	100	7.5	1.0	PVC	SK21M
Fast response general purpose probe.									
	K	M	−50°C to +650°C	0.4	100	10.0	1.0	PVC	SK24M
Heavy duty probe general purpose probe - suitable for high temperatures.									
	K	M	−50°C to +650°C	0.4	150/36	10.0	1.0	PVC	SK25M
Heavy duty probe general purpose probe - suitable for high temperatures.									
	K	M	−50°C to +100°C	10.0	-	-	2.5	PVC	SK29M*
Pipe probe for heating, ventilating and air-conditioning applications with 500mm Velcro strip.									
	K	M	−50°C to +100°C	5.0	-	-	1.0	PVC	SK35M*
Pipe clamp probe for use in heating, ventilating and air-conditioning applications for pipes 15 to 38mm diameter.									
	K	M	up to +260°C	0.4	-	-	1.0	PTFE	SK40M*
Griddle probe.									

†The time constant is the time taken for the probe to reach 63% of the value of the temperature change. Multiply x 3 for the time taken to achieve 95% and by 5 for 99%. * Not suitable for intrinsically Safe applications. Thermocouples: Tolerances relate to BS EN60584-2 (1993), Class A.

Air Probes	Sensor	Connector	Temp Range °C	Response Time (secs) †	Stem Length (mm)	Stem Dia (mm)	Lead Length (m)	Lead Material	Name
	K	M	−100°C to +250°C	0.5	-	-	1.0	PTFE	AK28M
	T	M	−100°C to +250°C	2.0	-	-	1.0	PTFE	AT27M
	K	M	−100°C to +250°C	0.5	-	-	5.0	PTFE	AK29M
	K	M	−100°C to +250°C	0.5	-	-	10.0	PTFE	AK31M
	K	M	−100°C to +400°C	0.5	-	-	1.0	FG	AK33M
Flexible thermocouple probes.									
	K	M	−100°C to +1100°C	3.0	700	6.0	1.0	PVC	AK24M
	K	M	−100°C to +1100°C	3.0	1000	6.0	1.0	PVC	AK25M
Semi-flexible high temperature air probes									

Immersion Probes	Sensor	Connector	Temp Range °C	Response Time (secs) †	Stem Length (mm)	Stem Dia (mm)	Lead Length (m)	Lead Material	Name
	K	M	−100°C to +850°C	0.4	100	1.5	1.0	PVC	IK21M
	K	M	−100°C to +850°C	0.4	300	1.5	1.0	PVC	IK23M
	K	M	−100°C to +1100°C	1.0	100	3.0	1.0	PVC	IK24M
Probes with type K and T thermocouple sensors also have mineral insulated, semi-flexible stems.									

†The time constant is the time taken for the probe to reach 63% of the value of the temperature change. Multiply x 3 for the time taken to achieve 95% and by 5 for 99%.

Glossary of Terms

HACCP: Hazard Analysis and Critical Control Point. The quality system used throughout industry to ensure product safety.

HVAC: Heating, Ventilating and Air Conditioning.

IP Rating: Set of standards for dust and waterproof protection.

Lumberg Connector with locking screw, used to provide strong, secure probe-to-instrument connections with better prevention of liquid ingress.

NPL: The National Physical Laboratory.

Operating Range: Temperature and humidity limits within which an instrument will function correctly.

Pt100: Platinum resistance thermometer. High accuracy temperature sensor.

Resolution: Indicates the smallest difference in measurements that can be detected and displayed by the instrument, e.g. 0.1° indicates that the instrument can detect differences of one tenth of a degree. In some cases there can be a difference between the detected measurement change and the displayed change.

Sub–miniature: Two-pin industry standard connector.

System Accuracy: Temperature accuracy level for the instrument and probe combined. Instrument accuracy excludes the probe.

Thermistor: Type of temperature sensor offering accuracy suitable for food applications.

Thermocouple: Type of temperature sensor using bi–metal electrical properties. Eight types of bi-metal combinations are available: – K, N, T, J, R, S, E and B – with different measurement ranges and characteristics to suit different applications.

UKAS: The United Kingdom Accreditation Service.

THERMOCOUPLE LIMITS

Type	Temperature Range	Type	Temperature Range
K	−200°C to +1372°C	R, S	−50°C to +1767°C
N	−200°C to +1300°C	E	−200°C to +1000°C
T	−200°C to +400°C	B	0°C to +1820°C
J	−200°C to +1200°C		

Notes

Contact Us

We understand there are times when our customers may need guidance on the best solution for their requirements. If you would like further information or to discuss your temperature monitoring application, please contact our customer service department who will be pleased to assist.

We are here to help so please contact us on:

Telephone:
+44 (0) 207 942 0712

Email:
sales@comarkinstruments.com

Website:
www.comarkinstruments.com

All Comark instruments have a minimum one year warranty unless otherwise stated. The warranty for temperature probes is six months and all other probes are unwarranted because the conditions of use are beyond our control. The Comark Warranty covers manufacturing defects and component failure and applies worldwide. In line with our policy of continuous development, we reserve the right to alter any product specification without notice. Comark has an accredited UKAS (NIST equivalent) calibration laboratory for temperature and humidity measurement and offers full service and recalibration facilities.

Comark Instruments is committed to providing quality and affordable products to the food service industry. Our thermometers and humidity testers bring speed, accuracy and reliability to the transport, testing and storing of food under HACCP guidelines. A large variety of products, well-trained staff, and a commitment to customer satisfaction mean you can come to us for answers to all your temperature measurement needs!

The Professionals' Choice